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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS



BIBLIOGRAPHY
OF
AERONAUTICS

1932



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INTRODUCTION

This Bibliography of Aeronautics for 1932 covers the aeronautical literature published from January 1 to December 31, 1932. The first Bibliography of Aeronautics was published by the Smithsonian Institution as volume 55 of the Smithsonian Miscellaneous Collections and covered the material published prior to June 30, 1909. Supplementary volumes of the Bibliography of Aeronautics for the subsequent years have been published by the National Advisory Committee for Aeronautics. The last preceding volume was for the calendar year 1931.

As in the previous volumes, citations of the publications of all nations are included in the languages in which these publications originally appeared. The arrangement is in dictionary form with author and subject entry and one alphabetical arrangement. Detail in the matter of subject reference has been omitted on account of the cost of presentation, but an attempt has been made to give sufficient cross-reference for research in special lines.

JOSEPH S. AMES, *Chairman,*
National Advisory Committee for Aeronautics.

NOVEMBER 30, 1935.

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ABBREVIATIONS

Aer. Eng. Suppl. The Aero-plane.	The Aeroplane— . . . Aeronautical Engineering Supplement to The Aeroplane, London.
Aer. Res. Comm., Rep. Mem. . . .	Aeronautical Research Committee, Reports and Memoranda, London.
Aeronautics, Techn. Rep. Aer. Res. Comm.	Aeronautics. Technical Report of the Aeronautical Research Committee, London.
Amer. Mach.	American Machinist, New York.
Ann. Soc. Mét. France.	Annuaire, Société Météorologique de France, Paris.
Atti Assoc. Ital. Aerotecn.	Atti dell' Associazione Italiana di Aerotecnica, Roma.
Aut. Eng.	Automotive Engineering, New York.
Automotive Ind.	Automotive Industries, New York.
Bull. Aero-Club Suisse.	Bulletin, Aero Club Suisse, Berne.
Bull. Exper. Depart. Airplane Eng. Div.	The Bulletin of the Experimental Department, Airplane Engineering Division, U. S. A., Dayton, Ohio.
Bull. Féd. Aér. Int.	Bulletin Fédération Aéronautique Internationale, Paris.
Bull. Soc. Enc. Ind. Nat.	Bulletin de la Société d'Encouragement pour l'Industrie Nationale, Paris.
Deutsche Luftf. Zeitschr.	Deutsche Luftfahrer Zeitschrift, Berlin.
Ind. Eng. Chem.	Industrial and Engineering Chemistry, Washington, D. C.
Jahrb. . . . , Deutsch. Versuchsanstalt für Luftfahrt, E. V., Berlin-Adlershof.	Jahrbuch . . . der Deutschen Versuchsanstalt für Luftfahrt, E. V., Berlin-Adlershof, München.
Journ. Amer. Soc. Mech. Eng.	Journal of the American Society of Mechanical Engineers, New York.
Journ. Frankl. Inst.	Journal of the Franklin Institute, Philadelphia.
Journ. Inst. Amer. Electr. Eng.	Journal of the American Institute of Electrical Engineers, New York.
Journ. Mil. Serv. Inst.	Journal of the Military Service Institution, Governors Island, New York.
Journ. Roy. Aer. Soc.	Journal of the Royal Aeronautical Society, London.
Journ. Roy. Soc. Arts	Journal of the Royal Society of Arts, London.
Journ. Soc. Automotive Engineers.	Journal of the Society of Automotive Engineers, New York.
Journ. Soc. Mech. Eng. Japan.	Journal of the Society of Mechanical Engineers Japan, Tôkyô.
Journ. United States Art.	Journal of the United States Artillery, Fortress Monroe, Va.
Mech. Eng.	Mechanical Engineering, New York.
Nat. Aer. Mag.	National Aeronautic Magazine, Washington, D. C.
Nat. Geog. Mag.	National Geographic Magazine, Washington, D. C.
Pop. Mech.	Popular Mechanics, Chicago.
Pop. Sci. Monthly	Popular Science Monthly, New York.
Proc. Amer. Inst. Electr. Eng.	Proceedings of the American Society of Electrical Engineers, New York.
Proc. Nat. Acad. Sci.	Proceedings of the National Academy of Sciences, Washington, D. C.
Proc. Phys.-Math. Soc. Japan.	Proceedings of the Physico-Mathematical Society of Japan, Tokyo, Japan.

Proc., U. S. Nav. Inst.....	Proceedings of the United States Naval Institute, Annapolis, Md.
Publ. Scient. Techn. Min. Air Serv. Rech. Aér.	Publications Scientifiques et Techniques du Ministère de l'Air Service des Recherches de l'Aéronautique, Paris.
Quart. Journ. Roy. Met. Soc.....	Quarterly Journal of the Royal Meteorological Society, London.
Rend. Istituto Sper. Aer.....	Rendiconto dell' Istituto Sperimentale Aeronautico, Roma.
Rend. Teen. Dir. Sup. Genio Costr. Aeron.	Commissariato dell' Aeronautica. Intendenza Generale. Rendiconti Tecnici della Direzione Superiore del Genio e delle Costruzioni Aeronautiche. Roma.
Rep. Aer. Res. Inst., Tôkyô Imperial University.	Report of the Aeronautical Research Institute, Tôkyô, Imperial University, Tôkyô, Japan.
Rév. Gén. Scien.....	Révue Générale Scientifique, Paris.
Riv. Aer.....	Rivista Aeronautica, Roma.
Riv. Dir. Aer.....	Rivista di Diritto Aeronautico, Roma.
Riv. Ital. Aeron.....	Rivista Italiana Aeronautica, Roma.
Sat. Even. Post.....	Saturday Evening Post, Philadelphia, Pa.
Scient. Amer.....	Scientific American, New York.
Techn. Berichte.....	Technische Berichte, Charlottenburg.
Zeitschr. Angew. Math. Mech..	Zeitschrift für Angewandte Mathematik und Mechanik, Berlin.
Zeitschr. Flugt. Motorluftsch...	Zeitschrift für Flugtechnik und Motorluftschiffahrt, München.
Zeitschr. Österr. Ing. Arch. Ver..	Zeitschrift des Österreichischen Ingenieure- und Architekten-Vereines, Wien.
Zeitschr. Ver. deutscher Ing.....	Zeitschrift des Vereines deutscher Ingenieure, Berlin.

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1932

By PAUL BROCKETT

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A

- A. Z. Berlin-Rom in 10 stunden.
Die Luftreise, Heft 1, 1. Aug. 1932, Berlin, pp. 10-11, ills.
- ABBOT, CHARLES GREELEY. Great inventions.
[New York, Smithsonian Scientific Series, Vol. 12], 1932.
The airplane, pp. 225-238.
- ABBOTT, BILL. McMullen sells airplanes by analyzing the problems of each prospect.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 3-5, 18, ills.
- ABBOTT, IRA H. The drag of two streamline bodies as affected by protuberances and appendages.
National Advisory Committee for Aeronautics, Report No. 451, Jan. 18, 1933, Washington, U. S. Government Printing Office, 1932, pp. 8, ills., diagrs., tabs.
- See Jacobs, Eastman N., and Ira H. Abbott: The N. A. C. A. variable-density wind tunnel.
- ABEELLEN, WILLIAM PIETER. See Walaart Sacré, Hendrick: Vijf-en-twintig jaar luchtvaart in Nederland . . . Uitgegeven ter gelegenheid van het zilveren jubileum der kon. Ned. vereniging voor luchtvaart.
- ABERCRON, HUGO VON. Der luft-wanderer . . .
Berlin, G. Stilke, 1932, published in parts, ills., maps.
- ABRAHAM, MARTIN. Prüfung von Sicherheitsglas.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Benlin-Adlershof, München und Berlin, [1932], pp. V 51-58, ills., tabs.
- ABRAMS, MONTE C. Fundamentals of future air express development.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 56-59.
- A unified air express service.
Aviation, Vol. 31, No. 7 (July 1932), New York, pp. 287-289.
- ACAMPORA, LUIGI. Primi passi per la standardizzazione aeronautica in campo internazionale.
Rivista Aeronautica, Anno 8, N. 11 (Nov. 1932), Roma, pp. 253-275.
- La standardizzazione dal punto di vista delle linee aeree.
L'Aerotecnica, Vol. 12, N. 4 (Aprile 1932), Roma, pp. 514-523.
- ACCELERATION. See Fischer, H. R.: The normal acceleration experienced by aeroplanes flying through vertical air currents. Part I. The calculation of the acceleration experienced by an aeroplane flying through a given gust.
- ACCELERATIONS. See Nayler, J. L.: The effect of accelerations on human beings.
- ACCÉLÉRDROME. See Blériot, Louis: La technique de demain. L'Accélérdrome.

ACCELEROMETER. Dynamic accelerometer calibrator.

Air Corps Information Circular, Vol. 7, No. 668 (June 30, 1932), Washington, 1932, pp. 5, ill., diagrs.

Air Corps Technical Report No. 3457.

ACCESSORIES. See Great Britain: Accessories.

— See National Aircraft Show: Glancing over the Show's new accessories.

ACCIDENTS. Accidentes de aviación.

Icaro Núm. 5, mayo 1928, Madrid, p. 145.

— Konstruktionsfehler als unfallursachen.

Die Luftwacht, Heft 4, April 1932, Berlin, pp. 153-155.

— A remarkable crash.

Flight, Vol. 24, No. 34 (1234) (Aug. 19, 1932), London, p. 779, ill.

— Technical Report by the Accidents Investigation Sub-Committee on the accident to the aeroplane G-AAZK at Meopham, Kent, on 21st July, 1930.

Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 393-484, ill., diagrs., tabs.

— See Albarrán: Albarrán muere en un accidente de aviación.

— See Albarrán: El accidente sufrido por el señor Albarrán.

— See Autogiro: First fatal autogiro accident.

— See Barajas: Accidente de aviación en Barajas.

— See Barcelona: Accidente de aviación en Barcelona.

— See Blenk, Hermann, Heinrich Hertel und Karl Thalau: Die deutsche Untersuchung des unfalls bei Meopham (England).

— See Blenk, Herman, Heinrich Hertel and Karl Thalau: The German investigation of the accident at Meopham (England).

— See Carabanchel Alto: Algunas fotografías del trágico accidente en Carabanchel Alto con el trimotor colonial Loring.

— See Glendinning, W. G.: An investigation of a possible cause of aircraft fires on crash.

— See Groenhoff: Groenhoff sufre un accidente mortal en el Rhön.

— See Lamplugh, A. G.: Accidents in civil aviation.

— See Maluquer, Juan J.: Sobre el accidente de Jaca.

— See Meopham: German and British experts disagree.

— See Stevenson, C. W.: Practical suggestions on elimination of those preventable accidents.

— See United States Department of Commerce. Aeronautics Branch: Civil aircraft accidents and casualties. July 1, 1932.

— See Weitzmann, Ludwig: Flugzeug-Unfallstatistik 1930.

— See Weitzmann, Ludwig: German aircraft accident statistics, 1930.

ACEBO, TOMÁS G. Miscelánea sobre el autogiro.

Ibérica, Año 19, Núm. 940 (3 sept. 1932), Barcelona, pp. 101-102.

ACHERET. See Taylor, G. I.: Applications to aeronautics of Acheret's theory of aerofoils moving at speeds greater than that of sound.

ACOUSTICS. See Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama: On the acoustical properties of parabolic reflectors.

- ADAMS, L. W. The aerial adventures of Colonel Grady.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 7-9, 16, ills.
- ADDINELL, H. Air transport. Russia and her airships.
Flight, Vol. 24, No. 49 (1249) (Dec. 1, 1932), London, pp. 1153-1154.
- ADJUSTABLE wing surface. *See* Makhonine, M.: El avión de superficie variable del ingeniero Makhonine.
- ADMINISTRATION. *See* Taylor, James B., jr.: Where is the executive?
- AÉRO-CLUB DE FRANCE. La carte normale aéronautique de l'Aéro-Club de France, au 200,000e.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, pp. 13-14, map.
- *See* Beaubois, Henry: Le bulletin du "Roland Garros." Groupement d'aviation privée de l'Aéro-Club de France, Numéro 9-12.
- AERO CLUB OF WASHINGTON. The Aero Club of Washington. District of Columbia Chapter, National Aeronautic Association, 1932.
Washington, D. C., [1932], pp. 22.
- AERODYNAMIC field. *See* Ferrari, Carló: Sul campo aerodinamico attorno a solidi di rivoluzione siluriformi in corrente rettilinea uniforme.
- AERODYNAMICAL phenomena. *See* Silla, Lucio: Influenza della compressibilità sui fenomeni aerodinamici.
- AERODYNAMICS. Aerodynamic theory of today. A comprehensive Italian work for advanced students and a more elementary American book.
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, p. 284.
- Aerodynamical investigations.
U. S. S. R. Scientific-Research Institutes of the Supreme Council of National Economy. Transactions of the Central Aero-Hydrodynamical Institute, No. 103, Moscow, Leningrad, 1932, pp. 80, ills., diagrs., tabs.
- Answering some questions in aerodynamics. Dropping a bomb, accidents in a vertical dive; efficiency effects of an automatic variable pitch propeller.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 19-20.
- *See* Amstutz, Ed.: Die Berechnung von Flügelstreben unter Berücksichtigung der Luftkräfte.
- *See* Becker, Fritz: Der Sturzflug in veränderlicher Luftdichte.
- *See* Betz, A., und J. Lotz: Verminderung des Auftriebes von Tragflügeln durch den Widerstand.
- *See* Bilbault, Gaston: Cours d'aérodynamique et calcul des performances par la méthode graphique à échelles logarithmiques.
- *See* Bourquard, F.: Aérodynamique.—Ondes balistiques planes obliques et ondes coniques. Application à l'étude de la résistance de l'air.
- *See* Bréguet, Louis: La suspension du véhicule aérien.
- *See* Brun, Edmond, et Pierre Vernotte: Aérodynamique.—Échauffement d'un thermomètre par un courant gazeux applications aérodynamiques.
- *See* Brun, Edmond, et Pierre Vernotte: Aérodynamique.—Mesure du coefficient d'échange thermique entre une paroi solide et un courant gazeux.
- *See* Buri, Alfred: Eine berechnungs grundlage für die turbulente grenschicht bei beschleunigter und verzögerter grundströmung.
- *See* Cuno, Otto: Experimentelle Untersuchung der Grenzschichtdicke und Verlauf längs eines Flügelchnittes.

- AERODYNAMICS.** See Dryden, Hugh L., and B. H. Monish: The effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages.
- See Ebert, Heinrich: Über Flugversuche zur Messung der Flugzeugpolare und den Einfluss des Schraubenstrahls auf die c_a - und c_w -Werte.
- See Flachsbart, O.: III. Versuchsergebnisse. 13. Der Widerstand von Kugeln in der Umgebung der kritischen Reynolds'schen Zahl.
- See Freeman, Hugh Barton: Force measurements on a $\frac{1}{8}$ -scale model of the U. S. Airship "Akron."
- See Girerd, Henry: Mécanique des fluides.—Mesure des caractéristiques aérodynamiques d'une aile sustentatrice en courant plan.
- See Gough, Melvin N., and Ernest Johnson: Methods of visually determining the air flow around airplanes.
- See Guglielmetti, Aldo: Prove dinamiche degli aeroplani.
- See Hübner, Walter, and Wilhelm Pleines: Das DVL-Gleitwinkelsteuer (Bauart W. Hübner). Aerodynamische Grundlagen der Vorrichtung; Flugmessungen mit einer Ausführungsform.
- See Hutchinson, J. L.: The theory of aircraft performance. The simplification of the physical problems by the introduction of dimensional methods.
- See Joukowsky, N. E.: Il laboratorio aerodinamico N. E. Joukowsky di Mosca.
- See Kahn, Louis: The aerodynamic safety of airplanes.
- See Karman, Theodor: Quelques problèmes actuels de l'aérodynamique.
- See Kermode, Alfred Cotterill: Mechanics of flight.
- See Kramer, Max: Die Zunahme des Maximalauftriebes von Tragflügeln bei plötzlicher Anstellwinkelvergrößerung (Böeneffekt).
- See Lafay, A.: Aérodynamique.—Sur la prévision de l'action d'un vent rapidement variable application à l'effet Katzmayer et à l'effet.
- See Langer, R.: III. Versuchsergebnisse. 5. Untersuchung von zwei Flugzeugmodellen.
- See Liebers, Fritz: Versuche über Luftschraubenschwingungen.
- See Mock, W. C., jr., and H. L. Dryden: Improved apparatus for measurement of fluctuations of air speed in turbulent flow.
- See Monteith, Charles Norton: Simple aerodynamics and the airplane, by C. C. Carter . . . 4th rev. ed. of the original work by Charles N. Monteith.
- See Morgans, W. R.: A memorandum giving a summary of present knowledge on the relation between ground contours, atmospheric turbulence, wind speed and direction.
- See Munk, Max Michael: Parasite drag. The twentieth of a series of articles on the principles of aerodynamics.
- See Noyes, Richard W.: Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability.
- See Pistolesi, E.: Aerodinamica.
- See Prandtl, L.: II. Theoretischen Teil. Zur turbulenten Strömung in Rohren und längs Platten.

- AERODYNAMICS.** See Pugsley, A. G.: Aerodynamic characteristics of a semi-rigid wing.
- See Raffaelli, Italo: Un nuovo sistema di sustentazione aerodinamica.
- See Ramat, Georges: Manuel du breveté mécanicien; théorie de l'avion.
- See Reid, Elliot Gray: Applied wing theory.
- See Robert, Aerodynamique. Recherches expérimentales.
- See Sablier, G.: Notions pratiques d'aéronautique.
- See Sadron, Ch.: Aérodynamique expérimentale. Étalonnage d'une soufflerie pour faibles vitesses.
- See Serragli, G.: Un sistema di frenatura aerodinamica.
- See Sheridan, Laurence Ward: On the two-dimensional flow of air past a series of Rankine ovals.
- See Stipa, L.: L'efficienza aerodinamica di fusoliere tubolari.
- See Töpfer, Carl: Flugzeuggröße und Dickenverhältnis des Flügelwurzelpfrolen.
- See Valensi, Jacques: Aérodynamique. De l'utilisation d'hélices ventilateurs à pales orientables pour le réglage de la vitesse du vent dans une soufflerie système Eiffel.
- See Watter, Michael: Biplane effect in nose dive analysis. Some aerodynamic considerations in nose-dive structural calculations.
- AERODYNAMIC screen.** See Serragli, G.: Teoria di uno schermo aerodinamico per le route a vento. (Elica ad induzione variabile.)
- AEROLOGY.** Aerology in the navy.
Western Flying, Vol. 12, No. 15 (Nov. 1932), Los Angeles, p. 17.
- AERONAUTICAL CHAMBER OF COMMERCE.** The aircraft industry and appropriations for the fiscal year 1934. The Federal Government and the National Aviation Program.
New York, 1932, pp. 17 (mimeographed), diags.
- The aircraft year book for 1932.
Aeronautical Chamber of Commerce of America, New York, D. Van Nostrand Company, inc., 1932, pp. 626, ills.
- AERONAUTICAL RESEARCH COMMITTEE.** Progress of aeronautical research.
Nature, Vol. 130, No. 3237 (Oct. 29, 1932), London, pp. 672-673. The Aeronautical Committee Report for the year 1931-32. H. M. Stationery Office.
- Reports and memoranda of the Aeronautical Research Committee published between 1st January, 1931 and 1st April, 1932.
Aer. Res. Comm., Rep. Mem. No. 1450 April 1932, London, 1932, pp. 8.
- AERONCA.** Improvements in the Aeronca.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, p. 58, ill.
- AÉROPHILE.** Notre quarantième année.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, p. 1.
- AFRICA.** Civil aviation in southwest Africa.
The Aeroplane, Vol. 42, No. 4 (Jan. 27, 1932), London, p. 165.
- Flying down the west African coast.
Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, pp. 1001-1003, ills.
- The latest African air survey.
The Aeroplane, Vol. 42, No. 9 (March 2, 1932), London, pp. 382, 384, map.

- AFRICA. Südafrika. Zollflughäfen.**
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, p. 70.
- **Südafrikanische Union. Flughafenvorschriften.**
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 94.
- **Südwestafrika. Luftverkehr.**
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 40.
- **Zollflughäfen.**
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 93.
- *See* Baldwin, N. C.: The air mails of British Africa, 1925-1932.
- *See* Bennett, Benjamin: Down Africa's skyways.
- *See* Strong, Charles S.: Across Africa from Cairo to Capetown.
- *See* Udet, Ernst: Fremde Vögel über Afrika.
- AGE-HARDENING. See** Dural age-hardening: Cold prevention of dural age-hardening.
- AGETON, ARTHUR AINSLEY. Dead-reckoning altitude and azimuth table.**
Washington, United States Government Printing Office, 1932, pp. 49, diagrs., tabls. U. S. Hydrographic Office. Publication No. 211.
- AGRICULTURE. See** Mark, Frederick A.: Agricultural Aviation.
- AHLBORN, FR. Turbulence and mechanism of resistance on spheres and cylinders.**
National Advisory Committee for Aeronautics, Technical Memorandums No. 653, Jan. 7, 1932, Washington, January 1932, pp. 19, ills.
- AHRENBERG, ALBIN. En solskensflygning Grönland-Island 1931 av Albin Ahrenberg.**
Flygning, Årg. 10, N:R 1 (Jan. 1932), Stockholm, pp. 6-7, ills.
- AILERONS. See** Bradfield, F. B., G. F. Midwood, and F. R. C. Hounsfield: Wind tunnel tests on aileron loads.
- *See* Gruschwitz, Eugen, und Oskar Schrenk: Über eine einfache Möglichkeit zur Auftriebserhöhung von Tragflügeln.
- *See* Jarlaud: Les commandes différentielles d'ailerons pour les planeurs.
- *See* Ogawa, Taitiro: A design formula for ailerons.
- *See* Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings.
- *See* Weick, Fred E., and Richard W. Noyes: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. II—Slotted ailerons and Frise ailerons.
- *See* Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. III—Ordinary ailerons rigged up 10° when neutral.
- *See* Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. IV—Floating tip ailerons on rectangular wings.
- AIMÉ, EMMANUEL. L'Aéro-Club de France en deuil. Le comte Henri de la Valette, Santos Dumont.**
L'Aérophile, 40e Année, No. 8 (août 1932), Paris, pp. 227-228, ills., ports.
- AIR compressors. See** Vickers: Vickers duplex air compressor. It gives pressure up to 200 lb. per sq. inch for engine starting.

- AIR cooling.** See Grey, Charles Grey: Some points about air-cooling.
- AIR CORPS INFORMATION CIRCULAR.** Index to U. S. Army Air Corps Information Circulars. Part I—Heavier-than-air circulars Nos. 1-677, inclusive. Part II—Lighter-than-air circulars Nos. 1-157, inclusive. For list of obsolete circulars and those circulars the supply of which is exhausted, see numerical lists, pages 29 to 45 inclusive; and pages 49 and 50.
Air Corps Information Circular, Vol. 7, No. 677 (June 30, 1932), Washington, pp. 50.
- AIR CORPS RESERVE.** See Jouett, John H.: The importance of Air Corps Reserve flying.
- AIR currents.** See Thompson, Ray: Wonders of air currents.
- AIR flow.** See Farren, W. S.: Smoke investigation of air flow. A small wind-tunnel specially built for visual observation with titanium tetrachloride.
— See Gough, Melvin N., and Ernest Johnson: Methods of visually determining the air flow around airplanes.
- AIR Line Pilots.** Air Line Pilot.
Published by the Air Line Pilots Association, International. Vol. 1, No. 1, April 5, 1932—Chicago, Ill., 1932—. Bimonthly the first of month; monthly, May 1932—.
- AIR routes.** See Burchall, H.: The political aspect of commercial air routes.
- AIRFOILS.** Flugzeuge mit veränderlicher tragflächengrosse.
Die Luftwacht, Heft 7, Juli 1932, Berlin, pp. 273-277, ills., tabl.
— See Anderson, Raymond F.: The aerodynamic characteristics of airfoils at negative angles of attack.
— See Carafoli, Élie: Recherches expérimentales sur les ailes monoplanes (exécutées à l'Institut Aérotechnique de Saint-Cyr).
— See Clark, K. W., and B. Lockspeiser: Wind tunnel tests on aerofoils at negative incidences.
— See Flachsbarth, O.: III. Versuchsergebnisse. 11. Messungen an ebenen und gewölbten Platten.
— See Glauert, H.: The interference on the characteristics of an airfoil in a wind tunnel of circular section.
— See Glauert, H.: The interference on the characteristics of an aerofoil in a wind tunnel of rectangular section.
— See Glauert, H.: Wind tunnel interference on aerofoils.
— See Jacobs, Eastman Nixon: Airfoil section characteristics as affected by protuberances.
— See Jacobs, Eastman N.: Characteristics of two sharp-nosed airfoils having reduced spinning tendencies.
— See Jacobs, Eastman Nixon, and Kenneth E. Ward: Tests of N. A. C. A. airfoils in the variable-density wind tunnel, series 24.
— See Kirste, Léon: Flexion & torsion des ailes cantilever.
— See Magnan, Antoine, et A. Sainte-Laguë: Sur la distribution des vitesses aérodynamiques autour d'un avion en vol.
— See Noyes, Richard W.: Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability.
— See Reid, Elliott Gray: Applied wing theory.

AIRFOILS See Serragli, G.: Considerazioni sui profili alari praticamente reversibili.

— See Sheridan, Laurence Ward: On the two-dimensional flow of air past a series of Rankine ovals.

— See Soulé, Hartley Akin: Flight tests to determine the effect of a fixed auxiliary airfoil on the lift and drag of a parasol monoplane.

— See Taylor, G. I.: Applications to aeronautics of Acheret's theory of aerofoils moving at speeds greater than that of sound.

— See Townend, H. C. H.: A study of slots, rings, and jet-control of the boundary layer.

— See Trigona della Floresta, Ercole: Sull'impiego di profili per alta portanza.

— See Ward, Kenneth E.: Characteristics of an airfoil as affected by fabric sag.

— See Weick, Fred E., and Millard J. Bamber: Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions.

— See Zimmerman, C. H.: Characteristics of Clark Y airfoils of small aspect ratios.

AIRLINES. See Acampora, L.: La standardizzazione dal punto di vista delle linee aeree.

AIRPORTS. Airport development.

Flight, Vol. 24, No. 18, 19 (1218, 1219) (April 29, May 6, 1932), London, pp. 377-390, 396-400, ills.

— Airport development problems discussed at National Conference in Tulsa. Southern Aviation, Vol. 2, No. 9 (May 1931), Atlanta, Ga., pp. 20-22, 32, ports.

— Airport development. Some interesting paragraphs from a paper recently read before the Royal Aeronautic Association.

Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 37-38, ills.

— Airport development. Some interesting paragraphs from a paper recently read before the Royal Aeronautic Society.

Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 20-23, ills.

— Airport drainage and surfacing.

U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., p. 40.

— Airport rates and rentals at Boeing Field, Seattle.

Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 50, 54.

— Airports and airways.

Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 109-111, diags., tabl., map.

— Un aérodrôme. Cité de l'aviation.

L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 205, ill.

— Descriptions of airports and landing fields in the United States, September 1, 1932.

U. S. Department of Commerce, Aeronautics Branch, Airway Bulletin No. 2, Washington, United States Government Printing Office, 1932, pp. 183.

— Municipal aerodromes.

Flight, Vol. 24, No. 16, 17 (1216, 1217) (April 15, 22, 1932), London, pp. 322-325, 351-360, ills.

— Plans for Shreveport and Baton Rouge airports.

Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 23-24, ills.

- AIRPORTS.** *See* Amarillo airport: The unusual heating system at the Amarillo airport.
- *See* Barksdale Field: The development of Barksdale Field.
 - *See* Baskins, Jack: The problem of developing a small-city airport.
 - *See* Biedma, A. M.: Aeropuertos.
 - *See* Brennan, J. W.: Lindbergh field, San Diego's municipal airport.
 - *See* Burt, Robert M.: Attracting the public to the airport.
 - *See* California: Southern California airports. Within 30 miles of Los Angeles are 25 air terminals, some of them the finest.
 - *See* Canada. Department of National Defence: Description of airports, intermediate aerodromes, seaplane ports, and anchorages including certain Royal Canadian Air Force stations and substations in the Dominion of Canada . . . Ottawa, March 1, 1932 . . .
 - *See* Church, H. F.: Charleston takes the air.
 - *See* Connor, C. N.: Airports and transportation engineering. Effect of airplane impact on airport surfaces.
 - *See* Dardanelli, Giorgio M.: Costruzione ed organizzazione degli attuali aeroporti civili.
 - *See* Ellenberger, I. W.: Airport accounting.
 - *See* Everett, G. E.: Kansas city airport.
 - *See* Fletcher, W. E.: The new air terminal at Oklahoma City.
 - *See* Flint, H. K.: Floodlighting the Detroit airport.
 - *See* Fort Worth: Fort Worth Airport is worthy.
 - *See* Germany: Lighting German airports.
 - *See* Glenn Curtiss Airport: Glenn Curtiss Airport.
 - *See* Guatemala. Dirección general de aeronáutica: Carta postal aérea de la república de Guatemala. Cróquis y datos relativos a los aeropuertos, aeródromos, y estaciones aéreas, construidos en el país.
 - *See* Hall, H. H.: The dispatcher, how he operates.
 - *See* Heston: Heston air park.
 - *See* Kadel, B. C.: Airport weather station. Do you know how to equip one for your port?
 - *See* Knott, E. M.: Airport radio transmitter.
 - *See* Levinson, David: The part played by Greensboro in air-transport development.
 - *See* Lewis-Dale, Henry Angley: Aviation and the aerodrome. A treatise on the problems of aviation in relation to the design and construction of aerodromes.
 - *See* Lindsay, K. S.: Roosevelt Field's twenty-fourth anniversary.
 - *See* Los Angeles: Grand central air terminal Los Angeles (Glendale) California.
 - *See* Love Field: The unique lighting system at Love Field.

- AIRPORTS.** *See* Lufthansa: Construcción de aeropuertos.
- *See* Lunken: Lunken airport dedication September 26-27.
 - *See* McCuiston, A. L.: Sound airport administration.
 - *See* Mason, L. G.: Airport promotion of private flying.
 - *See* Merkel, Geo. C.: An airport as a social center.
 - *See* Miller, Emily U.: Shreveport municipal airport.
 - *See* Norman, Nigel: Airport development.
 - *See* Ogden, W. C.: Model airport for land and sea planes under construction at New Orleans.
 - *See* Paris: Un aéroport relais sur la Seine.
 - *See* Paris: Paris and her airport problem.
 - *See* Portsmouth: Portsmouth's airport opened.
 - *See* Rice, E. Allan: The Shushan airport.
 - *See* Schenk, Ewalt: Der flughafen.
 - *See* Sneed, Preston: The problem of revenues at a municipal airport.
 - *See* Sommers, John E.: Requirements for airport ratings.
 - *See* Taliaferro, A. Pendleton: Traffic analysis in airport design.
 - *See* United States Department of Commerce. Aeronautics Branch: Description of airports and landing fields in the United States, Sept. 1, 1932.
 - *See* United States Department of Commerce, Aeronautics Branch: Report of Committee on Airport Drainage and Surfacing. Representing Aeronautics Branch, Department of Commerce, American Engineering Council, American Road Builders' Association. December 1, 1931.
 - *See* Upman, Frank, Jr.: Developing an airport.
 - *See* Upman, Frank, Jr.: Greeters at airports.
 - *See* Warrender, Lee D.: Material control in chain airport operation.
 - *See* Watson, George H.: Lighting the Birmingham airport.
- AIR resistance.** *See* Bourquard, F.: Aérodynamique. Ondes balistiques planes obliques et ondes coniques. Application à l'étude de la résistance de l'air.
- AIRSCREWS.** *See* Propellers.
- AIRSHIP service.** *See* United States Congress. House. Committee on Interstate and Foreign Commerce: Transoceanic merchant airship service . . . Report and minority views. To accompany H. R. 8681.
- AIRSHIPS.** Congress encourages transoceanic airship program.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., p. 19.
- Predicts immediate increase in use of airships.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., p. 34.
 - Proyecto trasatlántico L-R6-1.
Icaro, Núm. 11, nov. 1928, Madrid, pp. 321-322, ills.
 - La tendencia en la construcción de dirigibles.
Icaro, Núm. 1, enero 1928, Madrid, pp. 28-30, ills.
 - *See* Akron: Mobile mast for mooring the Akron. The resilient structure of the Akron.

- AIRSHIPS. See Allen, Hugh: The story of the airship.
- See Arnstein, Karl: Why airships?
- See Bruns, Walther: Luftfahrzeuge als Hilfsmittel in der Polarforschung.
- See Changeux, Pierre: Dynamique du dirigeable.
- See Chitty, L., and R. V. Southwell: Primary stresses in the hull of a rigid airship.
- See Colsman, A: Luftschiff voraus.
- See Ebner, H.: Über Fachwerke mit gekreuzten Diagonalen.
- See Fediaevsky, K.: Data on aerodynamical design of airships. Part I. Drag of an airship moving at zero incidence.
- See Forlanini: A new Forlanini airship.
- See Freeman, Hugh Barton: Force measurements on a 1/40-scale model of the U. S. Airship "Akron".
- See Freeman, Hugh Barton: Measurement of flow in the boundary layer of a 1/40-scale model of the U. S. Airship "Akron".
- See Freeman, Hugh Barton: Pressure-distribution measurements on the hull and fins of a 1/40-scale model of the U. S. Airship "Akron".
- See Goepferich, Willy: Der Selbstbau eines Modellluftschiffes (Zeppelin).
- See Jones, R., and A. H. Bell: Experiments on a model of the airship R. 101 with applications to determine the steady motion of the airship.
- See Jones, R., and A. H. Bell: Tests on biplane fins on a model of the R. 101 hull.
- See Klemperer, Wolfgang: Windkanalversuche an einem Zeppelin-luftschiff-modell.
- See Lambrecht, Wolfgang: Transoceanic dirigible service.
- See Litchfield, P. W.: Establishing an airship-building industry.
- See Lotz, I.: Calculation of potential flow past airship bodies in yaw.
- See Louis, Richard: 30 Jahre Zeppelinluftschiffahrt, bearbeitet in auftrage des Luftschiffbau Zeppelin.
- See Moffett, William A.: Rigid airship development and the U. S. S. Akron.
- See Parlett, R. A.: Ingenious telephone system aboard the U. S. S. Akron.
- See Poggi, L.: Studio sulla manovra di cambiamento di rotta nei dirigibili.
- See Respass, Roland B.: Travel by dirigible. The "magic carpet" way.
- See Rose, Thad: Something new in airships.
- See Rosendahl, C. E.: Up ship.
- See Schwengler, J.: Erfordernisse und Anregungen für wirtschaftliche Luftschiffbauten.
- See Seydel, Edgar: Müller-Breslaus "Elastizitätstheorie des starren Luftschiffs".
- See Upson, Ralph H., and W. A. Klikoff: Application of practical hydrodynamics to airship design.

- AIRSHIPS.** *See* Zeppelin: Descripción del dirigible LZ 127.
- AIRSPEED.** Airspeed A. S. 5.
Flight, Vol. 24, No. 43 (1243) (Oct. 20, 1932), London, p. 982, ills.
- AIRWAYS.** Airlines and air travel.
Aero Digest, Vol. 21, No. 1 (July 1932), New York, pp. 43-44, 46, 48.
- Airlines of the United States.
Aero Digest, Vol. 21, No. 1 (July 1932), New York, pp. 21-28, ills.
- General airway information, September 1, 1932.
U. S. Department of Commerce, Aeronautics Branch, Airway Bulletin No. 1, Washington, United States Government Printing Office, 1932, pp. 214.
- Pan American airways.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., p. 16.
- *See* Beacon system: Completing the beacon system on the Southern Transcontinental Route.
- *See* Benkendorff, Rudolf: The organisation of air routes for night flying.
- *See* Born, F.: Die Empfehlungen der Internationalen Beleuchtungskommission und ihr Einfluss auf das Befeuerungswesen im Luftverkehr.
- *See* Froelich, Michael H.: Increasing airline business. Part II—American airways.
- *See* Grey, Charles Grey: On Imperial airways.
- *See* Gronau, Wolfgang von: The arctic air route to the United States.
- *See* Japan: Airways of Japan.
- *See* Miller, J. W.: Highway airways.
- *See* Pirath, Carl: Die Hochstrassen des Weltluftverkehrs.
- *See* United States Department of Agriculture. Weather Bureau: Instructions for airways observers . . . 1932.
- AIRWORTHINESS.** *See* Great Britain. Air Ministry: Air-worthiness handbook for civil aircraft.
- *See* United States Department of Commerce. Aeronautics Branch: Air-worthiness requirements for aircraft components and accessories. Effective March 1, 1933.
- *See* United States Department of Commerce. Aeronautics Branch: Air-worthiness requirements for aircraft. Effective as amended Jan. 1, 1933.
- AKIMOW, G. B., and N. A. SHAMIN.** Electrochemical protection from corrosion of the aluminium alloy cooling system.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 136, Moscow-Leningrad, 1932, pp. 16, ills., diagrs. tabs.
- AKIMOW, G. W., and W. O. KROENIG.** An investigation of alclad.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 135, Moscow, 1932, pp. 32, ills., diag., tabs.
- AKRON.** The historic trip of the "Akron" to the Pacific Coast.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 38.
- Mobile mast for mooring the Akron. The resilient structure of the Akron.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 68-69, ills.

- AKRON.** Sur le rigide Américain "Akron." Un des huit groupes moto propulseurs.
L'Aérophile, 40e Année, No. 11 (nov. 1932), Paris, p. 341, ill.
- Uncle Sam's largest weapon of war will be the ZRS-4 "Akron."
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 15-17, illus.
- See Freeman, Hugh Barton: Force measurements on a 1/40-scale model of the U. S. Airship "Akron."
- See Freeman, Hugh Barton: Measurement of flow in the boundary layer of a 1/40-scale model of the U. S. Airship "Akron."
- See Freeman, Hugh Barton: Pressure-distribution measurements on the hull and fins of a 1/40-scale model of the U. S. Airship "Akron."
- See Moffett, William A.: Rigid airship development and the U. S. S. Akron.
- ALASKA.** Alaska needs the airplane.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 79-80, ill.
- Alaskan airways. Pan-American Airways take over operation.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, p. 899.
- A trip on scheduled airlines from the Tropics to Alaska.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 17-18, map.
- ALAYRAC.** L'atmosphère standard du service technique.
Paris, Gauthier-Villars, 1932.
- Étude théorique du vol par battements.
Paris, Gauthier-Villars, 1932.
- Étude théorique du vol plané dans une atmosphère en mouvement.
Paris, Gauthier-Villars, 1932.
- ALAYRAC, A.** Étude des écoulements irrotationnés dans l'espace à trois dimensions.
Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 13, Paris, 1932, pp.
- ALBARRÁN.** El accidente sufrido por el señor Albarrán.
Icaro, Año 5, Núm. 55 (julio 1932), Madrid, p. 6.
- Albarrán muere en un accidente de aviación.
Icaro, Año 5, Núm. 54 (junio 1932), Madrid, p. 3, port.
- ALBERT, KING OF THE BELGIANS.** King Albert uses plane to inspect African colonies.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., p. 15, ill.
- ALCLAD.** See Akimow, G. W., and W. O. Kroenig: An investigation of alclad.
- ALEXANDER, J. B.** "In the Box."
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., pp. 12-13.
- ALEXANDER, MARY C.** Why do women fly?
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 15-16, port.
- ALGER, FERRIS E.** The practical efficiencies of airplanes.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, p. 56.
- ALLARD, ÉMILE.** Cours d'aéronautique.
Paris, Dunod, 1932, pp. 406, illus.
- ALLARD, J. S.** Aviation—An engineering industry.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 24-27, port.
- ALLEN, EDMUND T.** Truth and the test pilot.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 53-55.

ALLEN, HUGH. The story of the airship.

[Akron, O., 1932], pp. 96, illus. Eighth edition.

ALLEN, J. R. Flat patterns.

Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 24-25, diags., tabl.

ALLIED AND ASSOCIATED POWERS. Protocol amending articles 3, 5, 7, 15, 34, 37, 41, 42 and the final clauses of the Convention for the Regulation of Aerial Navigation of October 13, 1919. Paris, June 15, 1929. Irish ratification deposited on April 9, 1930.

Dublin, Stationery Office, 1932, pp. 8. Irish Free State. Treaty series 1930, No. 16.

— Protocol relating to amendments to articles 34 and 40 of the Aerial Navigation Convention of October 13, 1919. Signed at Paris, December 11, 1929. Canadian ratification deposited September 19, 1930.

Ottawa, F. A. Acland, Printer to the King, 1932, pp. 6. Canada. Treaties, etc.; Treaty Series 1930, No. 15.

ALLOYS. See Bossert, T. W.: Aluminum and its alloys in aircraft.

— See Dural age-hardening: Cold prevention of dural age-hardening.

— See MG7: MG7, the new light alloy.

— See Rosenhain, W., J. D. Grogan, and T. H. Schofield: Gas removal and grain refinement in aluminium alloys.

— See Rosenhain, W., J. D. Grogan, and T. H. Schofield: The influence of titanium tetrachloride on the gas content and grain size of aluminium and some alloys.

— See Sutton, H., and L. F. Le Brocq: The protection of magnesium alloys: against corrosion.

ALL-WING. See Gasperi, Mario: Studio sui vantaggi economici conseguibili con l'impiego dell'aeroplano commerciale tutt'ala.

ALSTON, R. P., D. A. JONES, and E. T. JONES. A flight path recorder suitable for performance testing.

Aer. Res. Comm., Rep. Mem., No. 1471 (T. 3247), April 1932, London, 1932, pp. 8, illus., diags., tabs.

ALSTON, R. P. Stalled flight tests on a Bristol Fighter fitted with auto control slots and interceptors.

Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 537-539, ill.

— See Jennings, W. G., R. P. Alston, and C. Howarth: Investigation of atmospheric turbulence by aircraft carrying accelerometers.

— See Jones, E. T., and R. P. Alston: Quantitative measurements of the longitudinal control and stability of the Bristol Fighter when stalled, with reference to stalled landings.

ALTIMETERS. See Green, C. F.: Altimeters whereby your ears tell your height.

ALTIS. On sailplane principles.

Flight, Vol. 24, No. 47 (1247) (Nov. 17, 1932), London, pp. 1089-1090, illus.

ALTITUDE. Oxygen for altitude.

Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, p. 39.

— See Duer, Roy Judson: The low-down on high altitude.

— See Idrac, P.: Aviation. Sur des enregistreurs ultra-sensibles pour avion de variation d'altitude et de température.

- ALTITUDE. *See* Simeon, Giuseppe: Sulla determinazioni del punto in volo con rette di altezza.
- *See* Stratosphere.
- *See* Uwins, C. F.: Aeroplane height record.
- ALTITUDE flights. *See* Beyne, Mazer, et M. Grenier: Inhalation d'oxygène pour le vol à l'haute altitude.
- ALTITUDE flying. Twenty-seven thousand feet.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 21.
- ALTITUDE record. The new altitude record. Some technical details of the Vickers Vespa biplane and the Bristol Pegasus engine.
Aircraft Engineering, Vol. 4, No. 44 (Oct. 1932), London, pp. 259-260, ills.
- ALUMINUM. *See* Akimow, G. B., and N. A. Shamin: Electrochemical protection from corrosion of the aluminium alloy cooling systems.
- *See* Anderson, Robert J.: Secondary aluminum.
- *See* Bossert, T. W.: Aluminum and its alloys in aircraft.
- *See* Gallo, G., e D. Corbi: Protezione delle leghe di alluminio con crome elettrolitico.
- *See* Gambioli, Mario: Protezione dell'alluminio e duralluminio con rivestimenti elettrolitici di zinco e di cadmio.
- *See* Gayler, L. V., and G. D. Preston: Age-hardening of aluminium alloys.
- *See* Gough, H. J., and D. G. Sopwith: The behaviour of a single crystal of aluminium under alternating torsional stresses while immersed in a slow stream of tap-water.
- *See* Grogan, J. D., and D. Clayton: Dimensional stability of heat-treated aluminium alloys.
- *See* Phillips, S. H.: Steel versus aluminum. Summarization of the possible advantages of stainless steel for airplane structures.
- *See* Rosenhain, W., J. D. Grogan, and T. H. Schofield: Gas removal and grain refinement in aluminium alloys.
- *See* Rosenhain, W., and J. D. Grogan, and T. H. Schofield: The influence of titanium tetrachloride on the gas content and grain size of aluminium and some alloys.
- ALZATE, M. G. Sobre el aumento de sustentación en los perfiles.
Icaro, Año 5, Núm. 58 (oct. 1932), Madrid, p. 11.
- AMARILLO airport. The unusual heating system at the Amarillo airport.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 13, 16, ills.
- AMARILLO, TEXAS. *See* Cannon, Joe: Amarillo municipal field takes on new life.
- AMBROSINI, ANTONIO. La legittimazione dell'aeromobile alla navigazione aerea.
Rome, L'Aviazione, 1932, pp. 174.
- Al lettori.
Riv. Dir. Aer., N. 1, gen. 1932-X, Roma, 3-4.
- Liability for damages caused by aircraft on the ground: A proposed international code.
Air Law Review, Vol. 3, No. 1 (Jan. 1932), New York, pp. 1-15.
- Per un sistema del diritto aeronautico.
Riv. Dir. Aer., N. 1, gen. 1932-X, Roma, pp. 5-29.

18 NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS

- AMBROSINI, ANTONIO. Sulla figura giuridica dell' esercente di aeromobile.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 214-217.
- L'ufficio studi per la navigazione aerea transoceanica e i suoi possibili sviluppi.
Riv. Dir. Aer., N. 3, luglio 1932-X, Roma, pp. 373-374.
- L'universalità del diritto aeronautico e le sue esigenze in rapporto al diritto interno.
Riv. Dir. Aer., N. 4, dicembre 1932-X, Roma, pp. 401-411.
- AMERICA. See Grey, Charles Grey: On our private war with America.
- AMERICAN ACADEMY OF AIR LAW. American Academy of Air Law—Annual report 1931.
[New York, American Academy of Air Law, 1932], pp. 32.
- See Reppy, Alison: American Academy of Air Law—Annual report.
- AMERICAN AIRWAYS. American Airways' Dallas shops.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., p. 7, ill.
- What a co-pilot must be.
Western Flying, Vol. 12, No. 12(6) (Dec. 1932), Los Angeles, p. 25.
- See Froelich, Michael H.: Increasing airline business. Part II—American airways.
- AMES, JOSEPH SWEETMAN. Scientific progress.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 15.
- AMSTERDAM. De Rijks-Studiedienst voor de Luchtvaart, Amsterdam. Verslag over het jaar 1931.
's-Gravenhage—Algemeene Landsdrukkerij—1932, pp. 25.
- AMSTUTZ, ED. Die Berechnung von Flügelstreben unter Berücksichtigung der Luftkräfte.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 13 (14. Juli 1932), München und Berlin, pp. 374-376, diags.
- AMUNDSEN, ROALD ENGELBREGT GRAVNING. See Arnesen, Odd: Roald Amundsen, wie er war.
- ANACOSTIA. Electric weather maps at Anacostia.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., p. 34, ill.
- ANCHORS. See Coombes, L. P.: Tests of anchors for use on flying-boats.
- ANDERLIK, E. Airplane stability in taxiing.
National Advisory Committee for Aeronautics, Technical Memorandums No. 682, Sept. 1, 1932, Washington, September 1932, pp. 12, ill., diags.
- Über die Stabilität des Flugzeugs beim Rollen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, pp. 280-283, diags.
- ANDERSON, RAYMOND F. The aerodynamic characteristics of airfoils at negative angles of attack.
National Advisory Committee for Aeronautics, Technical Notes No. 412, March 25, 1932, Washington, March 1932, pp. 11, diags., tabl.
- See Diehl, W. S., and R. F. Anderson: Variable density wind tunnel test data on models of the Hawker Hornbill aeroplane and the A. D. 1 aerofoil section.
- ANDERSON, ROBERT J. Secondary aluminum.
Cleveland, Ohio, The Sherwood Press, inc., pp. 563, ill.
- ANDES. "Swift"ly across the Andes.
Flight, Vol. 24, No. 12 (1212) (March 18, 1932), London, p. 235.

- ANDRÉE, SALOMON AUGUST. *See* Dithmer, Elisabeth: Sandheden om Nobile, Bjørnstjerne Bjørnson in memoriam.
- ANDREWS, W. R. Climb relationships.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 5 (1205) (Jan. 29, 1933), London, pp. 96a-96g, ills., diags.
- The estimation of profile drag.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 25, 31 (1225, 1231), (June 17, July 29, 1932), London, pp. 530a-530d, 710a-710c, diags., tabs.
- Light aero engine-airscrew combinations.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 49, 53 (1249, 1253) (Dec. 1, 29, 1932), London, pp. 1152a-1152e (82-85), 1232d-1232f (92-94), diags., tabs.
- Notes on airscrew-body interference.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, pp. 1008f-1008g, diags.
- ANGELROTH, HERBERT ARMIN. Wesen und Anwendung des Luftbildes.
Luftschau, 5. Jahrg., Nr. 6 (24. März 1932), Berlin, p. 87.
- ANGLE, GLENN D. Positioning of link rod wrist pins in articulated connecting rods.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 11-14, diags.
- ANIMAL flight. *See* Antoni, Guido: Meccanismo del volo animale.
- ANSLEY, HENRY. Texan balances the budget.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., p. 35.
- ANTARCTIC. *See* Maclean, John Kennedy, and Chelsea Fraser: Heroes of the farthest North and farthest South.
- *See* McKinley, Ashley C.: Mapping the Antarctic from the air.
- ANTI-KNOCKS. *See* Parri, Walter: Detonazione ed antidetonanti.
- ANTONI, GUIDO. Meccanismo del volo animale.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 541-562, ills.
- ANTONI, UGO. *See* Wings: The Ugo Antoni variable wing.
- ANTWERP. *See* Bradbrooke, F. D.: Air antics at Antwerp.
- APPEL, A. W. Design refinements in Bird planes.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 19-20, ills.
- APPROPRIATIONS. *See* Aeronautical Chamber of Commerce: The aircraft industry and appropriations for the fiscal year 1934. The Federal Government and the National Aviation Program.
- ARADO. Ausbildungsflugzeug Arado Ar. 66.
Die Luftwacht, Heft 12, Dez. 1932, Berlin, pp. 513-515, ills.
- ARCHAEOLOGY. *See* Smith, Robert A.: Temple hunting in Central America.
- ARCTIC. The Arctic air route: A British experiment.
Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, p. 402.
- Arctic route to Europe.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 26.
- *See* Maclean, John Kennedy, and Chelsea Fraser: Heroes of the farthest North and farthest South.
- *See* Watkins, H. G.: The British arctic air route expedition.

- ARDISSON, A.** See Parisot, Jacques, et A. Ardisson: La protection contre le danger aéro-chimique; rôle des infirmières, secouristes et assistantes du devoir national; éléments d'instruction à leur fournir; préface du médecin-général inspecteur Sieur.
- ARGENTINE.** Aviation in the Argentine.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 288.
- ARGUS.** Kleinflugmotor Argus AS 16.
Die Luftwacht, Heft 10, Okt. 1932, Berlin, p. 419, ill., diagr.
- ARMAMENT.** See Matchesi, A. A. Vittorio: Come si giunse, alla società delle nazioni, alla redazione del progetto di convenzione per la riduzione e limitazione degli armamenti.
- ARMENGAUD, PAUL FRANCOIS MAURICE.** L'aviation et la puissance offensive de l'instrument de guerre de demain.
Paris, Gauthier-Villars et Cie., 1932, pp. 147, ill., diagr.
- ARMSTRONG, E. F.** Hydrogen and its uses.
Journal of the Royal Society of Arts, Vol. 80, No. 4146 (May 6, 1932), London, pp. 611-627.
- ARMSTRONG-SIDDELEY.** Armstrong-Siddeley "Leopard IIIA."
Flight, Vol. 24, No. 18 (1218) (April 29, 1932), London, p. 369, ill., diagr.
- Le quadrimoteur de transport Armstrong Siddeley "Atalanta" (Angleterre).
L'Aérophile, 40e Année, No. 10 (Oct. 1932), Paris, p. 312, ill.
- ARMSTRONG WHITWORTH.** The A. W. XV monoplane.
Flight, Vol. 24, No. 28, 29, (1228-1229) (July 8, 15, 1932), London, pp. 619-622, 661-665, ill.
- Armstrong-Whitworth A. W. XV "Atalanta" airplane (British). A commercial multiplace cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 167, Aug. 12, 1932, Washington, August 1932, pp. 10, ill.
- The Armstrong Whitworth A. W. XVI military airplane (British). A single-seat biplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 156, Feb. 3, 1932, Washington, January 1932, pp. 5, ill.
- Armstrong Whitworth and Siddeley development during 1931.
Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, pp. 28-29, ill, diagr.
- The A. W. XV transport plane. Newest British development contains many new ideas and designs in aircraft construction.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 10-11, 33, ill.
- See Atalanta: A monoplane for Imperial Airways. The new Armstrong-Whitworth Atalanta with low-drag and interference and a novel control.
- ARMY AIR CORPS.** Would establish unorganized reserve force of 100,000 (primary) pilots for Air Corps.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 10-11.
- See Fechet, James E.: The Army air corps.
- ARNALL, PHILIPP.** Portrait of an airman.
London, John Lane the Bodley Head Ltd., 1932, pp. 305.
- ARNESEN, ODD.** Roald Amundsen, wie er war.
Stuttgart, Union Deutsche Verlagsgesellschaft, 1932, pp. 320, ill.
- Vi flyver over Eirik Raudes land.
Oslo, Nasjonalforlaget a s, 1932, pp. 162, ill., map.
- ARNSTEIN, KARL.** Why airships?
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 25-31, 46, 48, port.

- ARROWHEAD.** See Warren, Cecil R.: The Arrowhead safety plane. A Florida development differing radically from usual design.
- ART.** See Lestonnat, Raymond: *L'Art, la Mer et l'Air*.
- ASHWELL-COOKE, JOHN RAYMOND.** Motorless flight.
London, J. Hamilton, Ltd., 1932, pp. vii, 149, ills.
- ASIA.** See Beinhorn, Elly: *Erfahrungen aus meinen Asienflug*.
— See König von und zu Warthausen, Friedrich Karl: *Mit 20 PS und leucht-pistole; abenteuer des Hindenburgfliegers*.
— See Ring, Lawrence E.: *Airlines in Asia*.
- ASTABIATIAN, S. T.** See Baoulin, K. K., S. T. Astabiatian, and F. N. Kraschenin-nikov: Investigation of open jet-wind tunnels.
- ATALANTA.** A monoplane for Imperial Airways. The new Armstrong-Whit-worth Atalanta with low drag and interference and a novel control.
Aircraft Engineering, vol. 4, No. 42 (Aug. 1932), London, pp. 200-202, ills.
— See Armstrong-Whitworth: Armstrong-Whitworth A. W. XV "Atalanta" airplane (British). A commercial multiplace cantilever monoplane.
- ATHENS.** British aircraft at the Athens Aero Exhibition.
Flight, Vol. 24, No. 11 (1211) (March 11, 1932), London, p. 212.
- ATKIN, E. H.** Applications of the polar diagram.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 35, 40, 44 (1235, 1240, 1244) (Aug. 26, Sept. 30, Oct. 27, 1932), London, pp. 802e-802h, (61-64), 918c-918g, (67-71), 1008e-1008f, (77-78), ills, diagrs.
- ATKINSON, L. M.** How an airplane enlarges the territory of an industrial engineer.
Southern Aviation, vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., pp. 3-4, port.
- ATLANTA.** Atlanta takes to the air. The progress of scheduled flying in the Southeast with Atlanta as the hub of the big transport lines.
Southern Aviation, vol. 2, no. 8 (April 1931), Atlanta, Ga., pp. 14-16, ills.
- ATLANTIC.** Los vuelos transatlánticos.
Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 61-67.
— See Mollison, James Allan: Mollison's Atlantic flight.
— See Von Gronau: Von Gronau's Atlantic flight.
- ATLANTIC OCEAN.** See Musella, F.: *Rotte aeree del nord Atlantico*.
- ATMOSPHERE.** Utilizing the upper atmosphere. A scientific examination of "Hyper-Aviation" possibilities.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, pp. 163-164.
— See Alayrac: *L'atmosphère standard du service technique*.
— See Chapman, M. A.: *On a theory of upper atmospheric ozone*.
— See Conti, G., e P. Gamba; *Due sondaggi dell'atmosfera a mezzo di un aeroplano*.
— See Di Maio, R.: *I sondaggi della stratosfera ccl meteorografo barotropico*.
— See Marquis, Raoul. Graffigny, H. de [pseud]: *L'exploration de la haute atmosphere et de l'espace interplanetaire*.
— See Marquis, Raoul: *Irons-nous dans la lune? . . . Avec une préface de l'abbé Th. Moreux . . . Illustré de gravures explicatives, dessinées par l'auteur*.

- ATMOSPHERE.** See Palumbo, Luisa: *L'esplorazione meteorologica dell'alta atmosfera.*
- See Soreau, Rodolphe: *L'air moyen et la stratosphère . . .*
- ATMOSPHERIC electricity.** See Schonland, B. F. J.: *Atmospheric electricity.*
- ATTAL, SALVATORE.** *La guerra integrale.*
Rivista Aeronautica, Anno 8, N. 10 (ott. 1932), Roma, pp. 20-38.
- *Nuove guerre; nuove armi.*
Rivista Aeronautica, Anno 8, N. 4 (aprile 1932), Roma, pp. 35-55.
- AUGER, ANDRÉ. T. S. F.** *L'emploi des ondes courtes dans le raid du "Saint-Didier".*
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, p. 114, ill.
- AUSTIN COMPANY, Cleveland.** *Austin canopy doors for aviation.*
Cleveland, 1932?, pp. 7, ill.
- AUSTRALIA.** *Air transport. The position in Australia.*
Flight, Vol. 24, No. 41 (1241) (Oct. 6, 1932), London, pp. 932-933, map.
- *Australia's new programme.*
Flight, Vol. 24, No. 51 (1251) (Dec. 15, 1932), London, pp. 1183-1184.
- *Sperrgebiet.*
Nachrichten für Luftfahrer, 13, Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 60.
- AUSTRIA.** *Austria's air lines.*
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, pp. 899-900, map, tabs.
- *Dachsteingebiet, Sperrgebiet.*
Nachrichten für Luftfahrer, 13, Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 57.
- *Flugsicherungsdienst.*
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5, 12, 16, 22-23, 33-34, 36-37, 42 (30. Jan., 19 März, 16. April, 4. Juni, 13./20. Aug., 10. Sept., 15. Okt. 1932), Berlin, pp. 36-38, 83, 110, 159-160, 222, 243-244, 284.
- *Wetterdienst.*
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 21 (21. Mai 1932), Berlin, pp. 150-152.
- See Great Britain: *Convention between His Majesty, in respect of the United Kingdom, and the federal President of the Republic of Austria respecting air navigation. Vienna, July 16, 1932. (This convention has not been ratified by His Majesty . . .)*
- AUTOGIRO.** *The autogiro.*
Philadelphia, Pa., Autogiro Company of America, 1932, pp. 94, ill.
- *Autogiros at the show. Pitcairn and Kellett models reveal many improvements and refinements in design and performance.*
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 30-31, ill.
- *First fatal autogiro accident.*
Flight, Vol. 24, No. 53 (1953) (Dec. 29, 1932), London, p. 1233, ill.
- *El primer autogiro alemán.*
Ibérica, Año 19, Núm. 917 (27 feb. 1932), Barcelona, p. 135.
- *Two-place autogiros with cabins.*
Aero Digest, Vol. 20, No. 1 (Jan. 1932), New York, p. 58, ill.
- *When the autogiro visited the temple of KuKul Can.*
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 28-29, ill.
- See Acebo, Tomás G.: *Miscelánea sobre el autogiro.*
- See Bennett, J. A. J.: *Über den senkrechten Abstieg eines Autogiro.*

- AUTOGIRO.** See Bennett, J. A. J.: Vertical descent of the autogiro.
- See Buhl: Un autogiro Américain à hélice propulsive; le biplace Buhl.
- See Debnam, W. E.: Performance features of the autogiro.
- See Forest, A. V. de: A novel recording strain gauge.
- See Haifter, Mitchel: Buhl pusher type autogiro.
- See Larson, A. E.: Autogiro development. Improvement in performance obtained through the use of streamlined cabin type fuselage.
- See Lees, Robert E.: Week-end autogiroists.
- See Lewis, H. Latané, II.: The military value of the autogiro.
- See Liore & Oliver: A LeO autogiro.
- See Lusk, Hilton F.: And thus it fles.
- See Mayer, Herbert C.: "So you fly an autogiro!"
- See Miller, Guy: Autogiro flight instruction.
- See Odier-Bessière: Le clinogyre Odier-Bessière.
- See Pitcairn, Harold F.: The autogiro answers its critics.
- See Schrenk, Martin: Das drehflügelflugzeug.
- See Thelen, Otto: Les possibilités d'utilisation militaire des autogires.
- See Wetherill, Richard W.: The autogiro goes to work.
- See Wheatley, John Brooks: Lift and drag characteristics and gliding performance of an autogiro as determined in flight.
- AUTOMATIC control.** See Smith automatic control: The automatic pilot.
- AUTOMATIC flight.** See Bassett, P. R.: Automatic flight.
- AUTOMATIC pilot.** See Sperry, Elmer A., jr.: Description of the Sperry Automatic Pilot.
- AVERY ISLAND.** Gulf coast marsh lands provide new use for planes.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., p. 10, illus.
- AVIA.** See Jarlaud: Les planeurs d'entraînement et de performances Avia.
- AVIA B. H. 33.** El avion de caza Avia B. H. 33.
Icaro, Núm. 6, 7 y 8, junio-julio-agosto 1928, Madrid, pp. 207-209, ill.
- AVIASTROITEL'.** Glavnoe upravlenie aviatsionnoi promyshlennosti. Vol. 1, No. 1—1932—Leningrad.
- AVIATION.** Aviation in the schools.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 22-24.
- AVRO.** The Avro 631 "Cadet."
Flight, Vol. 24, No. 13 (1213) (March 25, 1932), London, pp. 253-257, illus.
- The Avro 631 training airplane (British). A two-seat light biplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 161, May 18, 1932, Washington, May 1932, pp. 6, illus.
- AYMAT, JOSÉ MARIA.** Navegación aérea . . . con un prólogo del teniente coronel d. Emilio Herrera.
Barcelona, Editorial Labor, s. a., 1932, pp. 449, illus., diagrs., maps.

B

- BABINSKI, LEON.** L'aspect juridique de la notion du Commandant de l'Aéronef.
Riv. Dir. Aer., N. 4, dicembre 1932-X, Roma, pp. 412-424.
- BABSON, WILLIAM.** The business of blind-flying trimotored transports through some of the roughest air in the world.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 11-13, ill.
- BACHEM, ERICH.** Die Praxis des Leistungs-Segelfliegens.
Berlin-Charlottenburg, Verlag C. J. E. Volckmann Nachf. G. m. b. H., 1932, pp. 88, ills.
- BACHMETEW, E. T.** Kaltgewalztes duralumin.
USSR Volkswirtschaftsrat-Bundesvereinigung für Flugzeugindustrie. Werke des Zentralen Aero-Hydrodynamischen Institute, Lieferung 109, Moskau, 1932, pp. 40, ills., diagrs., tabs.
- BAILEY, A., and S. A. WOOD.** Development of a high-speed induced wind tunnel.
Aer. Res. Comm., Rep. Mem. No. 1468 May 1932, London, 1932, pp. 21, ills., diagrs.
- BALANCE.** See Eastman, Fred Scoville: An electromagnetic balance for force measurement or current control.
- BALANCES.** See Betz, A.: 1. Neue Versuchseinrichtungen. 2. Die Sechskomponenten-Waage des grossen Windkanals.
- BALBO.** See Poturzyn, Fischer von: Minister Balbos' tätigkeitsbericht zur luftfahrtdebatte in der italienischen Kammer.
- BALBO, ITALO.** Escadrilles au-dessus de l'Atlantique; raid Italie-Brésil; traduction de Harry Blanc.
Paris, Nouvelles éditions latines, 1932, pp. 275, ills.
- Genfer abrüstung.
Die Luftwacht, Heft 9, Sept. 1932, Berlin, pp. 354-357.
- Stormi in volo sull'oceano.
Milano, A. Mondadori, 1932, pp. 256, ills., map.
- BALDWIN, J. E. A.** The training of pilots and instructors.
The Aeroplane, Vol. 42, No. 19 (May 11, 1932), London, pp. 842, 844, 846.
- Training of pilots and instructors.
Flight, Vol. 24, No. 21, 22 (1921, 1222) (May 20, 27, 1932), London, pp. 448-451, 474-475, ills.
Journ. Roy. Aer. Soc., Vol. 36, No. 263 (Nov. 1932), London, pp. 945-962.
- BALDWIN, N. C.** Aero field handbook. No. 1—Coldfield, Sutton, England, Francis J. Field, Ltd., 1931—
No. 1. Abyssinia. No. 2. Air mails of British Africa, 1925-32.
- The air mails of British Africa, 1925-1932.
Sutton Coldfield, England, F. J. Field, Ltd., [1932], pp. 68, ills., maps.
- BALDWIN, STANLEY.** Air disarmament.
Flight, Vol. 24, No. 47 (1247) (Nov. 17, 1932), London, pp. 1084-1085.
- BALLMANN, PETER.** Prüfung eines Collinears auf Verzeichnungsfehler.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], p. VI 32.
- BALLOONS.** Freiballon-Rekorde.
Luftschau, 5. Jahrg., Nr. 2 (24. Jan. 1932), Berlin, pp. 23-24.
- See Janets, Emile: Il y a trente ans. Le domaine aérien et le régime juridique des aérostats.
- See Kolhörster, Werner: Die wissenschaftliche Bedeutung der Freiballon-Höhenfahrten.

- BALLOONS.** See Leimkugel, Erich: Funkortung im Freiballon.
- See Orlandi, Francesco: Descrizione della macchina aereobatica costrutta da Francesco Orlandi di Bologna, con cui ha già eseguiti varj esperimenti.
- See Piltz: Die Höhenfahrten des Ballones "Ernst Brandenburg" zur Höhenstrahlenmessung.
- See Raven: Der diesjährige Wettbewerb um den DLV-Wanderpreis für Leuchtgasballone.
- See Raven, Ed.: Entwicklung des Freiballonssports im Deutschen Luftfahrt-Verband e. V.
- See Reich, O.: Godesberger Freiballonfahrt. Eine Erinnerung an die erste Freiballonfahrt Professor E. Milarchs.
- See Süring, R.: Wissenschaftliche Freiballonfahrten.
- BAMBER, MILLARD J.** See Weick, Fred E., and Millard J. Bamber: Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions.
- BANE, THOMAS H.** Col. Thomas H. Bane.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 23, port.
- BANKS, CHARLES A.** Carrying machinery by air. An interesting experiment in the transport of mining equipment in New Guinea.
Aircraft Engineering, Vol. 4, No. 44 (Oct. 1932), London, pp. 261-263, ills.
- BANKS, F. R.** Fuels for aircraft engines.
Journ. Roy. Aer. Soc., Vol. 36, No. 254 (Feb. 1932), London, pp. 140, diags.
- BAOULIN, K. K., S. T. ASTABATIAN, and F. N. KRASCHENINNIKOW.** Investigation of open jet-wind tunnels.
USSR People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 140, Moscow, Leningrad, 1932, pp. 35, ills., diags.
- BARACCA, FRANCESCO.** L'eroe Francesco Baracca nelle sue relazioni di guerra aerea.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 5-26, port.
- BARAJAS.** Accidente de aviación en Barajas.
Icaro, Año 5, Núm. 52 (abril 1932), Madrid, pp. 15-16, ills.
- Fiesta de aviación en Barajas.
Icaro, Año 5, Núm. 52 (abril 1932), Madrid, pp. 3-4.
- BARBIERI, FORTUNATO.** Il libro del pilota aviator. L'apparecchio; perchè vola; come si pilota; come si ottiene il brevetto; turismo aereo.
Milano, U. Hoepli (Tip. Sociale), 1932, pp. 280, ills.
- BARCELONA.** Accidente de aviación en Barcelona.
Icaro, Año 5, Núm. 51 (marzo 1932), Madrid, p. 8.
- BARDELLA, PIER LUIGI.** Ali ed artigli (I mezzi aerei ed il loro impiego).
Torino, Tipografia E. Schioppa, 1932, pp. 399, ills.
- BARKER, FOWLER W.** American aircraft products abroad.
Aviation, Vol. 31, No. 11 (Nov. 1932), New York, pp. 438-439.
- BARKSDALE FIELD.** The development of Barksdale Field. Large appropriation at last session of Congress insures early completion of "The World's Largest Airport" at Shreveport, La.
Southern Aviation, Vol. 4, No. 3 (Nov. 1932), Atlanta, Ga., pp. 3-4, ill.
- BARNARD, C. D.** Learning to fly.
New York, The Macmillan Company, pp. 172, ills.

- BAROGRAPHS.** See Pawlikowski, Józef: Wzorcowanie barografów.
- BARRIE, ALLAN A.** Into the fog.
Western Flying, Vol. 12, No. 12(6) (Dec. 1932), Los Angeles, pp. 12-13.
- BARTEL B M 4.** Próby w locie samolotu Bartel B M 4.
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10, Warszawa, 1932, pp. 77-83, ills., diags., tabs.
- BARTEL, RYSZARD.** Badania wytrzymałości na zginanie dźwigarów drewnianych.
(Études sur la résistance à la flexion des longerons en bois).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8 (Nr. 41), Warszawa, 1932, pp. 130-133, ills., diags., tabs.
- BARTOCCI, ENZO, E. GUIDO MATTIOLI.** L'ala silenziosa. Prefazione di Guido Mattioli.
Roma, Editrice "L'Aviazione", 1932, pp. xiv, 112, ills.
- BARWICK, E. BULLER.** Man's genius; the story of famous inventions and their development.
London and Toronto, J. M. Dent and Sons Ltd., 1932, pp. xvi, 199, ills.
- BASKINS, JACK.** The problem of developing a small-city airport.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 18-19.
- Ten years of ups and downs in learning to fly.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 5-6, 12, ills.
- BASSETT, P. R.** Automatic flight.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., p. 24.
- BASSI, SILVIO.** Un particolare modo di attacco per i cavetti d'acciaio nelle costruzioni aeronautiche.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 351-353, ills.
- BATEMAN, H.** The k -function, a particular case of the confluent hyper-geometric function.
California Institute of Technology, Guggenheim Aeronautics Laboratory, Publication No. 11, Pasadena.
- BATEMAN, H., and F. C. JOHANSEN.** Pressure and force measurements on air-screw-body combinations.
Aer. Res. Comm., Rep. Mem. No. 1380 (Ae. 505), December 1930, London, 1932, pp. 62, ills., diags., tabs.
- BATEMAN, H.** Solutions of a certain partial differential equation.
California Institute of Technology, Guggenheim Aeronautics Laboratory, Publication No. 11, Pasadena.
- See Dryden, Hugh L., Francis D. Murnaghan and H. Bateman: Report of the Committee on Hydrodynamics, Division of Physical Sciences National Research Council.
- See Lock, C. N. H., and H. Bateman: Airscrews at negative torque.
- See Lock, C. N. H., and H. Bateman: Analysis of experiments on the interference between bodies and tractor and pusher airscrews.
- BATHIAT, LÉON.** See Blanchet, Georges: Personnalités contemporaines Léon Bathiat.
- BATSON, A. S., H. B. IRVING, and S. B. GATES.** Spinning experiments on a single-seater fighter. Part 1. Further model experiments by A. S. Batson, and H. B. Irving. Part 2. Full-scale spinning tests by S. B. Gates.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-31, Vol. 2, London, 1932, pp. 566-575, ills., diags., tabs.

- BATSON, A. S.** See Irving, H. B., and A. S. Batson: Spinning experiments and calculations on a model of the Fairey IIF seaplane with special reference to the effect of floats, tailplane modifications, differential and floating ailerons and "interceptors."
- BATSON, A. S.** See Irving, H. B., A. S. Batson, and A. V. Stephens: Spinning experiments on a single-seater fighter with deepened body and raised tailplane, Part I: Model experiments, by H. B. Irving and A. S. Batson. Part II: Full-scale spinning tests, by A. V. Stephens.
- BAYLES, LOWELL.** Speed of 281 miles per hour gives Lowell Bayles American mark.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, pp. 26-27.
- BEACON SYSTEM.** Completing the beacon system on the Southern Transcontinental Route.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 3-4, ills.
- BEALE, MRS. MARIE (OGE).** Flight into America's past; Inca peaks and Maya jungles.
London, New York, G. P. Putnam's Sons, 1932, pp. xv, 286, ills.
- BEAMS.** Additional formulas for beams subjected to axial and lateral loads.
Air Corps Information Circular, Air Corps Technical Report No. 3598, Vol. 7, No. 665 (June 15, 1932), Washington, 1932, pp. 9, ills.
- Longitudinal shearing stress in a beam of constant or variable cross section.
Air Corps Information Circular, Vol. 7, No. 674 (June 30, 1932), Washington, pp. 2, ills. Air Corps Technical Report No. 3523.
- See Watter, Michael: Graphical solution of a beam under combined compression and transverse load.
- BEARD, A. P.** See Peck, W. C., and A. P. Beard: Drop and flight tests on NY-2 landing gears including measurements of vertical velocities at landing.
- BEATTY, WILLIAM H.** The U. S. Air Corps tactical school at Maxwell Field, Montgomery.
Southern Aviation, Vol. 4, No. 1 (Sept. 1932), Atlanta, Ga., pp. 5-7, ill.
- BEAUBOIS, HENRY.** Le bulletin du "Roland Garros." Groupement d'aviation privée de l'Aéro-Club de France, Numéro 9-12.
L'Aérophile, 40e Année, Nos. 8-11 (août-nov. 1932), Paris, pp. 248-251, 286-287, 317-318, 347-348, ills.
- BECK, H. W.** Traffic man and his job.
Western Flying, Vol. 11, No. 6 (June 1932), Los Angeles, pp. 27, 57.
- BECKER, Fritz.** Der Sturzflug in veränderlicher Luftdichte.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 22 (28. Nov. 1932), München und Berlin, pp. 659-663, diagrs.
- BEHMANN, MARIO.** Motore ad olio pesante a due tempi e doppio effetto.
Rivista Aeronautica, Anno 8, No. 10 (ott. 1932), Roma, p. 72.
- Nuovo motore di piccolo alesaggio per autoveicoli e velivoli (Ad olio pesante, a due tempi e doppio effetto).
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 62-67, ills.
- BEHNCKE, DAVID L.** Pilots must organize!
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 12-14.
- BEIJ, K. HILDING.** Aircraft speed instruments.
National Advisory Committee for Aeronautics, Report No. 420, July 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 59, ills., diagrs., tabs.

- BEINHORN, ELLI.** Elli Beinhorns Flug nach Niederländisch-Indien.
Luftschau, 5. Jahrg., Nr. 5 (10. März 1932), Berlin, pp. 69-70, ill.
- Erfahrungen aus meinen Asienflug.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 144-146.
- Ein mädchen fliegt um die Welt.
Berlin, Verlag Reimar Hobbing 1932, pp. 218, ill.
- BELGIUM.** Antwerpen, Luftfahrtfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, p. 196.
- Bußel, Flughäfen.
Nachrichten für Luftfahrer, 13. Jahrg. Nr. 26-27 (2. Juli 1932), Berlin, p. 181.
- Brüssel, Funkstelle.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 30-31 (30. Juli 1932), Berlin, p. 202.
- Flughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, pp. 56-57.
- Flugsicherungsdienst.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 21-42 (21. Mai 15. Okt. 1932), Berlin, pp. 152, 284.
- Flugsicherungsdienst. Brüssel, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Nov. 1932), Berlin, p. 319.
- Middelkerke, schiessübungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 16 (16. April 1932), Berlin, p. 110.
- Ostende, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, p. 161.
- Ostende, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 215.
- Stand der Luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, p. 23.
- Verkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 244.
- Zeitungen, Einfuhr von —.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13./20. Aug. 1932), Berlin, p. 220.
- See Fairey: Fairey aircraft in Belgium. Squadrons of "Fireflies" and "Foxes."
- See Fairey: More Fairey aircraft for Belgium.
- See Société Anonyme Belge de Constructions Aéronautiques: The S. A. B. C. A. "S. XI" commercial airplane (Belgian). A high-wing semicantilever monoplane.
- BELL, A. H.** See Jones, R., and A. H. Bell: Experiments on a model of the airship R. 101 with applications to determine the steady motion of the airship.
- See Jones, R., and A. H. Bell: Experiments on models of a compressed air wind tunnel.
- See Jones, R., and A. H. Bell: Tests on biplane fins on a model of the R. 101 hull.
- BENDIX.** Bendix awards flying trophies.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, p. 71, ill.
- Flexible metallic tubing.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 65, ill.
- BENKENDORFF, RUDOLF.** Air transport. The organisation of air routes for night flying.
Flight, Vol. 24, No. 7 (1207) (Feb. 12, 1932), London, pp. 134-136, ill.

- BENKENDORFF, RUDOLF.** Night flying in Germany.
The Aeroplane, Vol. 42, No. 6 (Feb. 10, 1932), London, pp. 242, 244, ill.
- The organization of air routes for night flying.
Journ. Roy. Aer. Soc., Vol. 36, No. 280 (Aug. 1932), London, pp. 656-672, ills.
- BENNETT, BENJAMIN.** Down Africa's skyways.
London, Hutchinson & Co., Ltd., 1932, pp. 288, ills.
- BENNETT, CORA L.** Floyd Bennett.
New York, Published by William Farquhar Payson.
- BENNETT, MRS. CORA LILLIAN (ORKINS).** Floyd Bennett; with a foreword by Rear Admiral Richard E. Byrd.
New York, W. F. Payson, 1932, pp. xii, 168, ills.
- BENNETT, FLOYD.** See Bennett, Mrs. Cora Lillian (Orkins): Floyd Bennett; with a foreword by Rear Admiral Richard E. Byrd.
- See Webb, L. D.: The life of Floyd Bennett told by his wife.
- BENNETT, J. A. J.** Über den senkrechten Abstieg eines Autogiro.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 8 (28. April 1932), München und Berlin, pp. 219-222, diagrs., tabs.
- Vertical descent of the autogiro.
National Advisory Committee for Aeronautics, Technical Memorandums No. 673, June 14 1932, Washington, June 1932, pp. 11, diagrs., tabs.
- BENTON, BURT.** Amphibion maintenance.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, p. 65.
- BENZINE.** See Songia, Roberto: Nota sui depositi di sicurezza per benzina e liquidi infiammabili.
- BERCHTOLD, WILLIAM E.** Front Page!
Aviation, Vol. 31, No. 5 (May 1932), New York, pp. 214-217.
- BERGHAUS, ERWIN.** D 999 auf nachtstrecke 3a.
Die Luftreise, Heft 2, Sept. 1932, Berlin, pp. 36-37, ills.,
- BERGMANN, STEFAN, AND H. REISSNER.** Neuere Probleme aus der Flugzeugstatik
Über die Knickung von rechteckigen Platten bei Schubbeanspruchung.
Zeitschr. Flugt. Motorluftsch. 23. Jahrg., Nr. 1 (14. Jan. 1932) München und Berlin, pp. 6-12
diagrs., tabs.
- BERLIN.** Deutsche Luftsport-Ausstellung Berlin 1932.
Die Luftwacht, Heft 10, Okt. 1932, Berlin, pp. 405-421, ills., map.
- Exposición Internacional de Aeronáutica Berlín, 1928. "Ila".
Icaro, Núm. 2, feb. 1928, Madrid, pp. 50-52, ill.
- La exposición de aviación en Berlín.
Icaro, Año 5, Núm. 59 (nov. 1932), Madrid, pp. 7-8, ills.
- See A. Z.: Berlin-Rom in 10 stunden.
- See Schreiber: Deutsche luftsport-ausstellung, Berlin 1932.
- BERRY, A. W.** Ground speed and course correction.
Flight, Vol. 24, No. 4 (1204) (Jan. 22, 1933), London, pp. 70-71, tabs.
- BERRY, GORDON K.** Subsidizing the short feeder line.
Aviation, Vol. 31, No. 6 (June 1932), New York, p. 253.
- BERTRAM, OTTO.** Lufthansa-Südflug 1931.
Luftschau, 5. Jahrg., Nr. 2 (24. Jan. 1932), Berlin, pp. 27-28.
- BESANÇON, GEORGES.** L'année aéronautique 1931.
L'Aérophile, 40e Année, No. 5, 6 (mai, juin 1932), Paris, pp. 133-135, 165-167.

- BESSIÈRE, P.-L.** Le droit aérien.
L'Aérophile, 40e Année, Nos. 1, 2, 4, 5, 6, 8, 11 (Jan. fév. avril, mai, juin, juil, août, nov. 1932), Paris, pp. 24-25, 56, 119-120, 148, 183, 216, 246, 343-344.
- BETZ, A., AND E. PETERSOHN.** Application of the theory of free jets.
National Advisory Committee for Aeronautics, Technical Memorandums, No. 667, April 21, 1932, Washington, April 1932, pp. 25, ills., diagrs.
- BETZ, A.** I. Neue Versuchseinrichtungen. 1. Das Luftschrauben-Laboratorium.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 1-8, ills., tabl.
- I. Neue Versuchseinrichtungen. 2. Die Sechskomponenten-Waage des grossen Windkanals.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 8-12, ills.
- I. Neue Versuchseinrichtungen. 3. Ein neues Mikromanometer.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 12-13, ills.
- BETZ, A., AND J. LOTZ.** Reduction of wing lift by the drag.
National Advisory Committee for Aeronautics, Technical Memorandums No. 681, Aug. 26, 1932, Washington, August 1932, pp. 5, ills., diagrs.
- Verminderung des Auftriebes von Tragflügeln durch den Widerstand.
Zeitschr. Flug. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, pp. 277-279, diagrs.
- BETZ, A., UND H. PETERS.** III. Versuchsergebnisse. 18. Untersuchung eines Staudruckmultiplikators. (Brunsche Doppel-Venturidüse).
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 126-128, ill., diagrs.
- BETZ, A.** See Prandtl, L., and A. Betz: Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen (angegliedert dem Kaiser Wilhelm-Institut für Stromungsforschung). IV. Lieferung.
- BEYNE, MAZER, ET M. GRENIER.** Inhalation d'oxygène pour le vol à l'haute altitude.
Paris, Gauthier-Villars, 1932.
- BIBESCO.** The Bibesco challenge cup.
Flight, Vol. 24, No. 38 (1238) (Sept. 16, 1932), London, pp. 877-878, map.
- BIBESCO, LE PRINCE.** See Blanchet, Georges: Personnalités contemporaines: Le Prince Bibesco, Président de la F. A. I.
- BIBLIOGRAPHY.** See Washington, D. C. Public Library: Books on aeronautics, a reading list, compiled by Olive Chase . . .
- See Zahm, Albert Francis, and Cecil Alured Ross: Bibliography on skin friction and boundary flow, compiled by A. F. Zahm and C. A. Ross.
- BICHE, JEAN.** Problems concerning the stability and maneuverability of airplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 663, March 26, 1932, Washington, March 1932, pp. 13, ills., diagrs.
- BIDDLECOMB, C. H.** Eliminating the ice hazard. A study of the phenomenon of the formation of ice on airplanes in flight and the means to combat and prevent it.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 7-9, 33, ills.
- BIEDMA, A. M.** Aeropuertos.
Buenos Aires, 1932.

- BIENIEK, CZESŁAW.** Prace doświadczalne wykonane w czasie od 1927-1931 r. (Travaux expérimentaux exécutés pendant les années 1927-1931.)
Prace Instytutu Aerodynamicznego w Warszawie, Zeszyt V, Warszawa, 1932, pp. 268, ills., diags., tabs.
- BIERMANN, ARNOLD W.** See Schey, Oscar W., and Arnold W. Biermann: Heat dissipation from a finned cylinder at different fin plane air-stream angles.
- BIGELOW, PAUL W.** Seeing through the "Blindfold".
Southern Aviation, Vol. 2, No. 9 (May 1931), Atlanta, Ga., pp. 15-16, ills.
- BILBAULT, GASTON.** Cours d'aérodynamique et calcul des performances par la méthode graphique à échelles logarithmiques.
Paris, R. Constans-Pinel, 1932, pp. 253, diags.
- Étude sur un avion du fonctionnement du groupe motopropulseur et recherche de l'adaptation. Principe d'adaptation des groupes motopropulseurs des avions multimoteurs par la méthode graphique à échelles logarithmiques.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 228.
- BINGHAM, HIRAM.** An alarming proposal. [Abolishment of the Assistant Secretary of War and the Assistant Secretary of the Navy for Aeronautics].
Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, pp. 4-5.
- Bingham Bill would provide training for 100,000 civilian pilots.
Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, p. 29.
- For 1933, these objectives.
Nat. Aer. Mag., Vol. 10, No. 9 (Sept. 1932), Washington, p. 5.
- This month's cover.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., p. 31, cover, port.
- What aviation needs.
Nat. Aer. Mag., Vol. 10, No. 9 (Sept. 1932), Washington, pp. 6-8, 32.
- BINOCLES.** Binocolo per proiettore, ad oculari fissi.
Revista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 421-423, ills.
- BIPLANE.** Biplane or Monoplane?
Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, pp. 1004-1007, ills.
- BIRD AIRCRAFT COMPANY.** See Appel, A. W.: Design refinements in Bird planes.
- BIRD flight.** See Antoni, Guido: Meccanismo del volo animale.
- See Delétang-Tardif, Yanette: Vol des oiseaux.
- See Graham, R. A.: Safety devices in wings of birds.
- See Graham, R. R.: Slots in the wings of birds.
- See Idrac, Pierre: Experimentelle untersuchungen über den segelflug mitten im fluggebiet grosser segelnder vögel (geier, albatros usw.), ihre anwendung auf den segelflug des menschen.
- See Magnan, A.: Le vol des oiseaux et le vol des avions.
- BIRDS.** See Lachmann, G. V.: Slots and the wings of birds.
- BIRMINGHAM.** See Brett, Martel: Birmingham's million-dollar airport dedicated May 30-June 1.
- See Hurst, Ralph: Birmingham's anniversary air carnival.
- See Watson, George H.: Lighting the Birmingham airport.
- BIRNN, ROLAND.** The 1932 aerial machine gun and bombing matches.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 9-12.

- BISMUTH.** See Gough, H. J., and H. L. Cox: The behaviour of single crystals of bismuth subjected to alternating torsional stresses.
- BJØRNSON, BJØRNSTJERNE.** See Dithmer, Elisabeth: Sandheden om Nobile, Bjørnstjerne Bjørnson in memoriam.
- BLACKBURN.** Biplane and monoplane compared. Full details of the two Blackburn civil aeroplanes built to the same specifications.
Aircraft Engineering, Vol. 4, No. 44, 45 (Oct., Nov. 1932), London, pp. 253-254, 287-288, ills.
- The Blackburn "Iris V".
Flight, Vol. 24, No. 15 (1215) (April 8, 1932), London, p. 299, ills.
- BLACKMORE, THOMAS L.** Fuel gas and its effect on airship performance.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 30, 32, diagr., tabl.
- BLANCHARD, CLAUDE.** Voilà l'Amérique.
Paris, ed. Baudinière, 1932, pp. 237.
- BLANCHET, GEORGES.** Personalités contemporaines Étienne Riché sous-secrétaire d'état à la défense nationale.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, pp. 66, 74, port.
- Personalités contemporaines Le Prince Bibesco, Président de la F. A. I.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, pp. 98, 104, port.
- Personalités contemporaines Léon Bathiat.
L'Aérophile, 40e Année, No. 5 (mai 1932), Paris, pp. 130, 151, port.
- BLEE, HARRY HARMON.** See United States Department of Commerce. Aeronautics Branch: Report of Committee on Airport Drainage and Surfacing. Representing Aeronautics Branch, Department of Commerce, American Engineering Council, American Road Builders' Association. December 1, 1931.
- BLINK, HERMANN, HEINRICH HERTEL, and KARL THALAU.** Die deutsche Untersuchung des Unfalls bei Meopham (England).
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. III 1-14, ills., diagrs.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 3, 7 (15. Feb., 14. April 1932), München, pp. 73-86, 199., ills., diagrs.
- The German investigation of the accident at Meopham (England).
National Advisory Committee for Aeronautics, Technical Memorandums No. 669, May 6, 1932, Washington, April 1932, pp. 30, ills., diagrs.
- BLINK, HERMANN, and GOTTHOLD MATHIAS.** Zur Vereinheitlichung der Formelzeichen der Flugmechanik im deutschen Schrifttum.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 22 (28. Nov. 1932), München und Berlin, pp. 663-669, tabs.
- BLÉRIOT.** Le bi-moteur de transport Blériot Hispano-Suiza, 1.000 CV.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, pp. 69-70, ill.
- The Blériot 137 military airplane (French). A twin-engine multiplace monoplane.
National Advisory Committee for Aeronautics, Sept. 2, 1932 (mimeographed), Washington, August 1932, pp. 5, ills.
- The Blériot transatlantic seaplane.
Flight, Vol. 24, No. 32 (1232) (Aug. 5, 1932), London, pp. 734-735, ills.
- BLÉRIOT, LOUIS.** La technique de demain. L'Accélérodrome.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, pp. 35-36, ills.
- BLEY, WULF.** Deutsche Luft-Hansa.
Berlin, Widder-Verlag, 1932, pp. 121, ill.

BLIMP. *See* Boone, Andrew R.: Blimp barnstorming.

BLIMPS. *See* Schetter, Clyde E.: Blimp travelog.

BLIND flying. Blind flying and the airlines.

Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 349-352.

— In pursuit of the S. A. T. R.

Western Flying, Vol. 12, No. 12 (6) (Dec. 1932), Los Angeles, p. 11.

— The latest scientific arrangement of Sperry and Pioneer instruments installed on a panel for blind flight.

U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., p. 14, ill.

— A new aid for flight visualization utilizing the air flow around the wing with liquid type instruments to indicate angle of attack as blind flying aid.

Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., p. 28, ill.

— A new blind-flying instrument.

The Aeroplane, Vol. 42, No. 9 (March 2, 1932), London, p. 386, ill.

— *See* Babson, William: The business of blind-flying trimotored transports through some of the roughest air in the world.

— *See* Barrie, Allan A.: Into the fog.

— *See* Bigelow, Paul W.: Seeing through the "Blindfold."

— *See* Bradbrooke, F. D.: Impressions of an instrument-flying course.

— *See* Finch, Volney C.: Air speed indicators and blind flying.

— *See* Hegenberger, Albert F.: Hegenberger makes world's first blind solo flight.

— *See* Levy, H. H.: Latest developments in blind flying.

— *See* Ocker, William C., and Carl J. Crane: Blind flying in theory and practice.

— *See* Ocker, William C.: Blind flying—Why?

— *See* Richardson, D. G.: Instrument flying on the air line to Mexico City.

— *See* Roder, Hermann: Navegación sin visión de tierra en niebla y sobre nubes.

— *See* Schmidt-Reps, und Polte: Streckenerfahrungen im instrumentenflug.

— *See* Stark, Howard C.: Locating radio beacon stations.

— *See* Upson, Ralph H.: Blind flight for amateurs.

— *See* Upson, Ralph H.: Seeing the air.

— *See* Warleta, I.: Pilotaje sin visibilidad. El banco W. E. S. para entrenamiento en tierra.

BLIND landings. Blind landings by magnets.

Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, p. 40, ill.

— *See* Gloeckner, M. Heinrich: Methods for facilitating the blind landing of airplanes.

— *See* Gloeckner, M. Heinrich: Verfahren zur Erleichterung von Blindlandungen.

BLOCK, WALTER. Die DVL-Geräte zur Untersuchung von Luftbildkammern und ihren Teilen.

Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VI 13-24, ill.

- BLONDEL LA ROUGERY, ED.** Pour les terrains d'aviation privés.
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, pp. 129, 139, ill.
- BLOOD.** See Diringshofen, H. v.: Die Bedeutung von hydrostatischen Druckun-
terschieden für den Blutkreislauf des Menschen bei Einwirkung hoher
Beschleunigungen.
- BLOWERS.** See Schrenk, Oskar: III. Versuchsergebnisse. 17. Untersuchung
von Dachlüftern.
- BLUE book.** The Blue book of aviation; a biographical history of American
aviation. 1932.
Los Angeles, Calif., The Hoagland Company, 1932, ills. Editor 1932—R. W. Hoagland.
- BLYTH, J. D.** The determination of airscrew design conditions.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 35 (1235) (Aug. 28, 1932), London, pp. 802a-
802b, (57-58), diags.
- The mutual influence of engine and air-screw characteristics.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 9, 13, 18 (1209, 1213, 1218), (Feb. 26, March
25, April 29, 1932), London, pp. 174a-174g, 260e-260g, 376a-376e, diags.
- BOCHAROFF, N. F.** Casein glues.
U. S. S. R. People's Commissariat of Heavy Industry. Transactions of the Central Aero-
Hydrodynamical Institute, No. 115, Moscow, 1932, pp. 84, ills., tabs.
- BOEING.** Boeing School of Aeronautics.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, pp. 32-34, ills.
- The Boeing "Totem."
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, pp. 890-892, ills
- Boeing XP-936 pursuit airplane.
Aero Digest, Vol. 20, No. 6 (June 1932), New York, p. 56, ill.
- A new Boeing transport plane.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, p. 756, ill.
- BOEING AIRPLANE COMPANY.** See Carr, G. W.: Evolution of metal construction.
- BÖEN effect.** See Kramer, Max: Die Zunahme des Maximalauftriebes von
Tragflügeln bei plötzlicher Anstellwinkelvergrößerung (Böeneffekt).
- BÖLCKE, OSWALD.** See Werner, Johannes: Böelcke, der mensch, der flieger, der
führer der deutschen jagdfliegerei; ein lebens- und heldenbild aus seinen
briefen gestaltet.
- BOFFITO, GIUSEPPE.** L'aeronautica nelle città italiane.
Rivista Aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 533-535.
- Spedienti e strumenti aeronautici nella storia del volo. Estratto dal
volume: Timina Caproni Guasti e Achille Bertarelli, Francesco Zambecconi
aeronauta.
Milano, Museo Caproni, 1932, pp. xiv.
- BOGERT, HOWARD Z.** See Pack, Mendel N., and Howard Z. Bogert: Comparison
of the structural design requirements for airplanes with the loads obtained
in full scale pressure distribution tests.
- BOHRER, ANN.** Do's and don'ts for aircraft operators.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., pp. 19-21.
- BOMPIANI E PREPOSITI.** Le ali della guerra.
Mondadori, 1932.
- BONDER, JULJAN.** Sur la représentation conforme et biunivoque de l'extérieur
d'un cercle sur l'extérieur d'un arc symétrique de conique.
Prace Instytutu Aerodynamicznego w Warszawie, Zeszyt VI, Warszawa, 1932, pp. 1-96,
ills., diags.

- BONIFACIO, FERDINANDO. Moderni problemi sui motori e propulsori per aviazione.
L'Aerotecnica, Vol. 12, N. 6 (giugno 1932), Roma, pp. 853-888, 969.
- BONNALIE, ALAN F. Follow the beam.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 20-22, ill.
- If your motor quits.
Western Flying, Vol. 12, No. 1 (July, 1932), Los Angeles, pp. 12-14, ill.
- See Lee, T. jr. and Alan F. Bonnalie: Knowledge from books.
- BONOMI, VITTORIO, E CAMILLO SILVA. Il volo a vela; teoria, pratica del volo e della costruzione degli apparecchi, illustrata da tavole contenenti i disegni costruttivi di un apparecchio scuola.
Milano, Officine Grafiche della Federazione Italiana Biblioteche Popolari, 1932, pp. 221, ill., tabs.
- BOONE, ANDREW R. Blimp barnstorming.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 28-30, ill.
- How the Navy flies at night.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 35-37.
- BORN, F. Die Empfehlungen der Internationalen Beleuchtungskommission und ihr Einfluss auf das Befeuerungswesen im Luftverkehr.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 12 (24. Juni 1932), München und Berlin, pp. 343-346, ill.
- BOSSE, PAUL. Resonanz-drehschwingungsdämpfer mit werkstoffdämpfung für triebwerke von automobil- und flugzeugmotoren.
Braunschweig, Buchdruckerei F. Hess [1932], pp. 95, ill., diags.
- BOSSERT, T. W. Aluminum and its alloys in aircraft.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 54-55.
- BOSSI, M. A. L'amphibie A. A. C. Bossi 200 CV.
L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 20, ill.ü
- BOUCHÉ, HENRI. See Dollfus, Charles, and Henri Bouché: Histoire de l'aéronautique; texte et documentation de Charles Dollfus & Henri Bouché.
- BOUNDARY layer. See Cuno, Otto: Experimental determination of the thickness of the boundary layer along a wing section.
- See Cuno, Otto: Experimentelle Untersuchung der Grenzschichtdicke und Verlauf längs eines Flügelschnittes.
- See Freeman, Hugh Barton: Measurement of flow in the boundary layer of a 1/40-scale model of the U. S. Airship "Akron."
- See Millikan, Clark B.: The boundary layer and skin friction for a figure of revolution.
- BOUNDS, GEORGE E. Where students must work.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., p. 28.
- BOURAKOV, N. N. Tests of spar-type samples of spruce.
USSR People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 138, Moscow, 1932, pp. 29, ill., diags., tabs.
- BOURNE, R. Air survey in relation to soil survey.
Indian Journal of Agricultural Science, Vol. 2, April 1932, Calcutta, pp. 204-220.
- BOURQUARD, F. Aérodynamique.—Ondes balistiques planes obliques et ondes coniques. Application à l'étude de la résistance de l'air.
C. R. Acad. Sci., T. 194, No. 10 (7 mars 1932), Paris, pp. 846-848

- BOWEN, Temple.** See Bryant, Presley: Bowen's formula for making a profit from air transport service.
- BOWMAN, R. G., and J. P. D. GARGES.** The effect of slipstream on longitudinal stability.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 13-14, ill., diags.
- BRACING.** See Redshaw, S. C.: A method for stressing monospar pyramid bracing.
- BRADBROOKE, F. D.** Air antics at Antwerp.
The Aeroplane, Vol. 42, No. 19 (May 11, 1932), London, pp. 853-854, 856.
- Air sense and sensibility.
The Aeroplane, Vol. 42, No. 19 (May 11, 1932), London, pp. 832, 834.
- Airing the popular mind.
The Aeroplane, Vol. 42, No. 21 (May 25, 1932), London, pp. 926, 928, 930.
- Flying Dutchmen.
The Aeroplane, Vol. 42, No. 18 (May 4, 1932), London, pp. 809-810, 812, 814.
- Impressions of an instrument-flying course.
The Aeroplane, Vol. 42, Nos. 1, 2, 3 (Jan. 6, 13, 20, 1932), London, pp. 19-20, 62, 64, 112, 114.
- Lloyd's—the world's shock absorber.
The Aeroplane, Vol. 42, No. 7 (Feb. 17, 1932), London, p. 284.
- The Morning Post race.
The Aeroplane, Vol. 42, No. 21 (May 25, 1932), London, pp. 941-942, 944, 946, ill., map.
- The opening of Portsmouth aerodrome.
The Aeroplane, Vol. 43, No. 1 (July 6, 1932), London, pp. 41-42, ill.
- A pobjoyous pilgrimage.
The Aeroplane, Vol. 42, No. 1 (Jan. 6, 1932), London, pp. 22, 24, 26.
- BRADFIELD, F. B.** A collection of wind tunnel data on the balancing of controls.
Aer. Res. Comm., Rep. Mem. No. 1420 (Ae. 541) May 1931, London, 1932, pp. 16, ill., diags., tabs.
- The 5-ft. open jet wind tunnel, R. A. E.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 675-685, ill., diags.
Reports and Memoranda No. 1364, (Ae. 492).
- BRADFIELD, F. B., and R. A. FAIRTHORNE.** Hinge moments of balanced and unbalanced ailerons on R. A. F. 14 wing, to large angles of incidence.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 547-555, ill., diags., tabs.
- BRADFIELD, F. B., and J. COHEN.** Lift and drag measured in a velocity gradient
Aer. Res. Comm., Rep. Mem., No. 1489 (T. 3279), June 1932, London, 1932, pp. 4, diags., tabl.
- BRADFIELD, F. B.** Maximum force on rudders.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 596-599, ill., diags.
Reports and Memoranda No. 1329, (Ae. 461).
- BRADFIELD, F. B., and R. A. FAIRTHORNE.** Maximum force on the fin and rudder of a Bristol fighter.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 600-603, ill., diags., tabs.
Reports and Memoranda No. 1330 (Ae. 462).
- BRADFIELD, F. B., K. W. CLARKE, and R. A. FAIRTHORNE.** Measurement of maximum lift in closed tunnels of different sizes, and in the open jet tunnel.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 698-716, ill., diags., tabs.
Reports and Memoranda No. 1363, (Ae. 491).

- BRADFIELD, F. B. Slipstream effect on the downwash and velocity at the tailplane.
Aer. Res. Comm., Rep. Mem., No. 1488 (T. 3270), June 1932, London, 1932, pp. 7, ills., diags.
- BRADFIELD, F. B., and A. S. HARTSHORN. Some preliminary tests on the effects of side-slip on the rolling and yawing moments due to roll of a Bristol biplane.
Aer. Res. Comm., Rep. Mem. No. 1439, June 1926, London, 1932, pp. 4, ills., diags.
- BRADFIELD, F. B., and W. G. A. PERRING. The validity of drag tests on a large scale model in a small closed wind tunnel. Drag of one-fifth scale nacelle installed on the upper surface of a monoplane.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 717-727, ills., diags., tabs.
Reports and Memoranda No. 1371, (Ae. 498).
- BRADFIELD, F. B., and G. F. MIDWOOD. Wheels, fairings and mudguards.
Aer. Res. Comm., Rep. Mem., No. 1479 (T. 3237), March 1932, London, 1932, pp. 14, ills., tabs.
- BRADFIELD, F. B., G. F. MIDWOOD, and F. R. C. HOUNSFIELD. Wind-tunnel tests on aileron loads.
Aer. Res. Comm., Rep. Mem. No. 1143, September 1931, London, 1932, pp. 20, ills., diags., tabs.
- BRAKES. Frein aérodynamique.
L'Aérophile, 40e Année, No. 11 (nov. 1932), Paris, p. 324.
- I freni per aeroplano.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 357-370, ills.
- A new pneumatic brake. The Dunlop rudder-bar operated differential wheel brake with special features.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, pp. 183-184, ills.
- See Cosci, G. A. Domenico: Freni alle ruote degli aeroplani.
- See Dunlop: Dunlops pneumatiska hjulbromsar.
- See Focaccetti, C.: Esperienze sui velivoli con ruote frenate.
- See Palmer: Rueda de freno "Palmer."
- See Scott-Hall, S.: Wheel brakes and under carriages.
- See Serragli, Giovanni: Un sistema di frenatura aerodinamica.
- See Victor, Maurice: I freni aerodinamici.
- BRÄMER, J. Die Deutsche Versuchsanstalt für Luftfahrt im Jahre 1931-32.
Zeitschr. Ver. deutscher Ing., Bd. 76, Nr. 37 (10. Sept. 1932), Berlin, p. 883.
- BRANDENBERG. Was bedeutet der deutsche gleichberechtigungsanspruch für die Luftfahrt.
Die Luftreise, Heft 4, Nov. 1932, Berlin, pp. 85-87.
- BRASS. See Gough, H. J., and D. G. Sopwith: Relative temperatures of brass when subjected to reversed direct stresses in vacuo and in air.
- BRAUNSCHWIEG. See Hoerner, S.: Der Windkanal im Flugtechnischen Institut der TH Braunschweig.
- BRAZIL. Abzeichen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 336.
- Porto Alegre—Rio Grande, luftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 60.

- BREDA.** The Breda 32 commercial airplane (Italian). A three-engine all-metal low-wing monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 166, Aug. 5, 1932, Washington, August 1932, pp. 7, ills.
- The Breda 32 commercial monoplane.
Flight, Vol. 24, No. 13, 14 (1213, 1214) (March 25, April 1, 1932), London, pp. 258-260, 286-287, ills.
- The Breda 32 commercial monoplane. A high-performance ten-seater Italian aeroplane with single-spar wing construction.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 231, 232, ills.
- The "Breda 33."
Flight, Vol. 24, No. 34 (1234) (Aug. 19, 1932), London, p. 784, ills.
- Le trimoteur de transport Breda 32d. (Italie).
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, pp. 84-85, ills.
- BREDOUW, H. L.** An analysis of operation costs.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., pp. 13-14.
- Problems of maintenance and overhaul on aircraft and engines.
Southern Aviation, Vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., pp. 13-14, 16, ill.
- BRÉGUET.** Bréguet 280 T.
Icaro, Núm. 6, 7 y 8, Junio-Julio-Agosto 1928, Madrid, pp. 205-206, ills.
- Il monomotore "Bréguet 280 T."
Rivista Aeronautica, Anno 8, N. 8 (Agosto 1932), Roma, pp. 391-403, ills., tabs.
- See France: A French all-metal fighter. The twin-engined multi-seater Bréguet 410 of mixed steel and duralumin construction.
- See Légière, Pierre: The Breguet 410 and 411 military airplanes (French). Multiplace sesquiplane fighters.
- BRÉGUET, LOUIS.** La suspension du véhicule aérien.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, pp. 111-113.
- BRENNAN, J. W.** Lindbergh field, San Diego's municipal airport.
Aero Digest, Vol. 21, No. 3 (Sept. 1932), New York, pp. 40-42, ill.
- BRENNER, PAUL.** Baustofffragen bei der Konstruktion von Flugzeugen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München-Berlin, [1932], pp. V 1-12, ills., diagrs.
- BRENNER, PAUL, und OTTO KRAEMER.** Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. V 43-50, ills., diagrs., tabs.
- BRENNER, PAUL.** Problems involved in the choice and use of materials in airplane construction.
National Advisory Committee for Aeronautics, Technical Memorandums No. 658, Feb. 18, 1932, Washington, February 1932, pp. 25, ills., diagrs., tabs.
- Untersuchungen über Spannungs-Korrosionsrisse an Leichtmetallen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. V 65-71, ills.
- See Hertel, Heinrich: Die Schubmoduln von Furnier und Sperrholz, von Heinr. Hertel. Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen, von Paul Brenner und Otto Kraemer.
- BRESSLER, ARTHUR.** Flugzeuge, stiere und stierkämpfer.
Die Luftreise, Heft 4, Nov. 1932, Berlin, pp. 82-83, ills.
- BRETT, MARTEL.** Birmingham's million-dollar airport dedicated May 30- June 1.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 5-7, ills.

- BRIDGMAN, LEONARD. *See* Grey, Charles Grey, und Leonard Bridgman: *Jane's all the World's aircraft, 1932.*
- BRIGHAM, CLARENCE S. Poe's "Balloon hoax."
Metuchen, N. J., 1932, pp. 8.
"Seventy-one copies printed for the Editor of the American Book Collector."
- BRINKLEY, RUSS. Disposing of that used airplane.
Southern Aviation, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., p. 9.
- BRINTZINGER, WILHELM. *See* Fassbender, H.: *Hochfrequenztechnik in der Luftfahrt.*
- BRINTZINGER, WILHELM, und BRUNO BRUCKMANN. Elektrische Triebwerkaus-rüstung für Luftfahrzeuge.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 18 (23. Sept. 1932), München und Berlin, pp. 541-549, ills., tabs. Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 75-83, ills., tabs.
- BRINTZINGER, WILHELM, und HEINRICH VIEHMANN. Das Rauschen von Emp-fängern.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 65-73, ills., diagrs.
- BRISTOL. The Bristol type 118 warplane.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 66-67. ills.
- A new "Bristol" engine series.
Flight, Vol. 24, No. 10, 11 (1210, 1211) (March 4, 11, 1932). London, pp. 187-190, 207-211, ills., diagrs.
- *See* Altitude record: The new altitude record. Some technical details of the Vickers Vespa biplane and the Bristol Pegasus engine.
- *See* Fedden, Anthony: Bristol engine developments. Interesting construc-tion data on the Pegasus and Mercury type of engines.
- *See* Ormerod, A.: Slotted R. A. F. 34 Bristol fighter. Forces on slat in flight.
- *See* Stephens, A. V.: Free-flight spinning experiments with single-seater aircraft H and Bristol fighter models.
- BRISTOL AEROPLANE COMPANY. *See* Handasyde, G. H.: *Aeroplane construction at Bristol. Unusual stores methods and the wide use of special jigs and tools.*
- BROOKE, G. V. *See* Capon, R. S., and G. V. Brooke: *The application of dimen-sional relationships to air compressors, with special reference to the variation of performance with inlet conditions.*
- BROOKLANDS. The Brooklands civil air display.
Flight, Vol. 24, No. 23 (1223) (June 3, 1932), London, pp. 489-492, ills.
- BROOKS, C. Supercharged aero-engines. Notes on rating, testing and altitude controls for ground engineers.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, pp. 303-307, 309, ills., diagrs., tabs.
- BROOKS, D. B., and E. A. GARLOCK. The effect of humidity on engine power at altitude.
National Advisory Committee for Aeronautics, Report No. 426, July 20, 1932, Washington, U. S. Government Printing Office, 1932, pp. 9, diagrs., tabs.
- BROSSY, FREDERICK. *See* Records: How Lees and Brossy established a new endurance record at Jacksonville.
- BROWER, EDWARD M. History of aviation, with interesting records.
Chicago, Emil Forslund Printing Co., 1932, pp. x, 267, ills., maps.

- BROWN, C. ANDERTON. Design and test data for aircraft radiators.
Aer. Res. Comm., Rep. Mem. No. 1461, May 1932, London, 1932, pp. 56, ill., diagrs., tabs.
- BROWN, C. ANDERTON, and A. W. MORLEY. Estimation of wing surface area for evaporative cooling.
Aer. Res. Comm., Rep. Mem., No. 1481 (T. 3230), March 1932, London, 1932, pp. 23, diagrs., tabs.
- BROWN, E. C. Lubrication fallacies, fads and fancies.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, p. 764.
- BROWN, HAROLD LINCOLN. Aircraft and the law. A survey of the rights, duties and liabilities of all persons concerned with aircraft operation, and the interest of the general public in connection therewith.
New York, Robert O. Ballou, pp. 360.
- BROWN, L. F. Building an economical spray booth.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 26-27, ills.
- BROWNBACK, HENRY LOWE. Power for light planes.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, pp. 18-20, ills.
- BROWNFIELD, CLIFFORD C. Problems and opportunities for prospective pilots.
Southern Aviation, Vol. 2, No. 9 (May 1931), Atlanta, Ga., pp. 10, 39.
- BRUCE, (Mrs.) VICTOR. Wind hovering.
Flight, Vol. 24, No. 30 (1230) (July 22, 1932), London, pp. 680-681.
- BRUCKMANN, BRUNO. Erfahrungen beim Betrieb von Luftfahrzeugmotoren.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 423-433, ills., tabs.
- See Brintzinger, Wilhelm, und Bruno Bruckmann: Elektrische Triebwerk-ausrüstung für Luftfahrzeuge.
- BRUER, CARL. Mit dem Luftschiff. "Graf Zeppelin" nach Island vom 30. Juni bis 3. Juli 1931.
Goslar, 1931, pp. 10. ill.
- BRUN, EDMUND, et PIERRE VERNOTTE. Aérodynamique.—Échauffement d'un thermomètre par un courant gazeux applications aérodynamiques.
C. R. Acad. Sci., T. 194, No. 7 (15 fév. 1932), Paris, pp. 594-596.
- Aérodynamique.—Mesure du coefficient d'échange thermique entre une paroi solide et un courant gazeux.
C. R. Acad. Sci., T. 195, No. 4 (25 juil. 1932), Paris, pp. 302-304.
- BRUNS, WALTHER. Luftfahrzeuge als Hilfsmittel in der Polarforschung.
Zeitschr. Flugt. Motorluftsch. 23. Jahrg., Nr. 3 (15. Feb. 1932), München, pp. 65-72, ills., map
- BRYANT, L. W., and D. H. WILLIAMS. The application of the method of operators to the calculation of the disturbed motion of an aeroplane.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 516-528.
- BRYANT, L. W. Note on the change of wind with height.
Aer. Res. Comm., Rep. Mem. No. 1407 (Ae. 528), March 1931, London, 1931, pp. 8, diagrs., tabs.
- BRYANT, L. W., and Miss I. M. M. JONES. Notes on recovery from a spin.
Aer. Res. Comm., Rep. Mem. No. 1426 (T. 3235), March 1932, London, pp. 24, ills., diagrs., tabs.
- BRYANT, PRESLEY. Bowen's formula for making a profit from air transport service.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 3-5, 16, ills., map.
- BRYANT, PRESLEY E. How Ponder sells planes.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 9-10, 16, ills.

- BRYANT, PRESLEY E.** Operating a radio net on the S. A. T. Lines.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., p. 7, ill.
- BUCHLER, WALTER.** Aviation in China.
Aero Digest [Vol. 20, No. 2] (Feb. 1932), New York, pp. 33, 93, ill.
- Budget.** See Economics: L'état de quelques questions, au 1er janvier 1932.
- See England: La politique. Le budget anglais.
- See France: La politique. Le Budget.
- See France: Vuelo europeo 1925. Presupuesto aéreo para 1928.
- See Germany: Records mundiales. Presupuesto aéreo 1928.
- See Great Britain: Presupuesto aéreo para 1928-29.
- See Grey, Charles Grey: The Canadian air estimates.
- See Grey, Charles Grey: On the air estimates.
- See Italy: Presupuesto aéreo para 1928.
- See Italy: La politique. Le budget italien.
- See 1932: L'état de quelques questions, au 1er janvier 1932. (Le budget.)
- See Spain: Presupuesto de aeronáutica.
- BUENOS AIRES.** Aviation at Buenos Aires.
The Aeroplane, Vol. 43, No. 5 (Aug. 3, 1932), London, pp. 239-240.
- BUHL.** Un autogire Américain à hélice propulsive; le biplace Buhl.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, p. 36, ill.
- See Haifter, Mitchel: Buhl pusher type autogiro.
- BULGARIA.** Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 59.
- BULLETIN TECHNIQUE DU BUREAU VERITAS.** Bulletin Technique du Bureau Veritas, Aéronautique séparé.
Paris, February 1932, pp. 76, ill.
- BULMAN, G. P.** Engine features from the Paris show.
Flight, Vol. 24, No. 51 (1251) (Dec. 15, 1932), London, pp. 1185-1189, ill.
- BÚLOW, CONDE V.** Las zonas de influencia de las fuerzas aéreas europeas.
Icaro, Núm. 2, 3, Feb., Marzo 1928, Madrid, pp. 24-28, 69-71.
- BURCHALL, H.** The political aspect of commercial air routes. Being a lecture by Lieut-Colonel H. Burchall, D. S. O. . . . before the Royal Central Asian Society, 23 November 1932.
[London, Imperial Airways, Ltd., 1932], pp. 26, diags.
- BURGE, C. G.** The air annual of the British Empire 1931-32. III.
London, Gale and Polden, Ltd., pp. 651.
- BURI, ALFRED.** Eine berechnungsgrundlage für die turbulente grenzschicht bei beschleunigter und verzögerter grundströmung.
Zürich, Buchdruckerei a.-g. Jean Frey, 1931, pp. vi, 45, ill., diags.
- BURNEY, C. DENNISTON.** Revoluciones en el tráfico mundial.
Icaro, Núm. 4, Abril 1928, Madrid, pp. 111-112.
- BURTT, ROBERT M.** Attracting the public to the airport.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 8-12, ill.
- Aviation needs men like Bill Moore.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., p. 32, ill.
- Building airplane service on a profitable basis.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 10-12, ill.

- BURTT, ROBERT M.** "A flight a day". "Doc". Brock, flying optician and his notable record.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 17-18.
- A flight to Mexico City. It's routine matter to Hardgrave, who uses a plane regularly in business.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., pp. 17-18, ill.
- BUSEMANN, A.** III. Versuchsergebnisse. 12. Messungen an rotierenden Zylinder.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 101-105, ill., diags.
- BUTCHER, HAROLD.** By air to Moscow.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 19-22.
- England's great airway to India.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 14-16, ill.
- BUTCHER, JESSE S.** See Stout, Lillian: Columbia's chief radio booster former air corps man.
- BUZIO, ALESSANDRO.** Caratteristiche, armamento e impiego di un apparecchio da combattimento biposto.
Rivista Aeronautica, Anno 8, N. 6 (Giugno 1932), Roma, pp. 527-541.
- BYLEWSKI, J.** See Sokolcow, D. M., i J. Bylewski: Wyniki III-ciej serji badań nad rozchodzeniem się fal posrednich i krótkich.
- BYRD EXPEDITION.** See McKinley, Ashley C.: Mapping the Antarctic from the air.

C

- C. A. M. S.** The C. A. M. S. 80 amphibian (French). An observation monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 158, March 21, 1932, March 1932, pp. 6, ill.
- CABLES.** See Gazley, Richard C.: Splicing aircraft cable.
- CADMIUM coating.** See Gambioli, Mario: Protezione dell'alluminio e duralluminio con rivestimenti elettrolitici di zinco e di cadmio.
- CADMIUM soldering.** See Montelucci, Giuliano: Le saldature al cadmio.
- CAHIERS D'AVIATION.** Les Cahiers d'Aviation, comprenant le Document Aéronautique . . . 1.— année (no. 1—); 15 jan. 1932—.
Paris, Comité français de Propagande Aéronautique, 1932.
Le Document Aéronautique, forming a section of Les Cahiers d'Aviation, continues the numbering of the former independent publication of the same name (no. 62—15 jan. 1932).
- CAIRNS.** Cairns model A monoplane.
Aero Digest, Vol. 20, No. 1 (Jan. 1932), New York, p. 62, ill.
- CALDWELL, CY.** Give those blues the air.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 21-22.
- Guyed to company organization.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 35, 128.
- Guyed to stock promotions.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 32, 92.
- It's the pilot who pays and pays.
Aero Digest, Vol. 21, No. 4 (Oct. 1932), New York, pp. 18-19, 60.
- Merry-go round.
Aero Digest, Vol. 20, No. 1 (Jan. 1932), pp. 29, 98, 100, ill.

- CALDWELL, CY. *Weighty affairs of ants and men.*
Aero Digest, Vol. 20, No. 6 (June 1932), New York, pp. 22, 74.
- *Why leave early?*
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, pp. 31, 89-90.
- CALDWELL, FRANK W. *Propeller design.*
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 14-15, 49, ills.
- CALIFORNIA. *Southern California airports. Within 30 miles of Los Angeles are 25 air terminals, some of them the finest.*
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 27.
- CALLEN, C. *See* Perring, W. G. A., and C. Callen: *Drag and interference of a nacelle when installed on the upper surface of a wing.*
- *See* Perring, W. G. A., and C. Callen: *The influence of a stopped airscrew on the lift and drag of an aerofoil.*
- *See* Perring, W. G. A., and C. Callen: *On the validity of large-scale tests on an open jet wind tunnel. Tests on one-fifth scale Bristol Fighter (7.9-ft. span) in a 5-ft. open jet tunnel.*
- CAMBER. *See* Flachsbarth, O.: III. Versuchsergebnisse. 11. Messungen an ebenen und gewölbten Platten.
- CAMBRIDGE. *The Cambridge University Air Squadron.*
The Aeroplane, Vol. 42, No. 10 (March 9, 1932), London, p. 422.
- CAMERAS. *See* Williamson: Williamson "Eagle" III camera.
- CAMICHEL, CHARLES, P. DUPIN et M. TEISSIÉ. *Hydrodynamique. Sur le régime nonturbulent au delà du critérium des tourbillons alternés.*
C. R. Acad. Sci., T. 194, No. 23 (6 juin 1932), Paris, pp. 1997-1999, ills., diagr.
- CAMICHEL, CHARLES. *Mécanique des fluides. Sur les régimes transitoires.*
C. R. Acad. Sci., T. 195, No. 25 (19 déc. 1932), Paris, pp. 1200-1202.
- CANADA. *Canadian aviation.*
Aviation, Vol. 31, No. 3 (March 1932), New York, p. 135, diagrs.
- *Civil aviation in Canada.*
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, p. 54.
- *Department of National Defence.*
Air ways bulletin, No. 1, Ottawa, 1932.
- *Department of National Defence. Description of airports, intermediate aerodromes, seaplane ports and anchorages including certain Royal Canadian Air Force stations and sub-stations in the Dominion of Canada . . . Ottawa March 1, 1932.*
Ottawa, F. A. Acland, printer to the King, 1932, pp. 19.
Air ways Bulletin No. 1. Cancels Informatio Circular No. 0-4/31.
- *Department of the Interior. Surveys Branch. The use of aerial photographs for mapping.*
Ottawa, F. A. Acland, printer to the King, 1932, pp. 80, ills., maps., diagrs. Bulletin No. 62.
- *Quarterly Civil Air Liaison Letter Nos. 18-21.*
Department of National Defence, Civil Aviation Branch, March 31st, June 30th, September 30th, and December 31st, 1932 (mimeographed), Ottawa, pp. 6+ [9], 6, 6, 5, 7, tabs.
- *Report on civil aviation and civil government air operations for the year 1931.*
Dominion of Canada, Department of National Defence, Ottawa, 1932, pp. 82, ills., diagrs., tabs., map.
- *Zollflughäfen.*
Nachrichten für Luftfahrer, 13, Jahrg., Nr. 7-8 (20 Feb. 1932), Berlin, p. 60.
- *See* Grey, Charles Grey: *The Canadian air estimates.*

- CANADA. See MacKenzie, Norman: Legislative control over aviation in Canada.
 — See Montagnes, James: Canada's government-sponsored flying clubs.
 — See Parkin, J. H.: Research equipment in Canada. A description of the wind tunnel and seaplane model tank at Ottawa.
- CANNON, Joe. Amarillo municipal field takes on new life.
 Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 19-20, ill., port.
- CANOVETTI, C. Il y a trente ans.
 L'Aérophile, 40e Année, No. 6 (juin 1932), Paris, p. 167.
- CANTILEVER wings. See Kirste, Léon: Flexion et torsion des ailes cantilever.
 — See Łuczyński, Zbigniew: Badania doświadczalne nad współpracą dźwigarów w skrzydłach wolnonośnych.
- CANTONI, ALBERTO. Ancora sulla questione se il motore sia parte costitutiva essenziale dell'aeromobile.
 Riv. Dir. Aer., N. 4, Dicembre 1932-X, Roma, pp. 425-428.
- CAPETOWN. See Cranwell-Capetown: Cranwell-Capetown flight.
- CAPETTI, ANTONIO. L'accensione e la combustione delle miscele di gas e vapori combustibili.
 L'Aerotecnica, Vol. 12, N. 9 (Sett. 1932), Roma, pp. 1218-1237, ill., diags.
 — Prospettive della turbina a combustione interna nell'impiego aeronautico.
 L'Aerotecnica, Vol. 12, N. 7-8 (Luglio-Agosto 1932), Roma, pp. 973-1007, ill., diags.
- CAPON, R. S., and G. V. BROOKE. The application of dimensional relationships to air compressors, with special reference to the variation of performance with inlet conditions.
 Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 799-820, ill., diags., tabs.
 Reports and Memoranda No. 1336 (E. 40).
- CAPRONI. L'avion-tube de venturi stipa Caproni (Italie).
 L'Aérophile, 40e Année, No. 11 (nov. 1932), Paris, pp. 338-339, ill.
- The Caproni CA. 113. An Italian aerobatic biplane with 240 h. p. Walter engine.
 Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 279, ill.
- Caproni 101 "Nord-Africa."
 Flight, Vol. 24, No. 29 (1229) (July 15, 1932), London, pp. 659-660, ill.
- See Giacomelli, R.: The largest landplane. The Italian Caproni 90 P. B. bomber with six Isotta-Fraschini engines described.
- See Stipa: A flying venturi tube.
- CACUOT, A. La technique de demain: le ressort pur.
 L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, p. 65.
- CARABANCHEL ALTO. Algunas fotografías del trágico accidente en Carabanchel Alto con el trimotor colonial Loring.
 Icaro, Año 5, Núm. 55 (Julio 1932), Madrid, pp. 3, 8-9, ill.
- CARAFOLI, ÉLIE. Recherches expérimentales sur les ailes monoplanes.
 Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 8, Paris, 1932.
- Recherches expérimentales sur les ailes monoplanes (exécutées à l'Institut Aérotechnique de Saint-Cyr).
 Paris, E. Blondel La Rougery 1932, pp. 108, diags., tabs.
- CARBON. See Costanzi, Valero: Il problema dei combustibili solidi per l'Italia.

- CARBURETORS.** *See* Champsaur, Norbert: Étude sur la transmission de la chaleur à l'eau de refroidissement dans un moteur d'aviation; application à la comparaison des carburants; mesures sur la détonation.
- *See* Clothier, W. C.: Carburettor fuel metering characteristics.
- *See* Fearn, E. J.: The critical diameter of the carburettor choke in supercharged engines.
- *See* Hall, Roy: Carburetor facts.
- CARGANICO, V.** 20 Jahre Wissenschaftliche Gesellschaft für Luftfahrt E. V. (WGL).
Zeitschr. Flug. Motorluftsch., 23. Jahrg., Nr. 12 (24. Juni 1932), München und Berlin. pp. 333-334.
- CARIA, OGO DE.** Airplane flight in the stratosphere.
National Advisory Committee for Aeronautics, Technical Memorandums No. 660, Feb. 29, 1932, Washington, February 1932, pp. 13, diags.
- CARIBBEAN SEA.** *See* Freeman, Lewis Ransome: Afloat and afloat in the Caribbean.
- CARLSON.** *See* Dowd, R. E.: The Carlson "Big Crate."
- CARMICHAEL, R. C.** Reduced fares multiply flights at Winston-Salem airport.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., pp. 11, 16, ill.
- CARR, C. F.** *See* Howard-Flanders, Leonard, and C. F. Carr: Gliding and motorless flight.
- CARR, G. W.** Evolution of metal construction.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 34-36, ill.
- CARRIÈRE, E.** *See* Godchot, M., et Mlle. G. Cauquil. E. Carrière et R. Lautié. M. Schmitt: Étude sur les constituants des essences. (1) Contribution à l'étude physico-chimique des carbures cyclaniques, par M. Godchot et Mlle. G. Cauquil. (2) Recherches des constituants des essences d'aviation par mesures de densités, ou d'indices de réfraction ou de viscosités, par E. Carrière et R. Lautié. (3) Études comparatives des colonnes à distiller en vue de la séparation des carbures d'hydrogène, par M. Schmitt.
- CARRIERS.** *See* Courageous: The hornet's nest.
- *See* Fechet, James E.: More aircraft carriers needed.
- *See* Lestonnat, Raymond: Le croiseur d'aviation "Commandant-Teste."
- *See* Saratoga: El buque porta-aviones "Saratoga."
- CARTER, B. C.** *See* Thornycroft, O., and B. C. Carter: Diesel connecting-rod stresses. The effect of rapid rise of cylinder pressure on connecting-rod loading.
- CARTER, CLIFTON CARROLL.** *See* Monteith, Charles Norton: Simple aerodynamics and the airplane, by C. C. Carter . . . 4th rev. ed. of the original work by Charles N. Monteith.
- CASEIN GLUES.** *See* Bocharoff, N. F.: Casein glues.
- CASIRAGHI, G.** Progetto e calcolo del carrello d'atterraggio secondo la pratica Nord-Americana.
L'Aerotecnica, Vol. 12, N. 11 (Nov. 1932), Roma, pp. 1473-1490, 1576, ill., diags., tabs.
- CASPARI, W.** Internationale sprachliche Verständigung in der Luftfahrt.
Zeitschr. Flug. Motorluftsch., 23. Jahrg., Nr. 23 (14. Dez. 1932), München und Berlin, pp. 688-690.

- CASTAGNA, ARNALDO.** Notizie su motori a nafta per aerei.
Rivista Aeronautica, Anno 8, N. 3 (Marzo 1932), Roma, pp. 450-471.
- CASTELNUOVO, FERNANDO DI.** Almanacco azzurro: Statistico, marittimo, aeronautico. Annuario italiano generale di marina e d'aeronautica.
Genova, "Almanacco azzurro" (scuola tip. Derelitti), 1932, pp. xxiv, 749.
- CASTLEMAN, ROBERT ALLEN.** The mechanism of atomization accompanying solid injection.
National Advisory Committee for Aeronautics, Report No. 440, Sept. 30, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ill., diags.
- CATALONIA.** Vuelo sin motor en Cataluña. Primera semana de vuelo sin motor en Puigcerdá.
Icaro, Año 5, Núm. 58 (oct. 1932), Madrid, pp. 8-9.
- CATAPULT.** See Launching: Catapult for launching airplanes.
- CATAPULTS.** Catapults.
Flight, Vol. 24, No. 10 (1210) (March 4, 1932), London, p. 201.
- Concerning catapults.
The Aeroplane, Vol. 42, No. 11 (March 16, 1932), London, pp. 480-481, ill.
- See Salmon, P.: Catapults and catapulting of aeroplanes.
- CAUNTER, C. F.** The two-cycle engine.
London, Sir Isaac Pitman & Sons, Ltd., 1932, pp. xiii, 277, ill., diags.
- CAUQUIL, Mlle. G.** See Godchot, M., et Mlle. G. Cauquil. E. Carrière et R. Lautié. M. Schmitt: Études sur les constituants des essences. (1) Contribution à l'étude phisico-chimique des carbures cyclaniques, par M. Godchot et Mlle. G. Cauquil.
- CAUTLEY, R. V., and H. S. MAZET.** Aero-engine development. A review of the basic trends in design during the past thirty years.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 221-225, ill.
- CAVITATION.** See Vortex theory. Turbulence.
- CAZALET, F. A.** See Gruber, O. von: Photogrammetry. Collected lectures and essays. Translated by G. T. McCaw and F. A. Cazalet.
- CECCOTTI, GIUSEPPE.** Un metodo Americano per determinare di notte il punto mediante osservazioni di stelle.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 524-528, diagr.
- CEILING.** See Hutchinson, J. L.: Climb and service ceiling. Over a wide range of aeroplane types time to ceiling is practically constant.
- See Tinson, Clifford W.: Ceiling capacity as a measure of performance.
- See Watter, Michael: A simplified method of climb and ceiling calculation.
- CELLULE.** The "Fying Cellule."
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 86-87, ill.
- CELLULOSE.** See Tizard, H. T.: The aircraft industry and chemical engineering.
- CENDRARS, BLAISE.** Vol à voile.
Lausanne-Genève [etc], Payot & Cie., 1932, pp. 98.
- CENTRAL AMERICA.** See Smith, Robert A.: Temple hunting in Central America.
- CESAR.** Fragen des tages.
Luftschau, 5. Jahrg., Nr. 2, 4, 7, 10, 11, 14 (24. Jan., 24. Feb., 10. April, 24. Mai, 10. Juni, 24. Juli 1932), Berlin, pp. 19-21, 51-52, 104, 151-152, 167, 215-216.
- Friedrich Christiansen.
Luftschau, 5. Jahrg., Nr. 3 (10. Feb. 1932), Berlin, p. 42.

- CESAR. Die Vorführung der DLV-Volksflugzeuge.
Luftschau, 5. Jahrg., Nr. 4 (24. Feb. 1932), Berlin, p. 54.
- CESAR, WOLFGANG. Besuch in Hendon.
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, pp. 200-201, ill.
- CHALEZOW, D. V. *See* Kouzmin, G. I., and D. V. Chalezow: Effect of profile shape and blade thickness on airscrew characteristic.
- CHALMERS, J. W. P. From Thames to Euphrates and back.
The Aeroplane, Vol. 42, No. 13 (March 30, 1932), London, pp. 552, 554, 556, 558, 560.
- CHAMBRE SYNDICALE DES INDUSTRIES AÉRONAUTIQUES. *See* Journées Techniques Internationales de l'Aéronautique: Journées techniques internationales de l'aéronautiques, 28 novembre-2 décembre 1932. Préface de M. Paul Painlevé.
- CHAMPSAUR, NORBERT. Étude de la qualité antidétonante d'un combustible sur moteur à explosion basée sur les mesures des quantités de chaleur communiquées à l'eau de refroidissement.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 228.
- Étude sur la transmission de la chaleur à l'eau de refroidissement dans un moteur d'aviation; application à la comparaison des carburants; mesures sur la détonation.
Paris, E. Blondel La Rougery, 1932, pp. 4, 91, [8], ill., diags., tabs. France. Services techniques et industriels de l'aéronautique. Publications scientifiques et techniques . . . No. 17.
- CHANGEUX, PIERRE. Dynamique du dirigeable.
Paris, E. Chiron, 1931, pp. 103, diags. Published also in the Revue Générale de l'Aéronautique, T. 14, 1932, pp. 1-103.
- CHANUTE, OCTAVE. Centenary of Octave Chanute.
Nature, Vol. 129, No. 3250 (Feb. 13, 1932), London, p. 229.
- CHAPMAN, F. SPENCER. Northern lights.
London, Chatto & Windus, 1932.
- CHAPMAN, M. A. On a theory of upper atmospheric ozone.
Quart. Journ. Roy. Met. Soc., Vol. 58, No. 243 (Jan. 1932), London, pp. 11-13.
- CHARLESTON, SOUTH CAROLINA. *See* Church, H. F.: Charleston takes the air.
- CHARLOTTE, NORTH CAROLINA. *See* Seagle, Ben. F.: Large crowds attracted to Charlotte for all-southern aircraft pageant.
- CHASE, OLIVE. *See* Washington, D. C. Public Library: Books on aeronautics, a reading list, compiled by Olive Chase . . .
- CHATFIELD, CHARLES HUGH, and CHARLES FAYETTE TAYLOR. The airplane and its engine. 2d edition.
New York and London, McGraw-Hill Book Company, inc., 1932, pp. vii, 443, diags.
- CHATTANOOGA. *See* Youngsteadt, R. W.: Chattanooga's modern airport and how it was acquired.
- CHEMICAL cooling. *See* Weidinger, Hans: German experiments with chemical cooling of aircraft engines.
- CHEMICAL engineering. *See* Tizard, H. T.: The aircraft industry and chemical engineering.
- CHEMICAL warfare. La guerra química.
Icaro, Año 5, Núm. 56 (agosto 1932), Madrid, pp. 4-6.
- *See* Sieur, Célestine: Conférence du médecin général inspecteur Sieur.

- CHEVENNES, FRANÇOIS.** La gloire à des ailes; preface de Louis Bréguet; illustrations de Pierre Rousseau.
Paris, J. de Gigord, 1932, pp. 181, ills.
- CHILE.** Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 60.
- CHINA.** Einflug.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 67.
- See Buchler, Walter: Aviation in China.
- CHINESE.** See Walter, Richard: Aus der Tätigkeit der Deutsch-Chinesischen Luftverkehrsgesellschaft "Eurasia."
- CHITTY, L., and R. V. SOUTHWELL.** Primary stresses in the hull of a rigid airship.
Aer. Res. Comm., Rep. Mem. No. 1427, May 1931, London, 1932, pp. 41, diags., tabs.
- CHORD and span.** See Carafoli, ÉLIE: Recherches expérimentales sur les ailes monoplanes.
- CHRISTIANSSEN, FRIEDRICH.** See Cesar: Friedrich Christiansen.
- CHULITSEKY, N. N.** Investigation of essential physicommechanical properties of wood.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 121, Moscow, 1932, pp. 20, diags., tabs.
- An investigation of the kiln drying of aircraft pine.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 120, Moscow, Leningrad, 1932, pp. 80, ills., diags., tabs.
- Investigation of the water absorption and water permeability of different kinds of wood.
U. S. S. R. The Main Board of Aero Industry. Transactions of the Central Aero-hydrodynamical Institute, No. 122, Moscow, 1932, pp. 24, ills., diags., tabs.
- CHURCH, H. F.** Charleston takes the air.
Southern Aviation, Vol. 4, No. 3 (Nov. 1932), Atlanta, Ga., pp. 8-10, ills.
- CIERVA, JUAN DE LA.** See Daniel Guggenheim Gold Medal: Cierva awarded Guggenheim Medal.
- See Daniel Guggenheim Medal Fund: The Daniel Guggenheim Medal for achievement in aeronautics. Biographies of Orville Wright, medalist for 1929; Ludwig Prandtl, medalist for 1930; Frederick William Lanchester, medalist for 1931; Juan de la Cierva, medalist for 1932.
- See Reed, Thomas R.: Senor Don Juan de la Cierva y Cordoniu.
- CILLEULS, J. DES.** See Izard, L., J. des Cilleuls, et R. Kermarrec: La guerre aéro-chimique et les populations civiles; étude historique, clinique, thérapeutique et préventive.
- CIPRIANI, LIDIO.** In Africa dal Capo al Cairo.
Firenze, A. Bemporad e figlio, 1932, pp. 632, ills., maps.
- CIVIL aeronautics.** Le attività aeree civili mondiali.
Rivista Aeronautica, Anno 8, N. 9 (Sett. 1932), Roma, pp. 625-632, 632, diags., tabs.
- Lufttrafiken och flygvapnet i statsverkspropositionen.
Flygning. Arg. 10, N: R 1 (Jan. 1932), Stockholm, pp. 2-3.
- Weltluftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 95.

- CIVIL aeronautics.** *Weltluftverkehr. Bauvorschriften.*
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 19 (7. Mai 1932), Berlin, p. 135.
- *Weltluftverkehr. Bauvorschriften. Flugzeuge. Landflugzeuge. Erste oder Normalklasse.*
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, pp. 71-80.
- *See Fokker: Essential points in civil aircraft. The views of the Dutch Fokker Company on the relative importance of various characteristics.*
- *See Gimnuch, Alfredo: Condiciones previas del tráfico aéreo transoceánico.*
- *See Houard, Georges: Französische stimme zur internationalisierung der zivilluftfahrt.*
- *See Kirschner, A.: Internationalisierung der Zivilluftfahrt.*
- *See Roskoten, Richard: Ziviler Luftschutz. Ein Buch für das deutsche Volk.*
- *See Young, Clarence M.: Progress of civil aeronautics.*
- CIVIL aviation.** *Air transport. Report on civil aviation.*
Flight, Vol. 24, No. 30, (1230) (July 22, 1932), London, pp. 687-688, ill.
- CIVIL training.** *Civil primary training.*
Flight, Vol. 24, No. 46 (1246) (Nov. 10, 1932), London, pp. 1049-1050, ill.
- CLARK, K. W.** *Full scale determination of the motions at the stall, of a Bristol Fighter aeroplane with slot and aileron control on both planes.*
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 540-546, diagrs., tabl.
- CLARK, K. W., and B. LOCKSPEISER.** *Wind tunnel tests on aerofoils at negative incidences.*
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 242-249 diagrs., tabs.
- CLARK, K. W.** *See Bradfield, F. B., K. W. Clarke, and R. A. Fairthorne: Measurement of maximum lift in closed tunnels of different sizes, and in the open jet tunnel.*
- CLARK, V. E.** *The engineer and the transport airplane. A plea for engineering research touching on purchase price versus operating economy.*
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 7-10.
- CLAY, WILLIAM C.** *Combating ice formation with heat.*
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 353-354, ill.
- *See Theodorson, Theodore, and Wm. C. Clay: Ice prevention by engine heat.*
- CLAYTON, D.** *See Grogan, J. D., and D. Clayton: Dimensional stability of heat-treated aluminium alloys.*
- CLEVELAND.** *Aviation's show of shows.*
Nat. Aer. Mag., Vol. 10, No. 9 (Sept. 1932), Washington, pp. 13-16, 29, ill.
- *National Air Race program.*
Aero Digest, Vol. 21, No. 3 (Sept. 1932), New York, pp. 19-23, ill.
- *See Greve, L. W.: All eyes toward Cleveland.*
- *See National Air Races: National Air Races will be invaluable laboratory for aircraft industry. Ten-day racing classic opens August 27 at Cleveland.*
- CLEVELAND, E. W.** *On to Cleveland. The National Air Races.*
Western Flying, Vol. 12, No. 2 (Aug. 1932), Los Angeles, pp. 22-23, 28.
- CLIMB.** *See Andrews, W. R.: Climb relationships.*

- CLIMB.** *See* Watter, Michael: A simplified method of climb and ceiling calculation.
- CLIMBING flight.** *See* Dupuy, Pierre: The aeroplane in climbing flight. The equations of the aeroplane in rectilinear non-horizontal flight.
- CLINOGYRE.** *See* Odier-Bessièrè: Le clinogyre Odier-Bessièrè.
- CLOTHIER, W. C.** Carburetter fuel metering characteristics.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-31, Vol. 2, London, 1932, pp. 741-752, ills., diags.
Reports and Memoranda No. 1361, (E. 43).
- *See* Swan, Andrew, W. Helmore, and W. C. Clothier: Reduction of fire risk by induction pipe flame traps.
- CLOUDS.** *See* Curry, Manfred: A travers les nuages. Préface de Louis Bréguet.
- *See* International Commission for the Study of Clouds: Atlas international des nuages et des états du ciel.
- *See* Roder, Hermann: Navegación sin visión de tierra en niebla y sobra nubes.
- CLUB flying.** *See* Hilbert, von B: Club flying at low cost.
- CLUBS.** *See* Stevenson, C. W.: Organizing a private flying club.
- COAST GUARD.** *See* United States Coast Guard.
- COBURN, F. G.** Air transportation continues in steady expansion.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 6.
- CODOS and ROBIDA.** The Hanoi-Paris flight of Codos and Robida.
Flight, Vol. 24, No. 6 (1206) (Feb. 5, 1932), London, p. 107, ill.
- COFFIN, HAROLD.** The greatest glider flight.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., p. 28.
- Wings over Hawaii.
Nat. Aer. Mag., Vol. 10, No. 3 (March 1932), Washington, pp. 17-18, ills.
- COGLIOLO, PIETRO.** Il concetto unitario della colpa e il diritto aeronautico.
Riv. Dir. Aer., N. 1, gen. 1932-X, Roma, pp. 42-44.
- COHEN, J.** *See* Bradfield, F. B., and J. Cohen: Lift and drag measured in a velocity gradient.
- COLLIER trophy.** Collier trophy to Packard Diesel.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 44.
- The 1931 Collier trophy award.
Nat. Aer. Mag., Vol. 10, No. 4 (April 1932), Washington, pp. 16-18, ill.
- COLLINA, ALBERTO.** A steam power plant for aircraft.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 10-11, ills., tabl.
- COLLINEAR lens.** *See* Ballmann, Peter: Prüfung eines Collinears auf Verzeichnungsfehler.
- COLLINS, J. H., JR.** *See* Moore, C. S., and J. H. Collins, jr.: The effect of clearance distribution on the performance of a compression-ignition engine with a precombustion chamber.
- *See* Moore, C. S., and J. H. Collins, jr.: The effect of connecting-passage diameter on the performance of a compression-ignition engine with a precombustion chamber.
- COLOMBIA.** Verordnung betreffend Luftexpresspakete vom 11. Januar 1932.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 94.

- COLOR photography. *See* Leiber, Ferdinand: Photographie unsichtbarer Farben.
- COLSMAN, A. Luftschiff voraus.
Stuttgart und Berlin, Deutsche Verlagsanstalt, 1932, pp. 248, ills.
- COLTHARP, ROBERT. Air mapping as a business.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif, pp. 24-25.
- COLVIN, CHARLES H. Flight instruments.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 29-32, ills.
- COMBUSTION velocity. *See* Schnauffer, Kurt: Combustion velocity of benzine-benzol-air mixtures in high-speed internal-combustion engines.
- COMITÉ INTERNATIONAL TECHNIQUE D'EXPERTS JURIDIQUE AÉRIENS. (C. I. T. E. J. A.) Projet de convention relatif à la responsabilité pour dommages causés aux tiers à la surface. Projet de convention sur la propriété des aéronefs et le registre aéronautique. Projet de convention relative aux hypothèques, autres sûretés réelles et privilèges aériens.
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 97-117.
- COMMERCIAL aeronautics. Air transport.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 102-105, diagrs., maps.
- Betriebsordnung für den Internationalen Flugwetterdienst mit deutschen Ausführungsbestimmungen.
Berlin, Radetzki, 1932, pp. 20.
- Luftexpressgut- und fleiverkehr.
Die Luftreise, Heft 4, Nov. 1932, Berlin, pp. 84-85, ills.
- What's what on the airlines.
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 344-347, tabs., maps.
- *See* Abrams, Monte C.: Fundamentals of future air express development.
- *See* Abrams, Monte C.: A unified air express service.
- *See* Africa: Civil aviation in south-west Africa.
- *See* Airways: Airlines of the United States.
- *See* Barker, Fowler W.: American aircraft products abroad.
- *See* Berry, Gordon K.: Subsidizing the short feeder line.
- *See* Bradbrooke, F. D.: Flying Dutchmen.
- *See* Burchall, H.: The political aspect of commercial air routes.
- *See* Burney, C. Denniston: Revoluciones en el tráfico mundial.
- *See* Corliss, C. P., and John T. Kumler: All eyes up!
- *See* Dollfus, Walter: Das flugzeug als schnellverkehrsmittel.
- *See* Giannini, Amedeo: Il regime doganale del traffico aereo.
- *See* Lambrecht, Wolfgang: Transoceanic dirigible service.
- *See* Miller, Jack B.: Speed.
- *See* Miller, Jack B.: Speed—Its relation to cost in passenger transportation.
- *See* Pirath, Carl: Forschungsergebnisse des Verkehrswissenschaftlichen Institutes für Luftfahrt an der Technischen Hochschule Stuttgart. Heft 5: Die hochstrassen des weltluft verkehrs.
- *See* Pirath, Carl: Die Hochstrassen des Weltluftverkehrs.
- *See* Rey, Britton: Crop dusting as a business.

COMMERCIAL aeronautics. *See* Schatzki, Erich: Die Entwicklung schneller Post- und Personen-Flugzeuge für den deutschen Luftverkehr.

— *See* United States Congress. House. Committee on Rules: Transoceanic merchant airship bill. Hearings before the Committee on Rules, House of Representatives, Seventy-second Congress, first session, on H. Res. 224 and H. R. 8681. May 19 and 24, 1932.

— *See* United States Congress. Senate. Committee on Commerce: The Merchant airship bill . . . Report. To accompany H. R. 8681.

— *See* United States Department of Commerce. Aeronautics Branch: Scheduled air transportation.

— *See* Wilson, George Lloyd: Traffic control—truck and airplane traffic.

— *See* Wronsky, M.: Weltluftverkehr.

COMMERCIAL AIRCRAFT. Commercial aircraft in Europe.

Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, p. 276, ills.

— Practical commercial aircraft. Considerations that are likely to be overlooked.

Aircraft Engineering, Vol. 4, No. 35 (Jan. 1932), London, pp. 1-2.

— *See* Europe: Commercial aircraft in Europe. Details of the numbers of operating personnel and aircraft types in use by various companies.

COMMERCIAL AVIATION. *See* Lucia, César Gómez: La aviación comercial en España.

COMMUNICATION. Communications on an international air line.

Aviation, Vol. 31, No. 11 (Nov. 1932), New York, pp. 435-437.

— *See* Crotti, Attilio: Sull'impiego della radiogoniometria nella navigazione aerea con particolare riguardo all'organizzazione delle R D G terrestri.

— *See* Falco, Armando: Le comunicazioni radiotelefoniche aeree.

COMPAGNIE INTERNATIONALE DE NAVIGATION AÉRIENNE. *See* Weiss, Pierre Théodore: CIDNA; ou, L'express d'Istambul.

COMPASS. "Magnetological inexactitudes."

Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, p. 922.

— *See* Ende, W., und M. H. Gloeckner: Über einen trägheitlosen Flugzeugkompass.

— *See* Ferry, Ervin Sidney: Applied gyro dynamics, for students, engineers and users of gyroscopic apparatus.

COMPASS ROSE. *See* Ramsey, Logan C.: Compass roses for airports. An inexpensive facility to aid cross-country fliers.

COMPRESSION-IGNITION. *See* Dicksee, C. B.: Some problems connected with high-speed compression-ignition engine development.

— *See* Moore, C. S., and J. H. Collins, jr.: The effect of clearance distribution on the performance of a compression-ignition engine with precombustion chamber.

COMPRESSION-IGNITION ENGINE. *See* Moore, C. S., and J. H. Collins, jr.: The effect of connecting-passage diameter on the performance of a compression-ignition engine with a precombustion chamber.

CONGRÈS INTERNATIONAL DE LA NAVIGATION AÉRIENNE. Cinquième Congrès International de la Navigation Aérienne.

La Haye, 1930, two volumes.

- CONNECTING RODS.** *See* Angle, Glenn D.: Positioning of link rod wrist pins in articulated connecting rods.
- *See* Thornycroft, O., and B. C. Carter: Diesel connecting-rod stresses. The effect of rapid rise of cylinder pressure on connecting-rod loading.
- CONNOR, C. N.** Airports and transportation engineering. Effect of airplane impact on airport surfaces.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 18-21, diags.
- CONQUEROR.** A durability and efficiency test. Curtiss Conqueror model V-1570 F subjected to 500-hour running test sets new standard of service endurance.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., p. 20, ill.
- Prestone-cooled "Conqueror" engine completes 500-hour endurance test.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 27-28, ill.
- The supercharged Conqueror. New engine designed to carry 600 rated horse-power of Curtiss Conqueror to 20,000 feet.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 8-9, ill.
- CONSTANT, HAYNE.** Aircraft vibration.
Journ. Roy. Aer. Soc., Vol. 36, No. 255 (March 1932), London, pp. 205-250, ill., diags.
- Torque reaction and vibration. An investigation of the effect on aircraft structures of engine torque variations.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 146-149, diags.
- CONSTANTINOFF, JEAN.** Le droit aérien français et étranger; droit interne et droit international.
Paris, L. Chauny et L. Quinsac, successeurs, 1932, pp. 341.
- CONSTRUCTION.** *See* Bassi, Silvio: Un particolare modo di attacco per i cavetti d'acciaio nelle costruzioni aeronautiche.
- *See* Ebner, H.: Über Fachwerke mit gekreuzten Diagonalen.
- *See* Handasyde, G. H.: Aeroplane construction at Bristol. Unusual stores methods and the wide use of special jigs and tools.
- *See* Küssner, Georg, und Karl Thalau: Entwicklung der Festigkeitsvorschriften für Flugzeuge.
- *See* Matthaes, Kurt: Röntgenuntersuchung von Flugzeugbauteilen bei der DVL.
- *See* Pfister, E.: Konstruktion und Berechnung des Flugzeuges.
- *See* Sablier, G.: Plans et construction d'une avionnette.
- *See* Schlippe, B. v.: Zusätzliche Biegespannungen bei Doppel-C-Profilanschlüssen.
- *See* Schwengler, J.: Erfordernisse und Anregungen für wirtschaftliche Luftschiffbauten.
- *See* Teichmann, Alfred: Zur Berechnung auf Knickbiegung beanspruchter Flugzeugholme.
- *See* Younger, John E.: Airplane construction and repairs; for airplane mechanics. With a chapter on heat treatment by N. F. Ward.
- CONTESTS.** *See* Weyl, Alfred Richard: Der Wettbewerb um den "Schneider-Pokal."
- CONTI, G., E P. GAMBA.** Due sondaggi dell'atmosfera a mezzo di un aeroplano.
L'Aerotecnica, Vol. 12, N. 1 (Gen. 1932), Roma, pp. 45-51, ill.

CONTINENTAL. The "Continental" R. 670 engine.

Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, p. 149.

— Continental 215 H. P. engine.

Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 56, 58, ill.

— See Insley, Robert: The new Continental R-670.

— See R-670: The new Continental "R-670" engine.

CONTROL. Nuevo sistema de impulsor de mandos para aparatos voladores.

Icaro, Año 5, Núm. 60 (Dic. 1932), Madrid, pp. 7-8, ill.

— See Alston, R. P.: Stalled flight tests on a Bristol Fighter fitted with auto-control slots and interceptors.

— See Bradfield, F. B.: A collection of wind tunnel data on the balancing of controls.

— See Gunning, J. Henry: A system of weight and balance control.

— See Hübner, Walter, und Wilhelm Pleines: Das DVL-Gleitwinkelsteuer (Bauart W. Hübner). Aerodynamische Grundlagen der Vorrichtung; Flugmessungen mit einer Ausführungsform.

— See Hübner, Walter, and Wilhelm Pleines: The D. V. L. gliding-angle control (W. Hübner design).

— See Jennings, W. G.: Tests of various lateral controls fitted to a Siskin aircraft.

— See Jones, E. T., and R. P. Alston: Quantitative measurements of the longitudinal control and stability of the Bristol Fighter when stalled, with reference to stalled landings.

— See Maitland, C. E., and J. H. C. Wake: Comparative handling tests of three Bristol Fighter aircraft with different types of slots.

— See Mathias, Gotthold: Die Seitenstabilität des ungesteuerten Normalfluges und ihres technischen Vorbedingungen.

— See Pris, M.: The controls at low hinge moments.

— See Smith automatic control: The automatic pilot.

— See Upson, Ralph H.: Flight control by air visualisation.

— See Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices particularly at high angles of attack. VI—Skewed ailerons on rectangular wings.

— See Wimperis, H. E.: Flight tests on an aeroplane with a control column giving warning of dangerous wing loads.

CONTROL slots. See Pleines, Wilhelm: Weitere Flugmessungen über die Wirksamkeit von automatischen Handley-Page-Schlitzquerrudern.

CONTROL systems. See Dowsett, Walter F.: Some notes on the design of aeroplane control surfaces and control systems.

— See Huntington, Dwight: Improving the control system.

CONVENTIONS. See Treaties and Conventions.

COOKE, A. P. This business executive owns a fleet of airplanes.

Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 3-4, ill.

COOLING. See Brown, C. Anderton, and A. W. Morley: Estimation of wing surface area for evaporative cooling.

- COOLING. *See* Prestone Cooling: The mechanical difficulties of Prestone cooling at 300° F. outlet temperature.
- *See* Schey, Oscar W., and Arnold W. Biermann: Heat dissipation from a finned cylinder at different fin plane airstream angles.
- *See* Weidinger, Hans: German experiments with chemical cooling of aircraft engines.
- COOMBES, L. P., and R. H. READ. The effect of the various types of lateral stabilizers on the take-off of a flying boat.
Aer. Res. Comm., Rep. Mem. No. 1411 (Ae. 532), October 1930, London, 1932, pp. 5, diags., tabs.
- COOMBES, L. P., and R. K. CUSHING. Full scale measurement of lift and drag of large seaplanes—experiments on Blackburn "Iris."
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 892-896, ill., diags., tabs.
Reports and Memoranda No. 1354 (Ae. 485).
- COOMBES, L. P. Tests of anchors for use on flying-boats.
Aer. Res. Comm., Rep. Mem. No. 1449, May 1931, London, 1932, pp. 14, ill., diags.
- COPE, W. F. Heat transmission between surfaces and fluids flowing over them.
(1) The case of two-dimensional flow.
Aeronautics. Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 384-391, ill., diags., tabs.
- COPENHAGEN. *See* Forsvarsligaen: Københavns luftforsvar, udgivet af Forsvarsligaen.
- COPPELLOTTI, CELESTINO. Aviazione per l'esercito e topografia.
Rivista Aeronautica, Anno 8, N. 4 (Aprile 1932), Roma, pp. 68-75, maps.
- COPPENS DE HOUTHULST, WILLY. Jours envolés.
Paris, Nouvelles éditions latines, 1932?
- COPYRIGHT. *See* Sprague, E. Stuart: Copyright-radio and the Jewell-La Salle case.
- CORBELLA. Características del planeador Corbella.
Icaro, Año 5, Núm. 53 (Mayo 1932), Madrid, pp. 11-13, ill.
- CORBEN. The Corben junior ace monoplane.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 52, ill.
- CORBI, D. *See* Gallo, G., e D. Corbi: Protezione delle leghe di alluminio con cromo elettrolitico.
- CORKILL, DOROTHY E. *See* Lythgoe, R. J., Dorothy E. Corkill and E. S. Pearson: Measurement of visual acuity.
- CORLISS, C. P., and JOHN T. KUMLER. All eyes up!
Western Flying, Vol. 12, No. 4 (Oct. 1932), Los Angeles, pp. 24-26, ill.
- CORPORACION AERONAUTICA DE TRANSPORTES. *See* Grahame, Douglas: The planes of this Mexican air line travel 4,000 miles a day.
- CORROSION. The prevention of corrosion.
The Aeroplane, Vol. 42, No. 20 (May 18, 1932), London, pp. 907-908, 910, ill.
- La protección contra la corrosión en piezas de avión.
Icaro, Año 5, Núm. 55 (Julio 1932), Madrid, pp. 14-15.
- *See* Akimow, G. B., and N. A. Sahmin: Electrochemical protection from corrosion of the aluminium alloy cooling systems.
- *See* Brenner, Paul: Untersuchungen über Spannungs-Korrosionsrisse an Leichtmetallen.

- CORROSION.** See Dober, Laurence C.: Against salt water corrosion.
- See Schraivogel, Karl, und Erich K. O. Schmidt: Untersuchung von Duralplattblechen. Mechanisch-technologische versuche, von K. Schraivogel. Korrosionsversuche, von Erich K. O. Schmidt.
- See Sutton, H.: Protection of metal parts of aircraft against corrosion.
- COSCI, G. A. DOMENICO.** Freni alle ruote degli aeroplani.
Rivista Aeronautica, Anno 8, N. 2 (Feb. 1932), Roma, pp. 234-278, ill.
- COST, L. W.** Illuminating the Washington Monument.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., p. 45, ill.
- COSTANZI, GIULIO.** Il problema dell'autotrazione in Italia.
Rivista Aeronautica, Anno 8, N. 12 (Dic. 1932), Roma, pp. 485-520, diagrs., tabs., map.
- COSTANZI, VALERIO.** Il problema dei combustibili solidi per l'Italia.
Rivista Aeronautica, Anno 8, N. 5 (Maggio 1932), Roma, pp. 272-294.
- COTTON, ÉMILE.** Hydrodynamique— sur le mouvement irrotationnel d'un liquide limité par des parois mobiles indéformables.
C. R. Acad. Sci., T. 195, No. 22 (28 nov. 1932), Paris, pp. 987-990.
- COURAGEOUS.** The hornet's nest.
Flight, Vol. 24, No. 21 (1221) (May 20, 1932), London, p. 435, ill.
- COURSE correction.** See Berry, A. W.: Ground speed and course correction.
- COURTEILLES, E. P. DE.** L'effort du centre de documentation aéronautique internationale (1927-1932).
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, pp. 131-132, ill., port.
- COURTNEY, FRANK T.** How many engines?
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 337-339.
- COUTINHO, GAGO.** El sextante Gago Coutinho.
Icaro, Núm. 6, 7 y 8, Junio-Julio-Agosto 1928, Madrid, pp. 194-198, ill.
- COUZINET.** See Lamarche, Paul E.: Couzinet type 33 trimotor.
- COVENTRY, ENGLAND PUBLIC LIBRARIES.** Aeronautics; technical and general: books in the Coventry libraries on the theory of flight, practical flying, aeronautical engineering (including construction and maintenance), and on gliders and gliding compiled by Harry Sargeant, F. L. A., chief assistant.
Coventry, Eng., Coventry Libraries, 1932, pp. 27.
- COVERING.** See Schmidt, Erich K. O.: Der Oberflächenschutz der Flugzeugbe-
spannstoffe.
- COWL.** New cowl fastener developed.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, p. 17, ill.
- COWLEY, W. L.** See Schneider Trophy: Collected reports on British high speed aircraft for the 1927 Schneider Trophy contest. With an introduction by W. L. Cowley.
- COWLING.** See Engines: The cowling of air-cooled engines. A note from Messrs. Boulton and Paul shows the Townend ring in a favourable light.
- See Linton, Grant: Ring cowling.
- See McAvoy, William H., Oscar W. Schey and Alfred W. Young: The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines.
- See Perring, W. G. A.: The cowling of air-cooled engines. A summary of wind tunnel tests of the effect on performance of various types.

- COWLING. See Perring, W. G. A.: Wind tunnel experiments on the cowling of air-cooled engines.
- See Windler, Ray: Drag tests of 4 9-scale model engine nacelles with various cowlings.
- COX, H. L. See Gough, H. J., and H. L. Cox: The mode of deformation of a single crystal of silver.
- See Gough, H. J., and H. L. Cox: The behaviour of single crystals of bismuth subjected to alternating torsional stresses.
- COX, H. ROXBEE. Cases of purely torsional loading on stripped aeroplane wings.
Aer. Res. Comm., Rep. Mem. No. 1436, August 1931, London, 1932, pp. 12, diags.
- CRANE, CARL J. See Ocker, William C., and Carl J. Crane: Blind flying in theory and practice.
- CRANWELL-CAPETOWN. Cranwell-Capetown flight.
Flight, Vol. 24, No. 9 (1209) (Feb. 26, 1932), London, pp. 167-169, ills., ports., maps.
- CRASHES. On crashes.
The Aeroplane, Vol. 42, No. 22 (June 1, 1932), London, pp. 992, 994.
- CREMONA, CESARE. Il coefficiente di sicurezza nella virata corretta.
L'Aerotecnica, Vol. 12, N. 10 (Ott. 1932), Roma, pp. 1322-1329, 1436, ills., diags.
- CROCCO, G. A. Flying the stratosphere. A theoretical examination of the possibilities of achieving high speeds at very high altitudes.
Aircraft Engineering, Vol. 4, No. 41, 42 (July, Aug. 1932), London, pp. 171-175, 204-209 ills., diags., tabs.
- Meccanica.—La stabilità nel volo strumentale.
Rendiconti della Reale Accademia Nazionale dei Lincei, Vol. 16, Fasc. 3-4, 1932, Roma, pp. 6-77.
- CROCCO, LUIGI. Sulla trasmissione del calore da una lamina piana a un fluido scorrente ad alta velocità.
L'Aerotecnica, Vol. 12, N. 2 (Feb. 1932), Roma, pp. 181-197, diags.
- Transmission of heat from a flat plate to a fluid flowing at high velocity.
National Advisory Committee for Aeronautics, Technical Memorandums No. 690, Oct. 27, 1932, Washington, October 1932, pp. 15, diags.
- CROSS, GROSVENOR M. Flying the patents with good old Walter Green.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 33-40, ills.
- CROSS-BEAM. See Teichmann, Alfred: Zur Berechnung auf Knickbiegung beanspruchter Flugzeugholme.
- CROTTI, ATTILIO. Sull'impiego della radiogoniometria nella navigazione aerea con particolare riguardo all'organizzazione delle reti R D G terrestri.
Rivista Aeronautica, Anno 8, N. 6 (Giugno 1932), Roma, pp. 557-571, ills.
- CROUCH, A. S. Full scale lift and drag curves of a standard seaplane.
Aer. Res. Comm., Rep. Mem. No. 1448, December 1931, London, 1932, pp. 4, ills., diags., tabs.
- Full scale measurement of lift and drag of Southampton boat seaplane.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 311-313, ills., diags., tabs.
- CUNO, OTTO. Experimental determination of the thickness of the boundary layer along a wing section.
National Advisory Committee for Aeronautics, Technical Memorandums No. 679, Aug. 11, 1932, Washington, August 1932, pp. 7, ills., diags.

- CUNO, OTTO. Experimentelle Untersuchung der Grenzschichtdicke und Verlauf längs eines Flügelschnittes.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 7 (14. April 1932), München und Berlin, pp. 189-191, ills., diags.
- CURRAN, E. Fuel systems in aircraft. A discussion of power plant failures caused by air locks and remedies proposed to eliminate this condition.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 16-18, ills.
- CURRY, MANFRED. L'aérodynamique de la voile et l'art de gagner les régates.
Paris, E. Chiron, 1932, pp. 417, ills.
- Beauty of flight; with a foreword by Rear-Admiral Richard E. Byrd.
New York, The John Day Company, 1932, pp. 12, ills.
- A travers les nuages. Préface de Louis Bréguet.
Paris, Arts et Métiers Graphiques [1932?], pp. 12, ills.
- CURTIS, ARTHUR E. Air transport development and its effect on foreign trade.
Southern Aviation, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., pp. 6, 8, port.
- Effects of aviation on international relations.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 21-22.
- CURTISS. Development of Curtiss "Hawks."
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, pp. 62-63, ills.
- CURTISS, GLENN. See Farkas, Harold M.: How Glenn Curtiss promoted aviation in Miami.
- CURTISS MARINE TROPHY. See Lewis, H. Latane, II: The Curtiss marine trophy race.
- CURTISS-REID. The Curtiss-Reid "Courier."
Flight, Vol. 24, No. 21 (1221) (May 20, 1932), London, pp. 442-443, ills.
- CURTISS-WRIGHT. Curtiss-Wright "Travel air sport."
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 18, ill.
- CURTISS-WRIGHT AIRPLANE COMPANY. See Damon, Ralph S.: Damon elected president of Curtiss-Wright Airplane Company.
- CURZIO, VINCENZO. See Ferro, Guido Gattegno: Ai margini della storia. L'aeronave dirigibile dell'abate Vincenzo Curzio di Napoli.
- CUSHING, R. K. Measurement of position error on high speed aircraft.
Aer. Res. Comm., Rep. Mem., No. 1472 (T. 3246), April 1932, London, 1932, pp. 4, ills., diags., tabl.
- See Coombes, L. P., and R. K. Cushing: Full scale measurement of lift and drag of large seaplanes—experiments on Blackburn "Iris."
- CUSTOMS. See Poland: Zollverordnung.
- CYCLONE. The Cyclone R-1820-F. 700 horsepower Wright radial air-cooled engine approved by Department of Commerce.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 9-12, ills.
- CYLINDERS. See Busemann, A.: III. Versuchsergebnisse. 12. Messungen an rotierenden Zylindern.
- See Duncan, W. J.: The torsion and flexure of cylinders and tubes.
- See Lundquist, Eugene E.: Strength tests on thin-walled duralumin cylinders in torsion.
- See Thom, A.: Experiments on the flow past a rotating cylinder.

CZECHOSLOVAKIA. Stand der luftrüstungen ende 1931.

Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 21-23.

— Zollflughäfen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12 März 1932), Berlin, p. 70.

D

D. E. L. A. Deutsche Luftsport Ausstellung 1932.

Flight, Vol. 24, No. 41 (1241) (Oct. 6, 1932), London, p. 931, ills.

— See Heinze, Edwin P. A.: The D. E. L. A. exhibition.

DALLAS. See American Airways: American Airways' Dallas shops.

DAMAGE. See Giannini, Amedeo: Sulla garanzia da parte dell'escercente pei danni causati ai terzi nella navigazione aerea.

DAMIAN, J. Méthode d'appréciation des lubrifiants.

Paris, E. Blondel La Rouger y, 1932, pp. 28, ills., tabs.

Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 14, Paris, 1932.

DAMON, RALPH S. Damon elected president of Curtiss-Wright Airplane Company.

U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., p. 26, port.

DAMON, RALPH S., GEORGE A. PAGE, JR., and KENDALL PERKINS. The economic aspects of transport-airplane design.

Journ. Soc. Automative Engineers, Vol. 31, No. 6 (Dec. 1932), New York, pp. 475-484, diagr., tabs.

DANIEL GUGGENHEIM. Daniel Guggenheim Airship Institute.

U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., p. 40.

DANIEL GUGGENHEIM GOLD MEDAL. Cierva awarded Guggenheim Medal.

U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 35.

DANIEL GUGGENHEIM MEDAL FUND. The Daniel Guggenheim Medal for achievement in aeronautics. Biographies of Orville Wright, medalist for 1929; Ludwig Prandtl, medalist for 1930; Frederick William Lanchester, medalist for 1931; Juan de la Cierva, medalist for 1932.

New York, 1932, pp. 31, ports.

DANZIG. Danzig, Peilstelle.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10 Dez. 1932), Berlin, p. 326.

— Freie Stadt Danzig. Danzig-Langfuhr Flughafen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16 Juli 1932), Berlin, p. 192.

DARDANELLI, GIORGIO M. Costruzione ed organizzazione degli attuali aeroporti civili.

L'Aerotecnica, Vol. 12, N. 4 (aprile 1932), Roma, pp. 473-513, 641, ills.

DAVIDSON, WALTER V. The map from the sky.

Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, pp. 19-24, ills.

DAVIES, HERBERT BARRS FARTHING, and F. M. LANDAU. The rights and duties of transport undertakings.

London, Sir I. Pitman & Sons, Ltd., 1932, pp. xxiii, 283.

Pitman's transport library.

DAVIES, H. Torsion calculations for a rear fuselage with two or more "unknowns."

Aircraft Engineer, suppl. to Flight, Vol. 24, No. 25 (1225) (June 17, 1932), London, pp. 530e-530h, diagrs., tabs.

DAVIS, HENRY DUNCAN, and CHRISTOPHER SPRIGG. Fly with me; an elementary textbook on the art of piloting.

London, J. Hamilton, Ltd., 1932, pp. 111, ill.

- DAY, CHARLES HEALY. The Day biplane used successfully on a tour of the world.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, pp. 66, 68, ills.
- DEBNAM, W. E. The development of Heinen's air yacht. An article based on an interview with Captain Anton Heinen and a flight in his new light dirigible which he designates as "the motor boat of the sky."
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 17-18, 20, ills.
- Developments in aerial photography.
Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 6-8, ills.
- Performance features of the autogiro.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., pp. 13-14, ills.
- Servicing Naval airplanes in the Hampton Roads shops.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 14-16, ills.
- The work of the sky pilot.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., pp. 7-10, ills.
- DE HAVILLAND. The De Havilland "Dragon."
Flight, Vol. 24, No. 52 (1152) (Dec. 22, 1932), London, pp. 1212-1216, ills.
- II De Havilland 83 "Fox Moth."
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 404-406, ills.
- The D. H. 83 "Fox Moth" commercial airplane (British). A three-passenger light cabin biplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 162, May 24, 1932, Washington, May 1932, pp. 5, ills.
- D. H. "Fox Moth." A new economical 4-5 seater with 120-h. p. Gipsy III engine.
Flight, Vol. 24, No. 12 (1212) (March 18, 1932), London, pp. 231-234, ills.
- A new De Havilland engine. The 130 horsepower inverted Gipsy Major described and illustrated.
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, pp. 277-278, ills., diagr.
- DELAET, JEAN. Brin d'azur.
Bruxelles, Editions de Belgique, 1932.
- DELBEGUE, R., R. ROUANET, Martinot-Lagarde et R. Mioche. L'aviation en 1931. Caracteres généraux, de la construction aeronautique.
Paris, E. Chiron, 1931.
- DELÉTANG-TARDIF, YANETTE. Vol des oiseaux.
Strasbourg, Imp. des "Dernières nouvelles de Strasbourg."
Paris, A. Quillet, 1931, p. 86.
- DE MAROLLES, R. J. The thirteenth aero salon. A survey of the principal aeroplane and engine exhibits at the Grand Palais.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, pp. 297-301, ills., tabs.
- DEMOISELLE. The Demoiselle convertible.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 90-91, ills.
- DENMARK. Agno, Seeflugstation.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 215.
- Bauvorschriften. Bekanntmachung vom 24. November 1930 über die Ausfertigung eines neuen Reglements B zur Luftfahrtverordnung vom 11. September 1920; vgl. Nr. 1 21 7.1, S. 97.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 14-15, 16 (9. 16. April 1932), Berlin, pp. 99-108, 111-116.
- Besuch beim dänischen Edison.
Die Luftreise, Heft 5, Dez. 1932, Berlin, p. 111, ills.

- DENMARK. Fedet, Præstø Fjord, Hilfslandeplatz. Luftfahrtfeuer, Nachtflugstrecke Kopenhagen—Rødbyhavn—deutsche Grenze.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 244.
- Kopenhagen, Ansteuerungspunkt.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, p. 196.
- Kopenhagen, Schiessübungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13. 20. Aug. 1932), Berlin.
- Luftfahrtfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 40, 42 (1, 15. Okt. 1932), Berlin, pp. 267, 284.
- Luftfahrtfeuer Kopenhagen—Rødby.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 51-52 (24. Dez. 1932), Berlin, p. 340.
- The Prince flies to Denmark.
Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, pp. 911-912, illus.
Prince of Wales.
- Rødbyhavn, Hilfslandeplatz.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 30-31 (30. Juli 1932), Berlin, p. 202.
- Rødbyhavn, Hilfslandeplatz.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 35 (27. Aug. 1932), Berlin, p. 232.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 59.
- See Arnesen, Odd: Vi flyver over Eirik Raudes land.
- See Hoffman, Willy. The Danish law of March 31, 1931, dealing with protective measures against disturbances of radio broadcast reception.
- DENNE, R. A. Aircraft and the fire problem.
Journ. Roy. Aer. Soc., Vol. 36, No. 257 (May 1932), London, pp. 433-443, illus.
- The problem of fire in aircraft. An examination of the various chemicals employed and description of special apparatus evolved.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, pp. 98-100, illus.
- DEPEW, RICHARD H., JR. Pilgrim transport.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 82-83, illus.
- DESGRANDSCHAMPS, R. G. L'aviation expliquée à tous.
Levallois-Perret, Société Industrielle d'Imprimerie, 1932, pp. 138, illus, diags.
- DESIGN. Airplane designing for economical operation.
Aviation, Vol. 31, No. 10 (Oct. 1932), New York, pp. 405-407.
- Design at the races.
Aviation, Vol. 31, No. 10 (Oct. 1932), New York, pp. 402-404, ill.
- A new method of constructing hollow bodies.
The Aeroplane, Vol. 43, No. 5 (Aug. 3, 1932), London, pp. 240, 242, 244, illus.
- See Appel, A. W.: Design refinements in Bird planes.
- See Dowd, R. E.: The gross sky ghost, two-place soaring glider of new design.
- See Dowd, R. E.: The problem of the ornithopter.
- See Dowd, R. E.: What's wrong with this design?
- See Jones, Bradley: Urns and urnautics or art in aircraft design.
- See LaSha, S. S.: Comments on stress analysis and design.
- See Munk, Max Michael: General wing section theory.

- DESIGN.** See Raymond, Arthur E.: The mold loft. Its economical application to aircraft construction.
- See Stieger, H. J.: Wing construction.
- See Stratosphere: Stratosphere airplanes.
- See Warner, Edward P.: How much is lightness worth?
- DETONATION.** See Parri, Walter: Detonazione ed antidetonanti.
- DETROIT.** Catering to the private plane owner.
Aviation Engineering, Vol. 6, No. 5 (May 1932) Washington, N. J., pp. 17-19, 36, ills.
- The Detroit show in prospect.
Aviation, Vol. 31, No. 4 (Apr. 1932), New York, pp. 155-159.
- Economy and the air show.
Aviation, Vol. 31, No. 5 (May 1932), New York, pp. 203-210, ills.
- The National Aircraft Show at Detroit.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 16-17.
- The National Aircraft Show, Detroit.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, p. 50.
- Plans for the National Aircraft Show opening at Detroit April 11.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 24-26, ills.
- See Jones, Bradley: A week in Detroit.
- See National Aircraft Show: The National Aircraft show, Detroit City Airport, Detroit, Michigan, April 2-10, 1932.
- DEUTSCH.** The Deutsch de la Meurthe cup.
Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, p. 390.
- DEUTSCHE LUFT HANSA.** Grossraumflugzeuge für die Deutsche Luft Hansa.
Luftschau, 5. Jahrg., Nr. 6 (24 März 1932), Berlin, pp. 83-84, ill.
- Mitteilungen der Deutschen Luft Hansa A. G.
Die Luftreise, Heft 1-5, 1. Aug.-1. Dez. 1932, pp. 18-19, 43-44, 68-71, 93-94, 118.
- See Bley, Wulf: Deutsche Luft-Hansa.
- DEUTSCHE LUFTSPORT-AUSSTELLUNG.** See Schulz, W. R.: Kritischer rückblick auf die Dela.
- DEUTSCHE VERSUCHSANSTALT FÜR LUFTFAHRT.** Die Deutsche Versuchsanstalt für Luftfahrt im Jahre 1931-32.
Zeitschr. Ver. deutscher Ing., Bd. 76, Nr. 37 (10. Sept. 1932), Berlin, p. 883.
- Forschungsarbeiten der Deutschen Versuchsanstalt für Luftfahrt, E. V. (DVL.)
Die Luftwacht, Heft 3, 6, 7, 10, März, Juni, Juli, Okt. 1932, Berlin, pp. 112-113, 237-239, 287-288, 435-436, diagrs.
- See Hoff, Wilh.: Jahrbuch 1932 der Deutschen Versuchsanstalt für Luftfahrt E. V.
- DEUTSCHER LUFTFAHRT-VERBAND.** Deutscher Luftfahrt-Kalender 1932.
Berlin, Verlag Ferdinand Ashelm Komm.-Ges., 1932.
- DEVIOMETER.** Deviometer for air courses not on regular radio beacon beam path.
Aero Digest, Vol. 20, No. 1 (Jan. 1932), New York, p. 55.
- DEWEY, N. S.** See Simmons, L. F. G., and N. S. Dewey: Photographic records of flow in the boundary layer.

- DEWOITINE. II Dewoitine "D 48."
Rivista Aeronautica, Anno 8, N.9 (sett. 1932), Roma, pp. 592-594, ills.
- DICKS, H. B. Problems connected with high-speed compression-ignition engines.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 14-17, diags.
- DICKSEE, C. B. Some problems connected with high-speed compression-ignition engine development.
Journ. Roy. Aer. Soc., Vol. 36, No. 261 (Sept. 1932), London, pp. 733-787, diags., tabs.
- DICKSEE, H. B. Problems connected with high-speed compression-ignition engines, Part II.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 15-18, diags., tabs.
- Problems connected with high-speed compression-ignition engines. Part III.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 14-16, diags.
- DIEHL, WALTER STUART. The calculation of take-off run.
National Advisory Committee for Aeronautics, Report No. 450, Jan. 31, 1933, Washington, U. S. Government Printing Office, 1932, pp. 10, diags., tabs.
- The estimation of maximum load capacity of seaplanes and flying boats.
National Advisory Committee for Aeronautics, Report No. 453, Feb. 11, 1933, Washington, U. S. Government Printing Office, 1932, pp. 5, diags., tabs.
- Static thrust of airplane propellers.
National Advisory Committee for Aeronautics, Report No. 447, Jan. 25, 1933, Washington, U. S. Government Printing Office, 1932, pp. 8, diags., tabs.
- DIEHL, WALTER STUART, and R. F. ANDERSON. Variable density wind tunnel test data on models of the Hawker Hornbill aeroplane and the A. D. 1 aerofoil section.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 323-331, ills., diags., tabs.
- DIEHL, WALTER STUART. See Webb, L. D.: Correcting your air speed indicator.
- DIESEL engines. Diesel engines on Goodyear airship.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 54, ill.
- The Guiberson airplane diesel.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, pp. 56-58, ill.
- The modern Diesel; a review of high speed compression ignition engines for road transport, aircraft and marine work, explaining their action with the aid of diagrams, and descriptions of the various fuel injection systems.
London, Iliffe & Sons, Ltd., 1932, pp. 142, ills., diags.
- A new Diesel radial engine.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 116, ill.
- See Fuel: Fuels for the Diesel engine.
- See Guiberson: Guiberson Diesel motor production plans.
- See Guiberson: The Guiberson Diesel engine.
- See Guiberson: Guiberson 185-H. P. Diesel engine.
- See Guiberson: Il motore d'aviazione Diesel Guiberson.
- See Guiberson: A technical description of the Guiberson Diesel engine.
- See Haenlein, A.: Disintegration of a liquid jet.
- See Heldt, Peter Martin: High-speed Diesel engines for automotive, aeronautical, marine, railroad, and industrial use, with a chapter on other types of oil engines.

- DIESEL** engine. *See* Packard: The Packard Diesel engine. An important series of British patents covering details of the design.
- *See* Rolls-Royce: The Rolls-Royce Condor Diesel. The first details of a compression-ignition type developed by A. R. C. experiments.
- *See* Thornycroft, O., and B. C. Carter: Diesel connecting-rod stresses. The effect of rapid rise of cylinder pressure on connecting-rod loading.
- *See* Webb, L. D.: The Diesels take the air.
- DIFFERENTIAL** equations. *See* Tchaplign, S. A.: A new method of the approximate integration of differential equations.
- DI MAIO, R.** I sondaggi della stratosfera col meteorografo barotropico.
L'Aerotechnica, Vol. 12, N. 5 (mag. 1932), Roma, pp. 678-693, 790, ill., diagrs., tabs., maps.
- DINES, WILLIAM HENRY.** The collected papers of William Henry Dines.
London, Royal Meteorological Society, 1931.
- DIREZIONE SUPERIORE STUDI ED ESPERIENZE.** Il laboratorio aerodinamico della Direzione Superiore Studi ed Esperienze del Ministero dell'Aeronautica.
L'Aerotechnica, Vol. 12, N. 2 (feb. 1932), Roma, pp. 143-166, ill.
- *See* Eula, A.: Il laboratorio idrodinamico della Direzione Superiore Studi ed Esperienze del Ministero dell'Aeronautica.
- DIRINGSHOFEN, H. v.** Die Bedeutung von hydrostatischen Druckunterschieden für den Blutkreislauf des Menschen bei Einwirkung hoher Beschleunigungen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 6 (29 März 1932), München und Berlin, pp. 164-165.
- DISARMAMENT.** Disarmament and aircraft.
Flight, Vol. 24, No. 46 (1246) (Nov. 10, 1932), London, p. 1046.
- *See* Baldwin, Stanley: Air disarmament.
- *See* Geneva. Air Commission: Report to the General Commission, called for by that Commission's resolution dated April 22nd 1932 (document Conf. D./C. G. 28(2). Rapporteur: M. Boheman (Sweden).
- *See* Healy, Thomas H.: Outlook for disarmament.
- DISARMAMENT CONFERENCE.** The Disarmament Conference.
Flight, Vol. 24, No. 7 (1207) (Feb. 12, 1932), London, pp. 128-130, 144.
- DISTRICT OF COLUMBIA.** *See* Aero Club of Washington: The Aero Club of Washington. District of Columbia Chapter, National Aeronautic Association, 1932.
- DITHMER, ELISABETH.** Sandheden om Nobile, Bjørnstjerne Bjørnson in memoriam.
København, V. Thaning & Appel, 1932, pp. viii, 65, ill.
- DLV.** DLV-Rundflugbetrieb in Tempelhof.
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, p. 202.
- DOANE, R. R.** Finance. A curtailment of losses.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 116-117, diagrs., tabl.
- DOBER, LAURENCE C.** Against salt water corrosion.
Western Flying, Vol. 12, No. 2 (Aug. 1932), Los Angeles, pp. 24-25.
- DOCK, HERMAN.** The "Dock" patent piston.
Flight, Vol. 24, No. 56 (1246) (Nov. 10, 1932), p. 1058, ill.

- DOE, THOMAS B. The air mail campaign.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 7-9, port., ills.
- DOERING, HERMANN. Le assicurazioni aeronautiche negli Stati Uniti di America ed in Europa.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 155-168.
- Haftpflicht und Haftpflichtversicherung der Luftfahrzeughalter.
Luftschau, 5. Jahrg., Nr. 8 (24. April 1932), Berlin, pp. 115-117, ill., tabl.
- Die Neugestaltung des Lufthebelörderungsvertrages in europäischen Luftverkehr.
Archiv für Luftrecht, Nr. 1, 1932.
- DOLLFUS, CHARLES, and HENRI BOUCHÉ. Histoire de l'aéronautique; texte et documentation de Charles Dollfus & Henri Bouché.
Paris, L'Illustration, 1932, pp. xxiii, 569, ills., maps.
- DOLLFUS, WALTER. Das flugzeug als schnellverkehrsmittel.
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 180-185, ill., tabl., map.
- DOMINICAN REPUBLIC. Gesetz, Luftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, p. 164.
- Luftverkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26 März 1932), Berlin, p. 94.
- DOMINICUS, D. Warum Deutsche Luftfahrt-Werbewoche.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, p. 183.
- DONATI, BENVENUTO. Sulla autonomia del diritto aeronautico.
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 38-41.
- DONNELL, L. H. See Kármán, Theodor von, Ernest E. Sechler, and L. H. Donnell: The strength of thin plates in compression.
- DOOLITTLE, J. See Granville: The World's fastest landplane. Major J. Doolittle's 800 h. p. Pratt and Whitney Wasp engine Granville monoplane described.
- DOOLITTLE, JAMES H.. The new Army fighting grade anti-knock aviation gasoline.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 23, 39.
- See Mockler, Don.: This month's cover. [James H. (Jimmie) Doolittle].
- DOPES. See Tizard, H. T.: The aircraft industry and chemical engineering.
- DORNIER. Considérations sur le Dornier Do X.
L'Aérophile, 40e Année, No. 8 (août 1932), Paris, p. 245.
- The new Dornier "Libelle."
Flight, Vol. 24, No. 41 (1241) (Oct. 6, 1932), London, p. 930, ill.
- The Dornier Do K commercial airplane (German). A high-wing cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 155, Jan. 29, 1932, Washington, January 1932, pp. 5, ills.
- The justification of Herr Dornier. An examination of the performance of the Do. X. seaplane.
Aircraft Engineering, Vol. 4, No. 42 (Aug. 1932), London, pp. 191-192.
- Los talleres "Dornier-Metallbauten" G. m. b. H. "ILA" 1928.
Icaro, Núm. 9, sept. 1928, Madrid, pp. 271-273, ills.
- DORNIER, CLAUDE. The development of the aeroplane.
The Aeroplane, Vol. 42, No. 24 (June 15, 1932), London, p. 1078.

- DORNIER, CLAUDE.** The development of the Do. X. An account of the results of two and a half years' operational experience.
Aircraft Engineering, Vol. 4, No. 42 (Aug. 1932), London, pp. 193-196, *ills., diagrs., tabs.*
- "Uber flugschiffe." Erfahrungen, vergleiche, folgerungen und ausblick.
Die Luftwacht, Heft 6, 7, Juni, Juli 1932, Berlin, pp. 225-232, 278-285, *ills., diagrs.*
- DOUGLAS, C. K. M.** On the relation between temperature and pressure in the troposphere.
Quart. Journ. Roy. Met. Soc., Vol. 58, No. 243 (Jan. 1932), London, pp. 13-16.
- Smoke and visibility.
Quart. Journ. Roy. Met. Soc., Vol. 58, No. 243 (Jan. 1932), London, p. 16.
- DOUGLAS, G. P.** See Hartshorn, A. S., and G. P. Douglas: Wind tunnel experiments on high tip speed airscrews.
- See Hartshorn, A. S., and G. P. Douglas: Wind tunnel tests on high tip speed airscrews. Further experiments on scale effect.
- DOUGLAS plant.** Some beautiful ships from the Douglas plant.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 23-26, *ills.*
- DOUHET, GIULIO.** Il dominio dell'aria; probabili aspetti della guerra futura e gli ultimi scritti del gen. Giulio Douhet; con prefazione di Italo Balbo.
Milano, A. Mondadori, 1932, pp. viii, 430.
- Il dominio dell'aria.
Roma, A. Mondadori, 1932, pp. 426.
- Il domino dell'aria. Probabili aspetti della guerra futura. Con prefazione di Italo Balbo.
Milano-Verona, A. Mondadori edit. tip. 1932, pp. viii, 430.
- La guerre de l'air; préface du général Tulasne; traduit de l'italien par Jean Romeyer.
Paris, Journal "Les Ailes", 1932, pp. 190, *ills. map.*
- See Tulasne, Giuseppe: Une nuovo dottrina di guerra (L'opera del generale Douhet).
- DOWD, R. E.** The Carlson "Big Crate."
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 84-86, *ills.*
- The gross sky ghost, two-place soaring glider of new design.
Aero Digest, Vol. 21, No. 3 (Sept. 1932), New York, pp. 76-77, *ill.*
- The launching of gliders.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, pp. 72-73, *ill.*
- The problem of the ornithopter.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 80-82, *ills.*
- Roche training and soaring glider.
Aero Digest, Vol. 21, No. 1 (July 1932), New York, pp. 80-81, *ills.*
- Soaring and gliding at Elmira.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 26-27, 78, *ill.*
- Tailless airplanes.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, pp. 84-85, 54, *ills.*
- Wall junior engine.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 118-119, *ills.*
- What's wrong with this design?
Aero Digest, Vol. 21, No. 4 (Oct. 1932), New York, pp. 62-63, *ill.*

- DOWSETT, WALTER F.** Some notes on the design of aeroplane control surfaces and control systems.
Journ. Roy. Aer. Soc., Vol. 36, No. 263 (Nov. 1932), London, pp. 563-974.
- DO X.** Do X daheim.
Luftschau, 5. Jahrg., Nr. 11 (10. Juni 1932), pp. 168-169, ill.
- The Do. X returns.
Flight, Vol. 24, No. 22 (1222) (May 27, 1932), London, p. 460, ill.
- See Dornier, Claude: The development of the Do. X. An account of the results of two and a half years' operational experience.
- See England, E. C. Gordon: Do. X.
- See Farkas, Harold M.: The story of the flight of the DO-X from Miami to New York.
- See Magaldi, Giulio: Considerazioni sull'idrovolante gigante "Do" X.
- See Merz, Horst: Mit Do X zweimal über den Atlantik.
- DRAG.** See Abbott, Ira H.: The drag of two streamline bodies as affected by protuberances and appendages.
- See Andrews, W. R.: The estimation of profile drag.
- See Betz, A., und J. Lotz: Verminderung des Auftriebes von Tragflügeln durch den Widerstand.
- See Hem, L. W.: Resistance and interference of large size tires. A study of the parasite drag of parts of the airplane and the use of fenders and fairings.
- See Interference: Interference.
- See Munk, Max Michael: Parasite drag. The twentieth of a series of articles on the principles of aerodynamics.
- See Ower, E.: Interference.
- See Ower, E., and C. T. Hutton: Note on the measurement of the drag of small streamline bodies.
- See Wood, K. D.: Weight reduction versus drag reduction in design.
- DRAG tests.** See Bradfield, F. B., and W. G. A. Perring: The validity of drag tests on a large scale model in a small closed wind tunnel. Drag of one-fifth scale nacelle installed on the supper surface of a monoplane.
- DRAGÓN.** See Rentería, Julio de: Cómo nacieron los motores "Dragon."
- DREIECK.** The Dreieck I tailless airplane (German). A low-wing cantilever monoplane.
 National Advisory Committee for Aeronautics, Aircraft Circulars No. 159, March 26, 1932, Washington, March 1932, pp. 3, ill.
- DRIFT.** See Wackett, L. J.: Drift due to engine torque. Some experiments confirming theoretical view of the importance of the effect on navigation.
- DRIFT recorder.** See Simeon, Giuseppe: Considerazioni sul cinemo-derivometro Gatty.
- DRIGGS-FABER.** See Lighting: Flare illumination. The Driggs-Faber system introduced in Great Britain.
- DROP forging.** See Thain, W. A.: Drop forgings and stampings. The technique of the process explained with a description of the plant used.

- DRYAD.** A geared light aero engine.
Flight, Vol. 24, No. 50 (1250) (Dec. 8, 1932), London, p. 1174, ill.
- DRYDEN, HUGH L., and B. H. MONISH.** The effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages.
National Advisory Committee for Aeronautics, Report No. 437, Oct. 23, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagrs., tabs.
- DRYDEN, HUGH L., FRANCIS D. MURNAGHAN and H. BATEMAN.** Report of the Committee on Hydrodynamics, Division of Physical Sciences National Research Council.
National Academy of Sciences, National Research Council, Bulletin of the National Research Council, No. 84, Feb. 1932, Washington, D. C., 1932, pp. 634, ills.
- DRYDEN, HUGH L.** Turbulence in wind tunnels. A non-mathematical summary of modern views with results of U. S. A. experiments.
Aircraft Engineering, Vol. 4, No. 35 (Jan. 1932), London, pp. 3-6, ills., diagrs., tabl.
- See Mock, W. C., jr., and H. L. Dryden: Improved apparatus for measurement of fluctuations of air speed in turbulent flow.
- DUCHENE, R.** Combustion of gaseous mixtures.
National Advisory Committee for Aeronautics, Technical Memorandums No. 694, Nov. 28, 1932, Washington, November 1932, pp. 20, ills., diagrs., tabs.
- Étude de la combustion des mélanges gazeux.
Paris, E. Blondel La Rougery, 1932, pp. 66, ills., diagrs., tabs.
- DUCCOUT, M. S.** Essai d'un avion de tourisme Potez 36, 95 CV.
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, p. 144, ill.
- Vol d'essai sur le Caudron "Phalène."
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 211, ills.
- Vol d'essai sur le monoplan Farman 234, Salmson 95 CV.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, p. 37, ill.
- Le XIIIe Salon de l'Aéronautique.
L'Aérophile, 40e Année, No. 12 (dec. 1932), Paris, pp. 353-366, ills.
- DUER, ROY JUDSON.** The low-down on high altitude.
Aero Digest, Vol. 21, No. 4 (Oct. 1932), New York, p. 34.
- DUMONT, ALBERTO SANTOS.** Alberto Santos Dumont. Una gran figura que desaparece.
Icaro, Año 5, Núm. 56 (agosto 1932), Madrid, pp. 8-9.
- DUNCAN, W. J.** First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton. Experiments on the buffeting of the tail of a model of a low-wing monoplane, by R. A. Frazer, W. J. Duncan and V. M. Falkner.
Aer. Res. Comm., Rep. Mem. No. 1457 February 1932, London, 1932, pp. 30, ills., diagrs., tabs.
- The torsion and flexure of cylinders and tubes.
Aer. Res. Comm., Rep. Mem. No. 1444, February 1932, London, 1932, pp. 78, ills., tabs.
- The use of models for the determination of critical flutter speeds.
Aer. Res. Comm., Rep. Mem. No. 1425 (Ae. 545), July 1931, London, 1932, pp. 5.
- DUNLAP, DAVID EARLE.** The giant flying wing.
Aero Digest, [Vol. 20, No. 2] (Feb. 1932), New York, pp. 35, 92, ill.
Dunne principle.
- DUNLOP.** Dunlops pneumatiska hjulbromsar.
Flygning, Årg. 10, N:R 10 (Okt. 1932), Stockholm, pp. 171, 180, ill.
- See Brakes: A new pneumatic brake. The Dunlop rudder-bar operated differential wheel brake with special features.

- DUNN, RAY A. Aviation and life insurance; a study of the hazards and mortality in aviation and their relation to life insurance.
New York, Dillon Publishing Company, 1932, pp. 168, tabs.
- DUNNE principle. See Dunlap, David Earle: The giant flying wing.
- DUNWOODY, HALSEY. See 1930: A review of aviation progress. The record of 1930 as seen by Colonel Halsey Dunwoody.
- DUPIN, P., ET M. TEISSIÉ-SOLIER. Mécanique des fluides.—Sur les tourbillons produits par des obstacles de révolution autour d'un axe parallèle à la direction générale de l'écoulement.
C. R. Acad. Sci., T. 195, No. 25 (19 déc. 1932), Paris, pp. 1226-1228, ill.
- DUPIN, P. See Camichel, C., P. Dupin et M. Teissié: Hydrodynamique.—Sur le régime non turbulent au delà du critérium des tourbillons alternés.
- DUPUY, PIERRE. The aeroplane in climbing flight. The Equations of the aeroplane in rectilinear non-horizontal flight.
Aircraft Engineering, Vol. 4, No. 35 (Jan. 1932), London, pp. 7-9, diagrs.
- La fotogrammetria Francese.
L'Aerotecnica, Vol. 12, N. 9 (sett. 1932), Roma, pp. 1204-1216, 1306, ill.
- DURAL. See Nagel, C. F., Jr., and G. O. Hoglund: How to take care of dural.
- DURAL age-hardening. Cold prevention of dural age-hardening.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., p. 38, diagrs.
- DURALUMIN. See Bachmetew, E. T.: Kaltgewalztes duralumin.
- See Dural age-hardening: Cold prevention of dural age-hardening.
- See Gambioli, Mario: Protezione dell'alluminio e duralluminio con rivestimenti elettrolitici di zinco e di cadmio.
- See Handasyde, G. H.: Duralumin and steel construction. Essentially practical methods of production mark the Westland works at Yeovil.
- See Lundquist, Eugene E.: The compressive strength of duralumin columns of equal angle section.
- See Lundquist, Eugene E.: Strength tests on thin-walled duralumin cylinders in torsion.
- See Shoulgin, I. G.: Investigations on the elastic and plastic deformation of the bending duraluminium sheets.
- See Weiss, Stanislaw: Uzupełnienie do artykułu "Połączenia nitowe duraluminjowe" St. Weissa w Sprawozdaniu IBTL Nr. 7.
- DUTCH EAST INDIES. Civil aviation in Dutch East Indies.
Flight, Vol. 24, No. 10 (1210) (March 4, 1932), London, p. 196.
- DUTCH FOKKER COMPANY. See Fokker: Essential points in civil aircraft. The views of the Dutch Fokker Company on the relative importance of various characteristics.
- DWERLKOTTE, L. H. Tracking down maintenance expenses.
Aviation, Vol. 31, No. 6 (June 1932), New York, pp. 257-259, ill.
- DYMENT, JOHN T. Drawing office practice. A plea for a carefully planned organisation on standardised lines.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 233-234, ill.
- DYNAMOMETER. A new aero-engine dynamometer. The new Froude P. type for testing right or left hand engines up to 4,500 h. p.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 184, ill.

DYNAMOS. See Jagoszewski, Konrad: *Badania prądnic lotniczych typu RD 1.*

E

- E. J. J. One hundred horsepower per litre.
Flight, Vol. 24, No. 50 (1250) (Dec. 8, 1932), London, pp. 1172-1173, *ills.*, *diagr.*
- E. M. Ai margini della storia. Il primo atterramento di un velivolo italiano in alta montagna.
Rivista Aeronautica, Anno 8, N. 1 (Gen. 1932), Roma, pp. 147-150.
- EARHART, AMELIA. The fun of it; random records of my own flying and of women in aviation.
New York, Brewer, Warren & Putnam, 1932, pp. 218, *ills.*
- See Putnam, Amelia Earhart.
- See United States Congress. Conference Committees: Amelia Earhart Putnam . . . Conference report. To accompany S. J. Res. 165.
- EASTERN AIR TRANSPORT. E. A. T. operations methods increase efficiency and reduce costs.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 18-20, *ills.*, *diagr.*
- Eastern Air Transport inaugurates Southern passenger service.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 14-16, *ills.*
- From New York to Miami by airline.
Southern Aviation, Vol. 3, No. 5 (Jan. 1932), Atlanta, Ga., pp. 19-20.
- EASTMAN, FRED SCOVILLE. An electromagnetic balance for force measurement or current control.
Seattle, Washington, University of Washington, April 1, 1932, pp. 29, *ills.*, *diagr.* Bulletin University of Washington, Engineering Experiment Station. Engineering Experiment Station Series, Bulletin No. 60.
- EATON, WARREN. A transport pilot's reaction to gliding and soaring.
Nat. Aer. Mag., Vol. 10, No. 7 (July 1932), Washington, pp. 18-19, *ill.*, *port.*
- EBERT, HEINRICH. Über Flugversuche zur Messung der Flugzeugpolare und den Einfluss des Schraubenstrahls auf die c_a - und c_w - Werte.
Jahrbuch 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. II 1-19, *ills.*, *diagr.*, *tabls.*
- EBNER, H. Über Fachwerke mit gekreuzten Diagonalen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. III 63-82, *ills.*, *diagr.*, *tabls.*
- ECHAGÜE, JOSÉ ORTIZ DE. La industria de fabricación de aviones.
Revista de Aeronautica, Año 1, Núm. 2 (Mayo 1932), Madrid, pp. 53-60, *diagr.*
- ECLIPSE. Eclipse automatic supercharger regulator.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., p. 40, *ill.*
- ECLIPSE AVIATION CORPORATION. Eclipse vacuum pump for instruments.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 52.
- ECONOMICS. L'aéronautique économique et financière.
L'Aérophile, 40e Année, No. 1-11 (Jan.-nov. 1932), Paris, pp. 26, 57, 86, 120, 150, 184, 217, 247, 285, 316, 345-346.
- L'état de quelques questions, au 1er janvier 1932.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, pp. 3-4.
- See Costanzi, Giulio: Il problema dell'autotrazione in Italia.
- See Doane, R. R.: Finance. A curtailment of losses.
- See Echagüe, José Ortiz de: La industria de fabricación de aviones.

ECONOMICS. *See Finance.*

- *See* Gasperi, Mario: Studio sui vantaggi economici conseguibili con l'impiego dell'aeroplano commerciale tutt'ala.
- *See* Grey, Charles Grey: The Canadian air estimates.
- *See* Grey, Charles Grey: On the air estimates.
- *See* Lucia, César Gómez: La autonomía económica del tráfico aéreo.
- *See* Putnam, Lawson L., and Franklin D. Myers: Accounting for air carriers.
- *See* Watkins, Myron W.: Air transport rate-making.

EDDY, MYRON F. Radio and its personnel.

Aviation, Vol. 31, No. 5 (May 1932), New York, pp. 223-224.

EDDY system. *See* Stanton, T. E., and Dorothy Marshall: On the eddy system in the wake of flat circular plates in three dimensional flow.

EDUCATION. Traffic via education.

Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 28.

EGOROFF, B. N. Influence of a thick wing on airscrew performance.

U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 134, Moscow, 1932, pp. 36, ills., diagrs., tabs.

EGYPT. Abu Zabal, funkmasten.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 93.

— Abzeichen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 248.

— Kairo-Almaza, Flughafen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13./20. Aug. 1932), Berlin, pp. 227-228.

EIDGENÖSSICHEN TECHNISCHEN HOCHSCHULE IN ZÜRICH. Eine berechnungsgrundlage für die turbulente grenzschicht bei beschleunigter und verzögerter grundströmung. Von der Eidgenössischen Technischen Hochschule in Zürich zur erlangung der Würde eines doktors der technischen wissenschaften genehmigte, Nr. 652 promotionsarbeit vorgelegt von Alfred Buri.

Zürich, Buchdruckerei A.-G. Jean Frey, 1931, pp. 46, ills., diagrs.

EISNER FRANZ, H. REHM und H. SCHUCHMANN. Frequenzanalyse von Flugzeuggeräuschen.

Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 85-95, ills., diagrs.

EISNER, FRANZ. Neue Funkgeräte im Deutschen Luftverkehr.

Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 9 (14. Mai 1932), München und Berlin, pp. 259-266, ills., diagrs., tabs.

Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 41-48, ills., diagrs., tabs.

— *See* Fassbender, Heinrich: Hochfrequenztechnik in der Luftfahrt.

— *See* Wien, Wilhelm Carl Werner Otto Fritz, und F. Harms, unter mitarbeit von H. Lenz: Handbuch der experimentalphysik, Band 4, Hydro- und Aerodynamik, 4. Teil, Rohre, Offene Gerinne, Zähigkeit. Herausgegeben von L. Schiller, F. Eisner, S. Erk.

ELECTRICITY. *See* Brintzinger, Wilhelm, und Bruno Bruckmann: Elektrische Triebwerksausrüstung für Luftfahrzeuge.

— *See* Fassbender, Heinrich: Die Aufgaben der Elektrotechnik in der Luftfahrt.

- ELECTRICITY.** *See* Mioche, R., et R. Monteil: Le matériel électrique utilisé au sol dans l'aéronautique.
- ELIEL, L. T.** Aerial mapping.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 16-19.
- ELLEHAMMER, J. H. C.** *See* Denmark: Besuch beim dänischen Edison.
- ELLENBERGER, I. W.** Airport accounting.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 51, 53. Vol. 7, No. 1 (July 1932), pp. 44, 46, ills.
- ELLERBROCK, HERMAN H., jr.** *See* Schey, Oscar W., and Herman H. Ellerbrock, jr.: Comparative performance of powerplus vane-type supercharger and an N. A. C. A. Roots-type supercharger.
- ELLIOT, H. A.** Air transport development in the Southern States.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 7, port.
- ELLIS, D. L.** *See* Duncan, W. J.: First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton.
- ELLSWORTH, LINCOLN.** Search. Foreword by Gilbert H. Grosvenor.
New York, Brewer, Warren and Putnam, 1932, pp. xxvii, 184, ills.
- ELMIRA.** Soaring to new records at Elmira.
Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 20-23, ills.
- ELOLA, JOSÉ DE.** Extracto de la conferencia pronunciada por el Ingeniero geógrafo D. Enrique Meseguer en el Instituto Geográfico y Catastral, el día 19 de noviembre de 1928, bajo la presidencia del Excmo. Sr. Director general D. José de Elola.
Icaro, Núm. 12, dic. 1928, Madrid, pp. 357-359, ill.
- EMULSIONS (Photographic).** *See* Schmieschek, Ulrich: Über die Einwirkung von Stoffen mit bestimmten chemischen Eigenschaften auf nicht Sensibilisierte, orthochromatische und panchromatische Emulsionen.
- ENDE, W., and M. H. GLOECKNER.** Über einen trägheitlosen Flugzeugkompass. I. Physikalische Grundlagen und Konstruktion. Von W. Ende. II. Erprobung im Flugzeug. Von M. H. Gloeckner.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 20 (28, Oct. 1932), München und Berlin, pp. 603-609, ills., diagrs., tabl.
- ENDŌ, YOSITOSI.** Thomson effect of crystalline substances.
Rep. Aer. Res. Inst., Tōkyō Imperial University, No. 85 (Vol. 7, 4), September 1932, Tōkyō, pp. 115-149, ills., diagrs., tabs.
- ENGINE accessories.** *See* Taylor, W. L.: Aero engine accessories.
- ENGINE torque.** *See* Glauert, H.: Drift due to engine torque. Some reasons for reconsideration of the conclusions arrived at by Wing Commander Wackett.
- ENGINEERING.** Aircraft engineering training.
Flight, Vol. 24, No. 42, 43, 45 (1242, 1243, 1245) (Oct. 13, 20, Nov. 3, 1932), London, pp. 969-970, 993-994, 1035-1036.
- For the training of ground engineers.
Flight, Vol. 24, No. 53 (1253) (Dec. 29, 1932), London, pp. 1229-1230, ill.
- When engineers get together.
Western Flying, Vol. 12, No. 1 (July 1932), Los Angeles, pp. 26-27, ill.
- *See* Grey, Charles Grey: On the engineer fallacy.
- *See* Watter, Michael: Descriptive geometry in structural analysis.

- ENGINES. Construcciones especiales en la fabricación de motores de aviación.**
Icaro, Núm. 1, 2, enero, feb. 1928, Madrid, pp. 22-27, 34-38, ills.
- The cowling of air-cooled engines. A note from Messrs. Boulton and Paul shows the Townend Ring in a favourable light.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 157-158, diagr.
- La evolución de los motores.
Icaro, Núm. 6, 7 y 8, junio-julio-agosto 1928, Madrid, pp. 231-238, ills.
- An interesting aero-engine conversion.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, p. 145, ills.
- Der Kleinflugmotor kommt.
Luftschau, 5 Jahrg., Nr. 6 (24. März 1932), Berlin, p. 83, ill.
- A light-weight radial engine. Some particulars of the 80 h. p. seven cylinder Pobjoy air-cooled radial.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 180, ills.
- Le Moteur S. G. A. Lorraine "Petrel" 500 CV (France).
L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 22, ill., diagr.
- Motore a vapore per aeronautica.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 599-607, ills.
- Progress in engine design. The importance of the user's point of view.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 217-218.
- See Andrews, W. R.: Light aero engine-airscrew combinations.
- See Angle, Glenn D.: Positioning of link rod wrist pins in articulated connecting rods.
- See Argus: Kleinflugmotor Argus AS 16.
- See Armstrong-Siddeley: Armstrong-Siddeley "Leopard IIIA."
- See Armstrong Whitworth: Armstrong Whitworth and Siddeley development during 1931.
- See Banks, F. R.: Fuels for aircraft engines.
- See Behmann, Mario: Motore ad olio pesante a due tempi e doppio effetto.
- See Behmann, Mario: Nuovo motore di piccolo alesaggio per autoveicoli e velivoli (Ad olio pesante, a due tempi e doppio effetto).
- See Blyth, J. D.: The mutual influence of engine and airscrew characteristics.
- See Bonifacio, Ferdinando: Moderni problemi sui motori e propulsori per aviazione.
- See Bosse, Paul: Resonanz-drehschwingungsdämpfer mit werkstoffdämpfung für triebwerke von automobil- und flugzeugmotoren.
- See Bristol: A new "Bristol" engine series.
- See Brooks, C.: Supercharged aero-engines. Notes on rating, testing and altitude controls for ground engineers.
- See Brooks, D. B., and E. A. Garlock: The effect of humidity on engine power at altitude.
- See Brownback, Henry Lowe: Power for light planes.
- See Bruckmann, Bruno: Erfahrungen beim Betrieb von Luftfahrzeugmotoren.

ENGINES. *See* Bulman, G. P.: Engine features from the Paris show.

- *See* Capetti, Antonio: Prospettive della turbina a combustione interna nell'impiego aeronautico.
- *See* Capon, R. S., and G. V. Brooke: The application of dimensional relationships to air compressors, with special reference to the variation of performance with inlet conditions.
- *See* Castagna, Arnaldo: Notizie su motori a nafta per aerei.
- *See* Castleman, Robert Allen: The mechanism of atomization accompanying solid injection.
- *See* Caunter, C. F.: The two-cycle engine.
- *See* Cautley, R. V., and H. S. Mazet: Aero-engine development. A review of the basic trends in design during the past thirty years.
- *See* Champsaur, Norbert: Étude de la qualité antidétonante d'un combustible sur moteur à explosion basée sur les mesures des quantités de chaleur communiquées à l'eau de refroidissement.
- *See* Champsaur, Norbert: Étude sur la transmission de la chaleur à l'eau de refroidissement dans un moteur d'aviation; application à la comparaison des carburants; mesures sur la détonation.
- *See* Chatfield, Charles Hugh, and Charles Fayette Taylor: The airplane and its engine.
- *See* Clothier, W. C.: Carburettor fuel metering characteristics.
- *See* Conqueror: Prestone-cooled "Conqueror" engine completes 500-hour endurance test.
- *See* Conqueror: The supercharged Conqueror. New engine designed to carry 600 rated horse-power of Curtiss Conqueror to 20,000 feet.
- *See* Continental: The "Continental" R. 670 engine.
- *See* Continental: Continental 215 H. P. engine.
- *See* Courtney, Frank T.: How many engines?
- *See* Cyclone: The Cyclone R-1820-F. 700 horsepower Wright radial air-cooled engine approved by Department of Commerce.
- *See* De Havilland: A new De Havilland engine. The 130 horse-power inverted Gipsy Major described and illustrated.
- *See* Dicks, H. B.: Problems connected with high-speed compression-ignition engines.
- *See* Dicksee, C. B.: Some problems connected with high-speed compression-ignition engine development.
- *See* Dicksee, H. B.: Problems connected with high-speed compression-ignition engines, Part II.
- *See* Diesel engines: Diesel engines on Goodyear airship.
- *See* Diesel engines: The Guiberson airplane diesel.
- *See* Diesel engines: The modern Diesel; a review of high speed compression ignition engines for road transport, aircraft and marine work, explaining their action with the aid of diagrams, and descriptions of the various fuel injection systems.

- ENGINES.** *See* Diesel engines: A new Diesel radial engine.
- *See* Dowd, R. E.: Wall junior engine.
 - *See* Dryad: A geared light aero engine.
 - *See* E. J. J.: One hundred horsepower per litre.
 - *See* Farleigh, Minor M.: Principles and problems of aircraft engines.
 - *See* Fearn, E. J.: The critical diameter of the carburettor choke in super-charged engines.
 - *See* Fedden, Anthony: Bristol engine developments. Interesting construction data on the Pegasus and Mercury type of engine.
 - *See* Fuels: Fuels for the Diesel engine.
 - *See* Garroni, Augusto: Come aumentare la potenza massima dei motori ad esplosione per il decollo degli aeromobili.
 - *See* Galalles, Achille George, and E. T. Marsh: Rates for fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines.
 - *See* Gerrish, Harold C., and Fred Voss: Influence of several factors on ignition lag in a compression-ignition engine.
 - *See* Great Britain. Air Ministry: Gas starter systems for aero-engines.
 - *See* Great Britain. Air Ministry: Gipsy aero-engine.
 - *See* Great Britain. Air Ministry: Jupiter VIII F., VIII F.P., XI F. & XI F.P. aero engines.
 - *See* Great Britain. Air Ministry: Kestrel aero-engines . . . Air Ministry, Feb. 1932.
 - *See* Great Britain: British aero engines.
 - *See* Grebel, A.: Moteurs.—Diagramme représentant les phénomènes réels de compression, de combustion et détente dans les moteurs rapides.
 - *See* Guiberson: The Guiberson Diesel engine.
 - *See* Guiberson: Guiberson Diesel motor production plans.
 - *See* Guiberson: Guiberson 185-H. P. Diesel engine.
 - *See* Guiberson: Il motore d'aviazione Diesel Guiberson.
 - *See* Guiberson-Diesel: Der Guiberson-Diesel, ein neuer Amerikanischer ölflugmotor.
 - *See* Handasyde, G. H.: A radial engine for light aircraft. The factory at which the British-built examples of the Salmson engines are produced.
 - *See* Handasyde, G. H.: Gipsy engines in the making. High standard of finish obtained by good design and sound production methods.
 - *See* Hazen, Ronald M.: Development problems of aircraft engines of high specific output.
 - *See* Heldt, Peter Martin: High-speed Diesel engines for automotive, aeronautical, marine, railroad and industrial use, with a chapter on other types of oil engines.
 - *See* Hermes: The new Hermes IV engine.
 - *See* Hirth: Flugmotor Hirth HM 150 und HM 150 U.

ENGINES. *See* Hornet: An injection "Hornet".

— *See* Insley, Robert: The new Continental R-670.

— *See* Izzo, Attilio: Il fenomeno della detonazione dei motori a scoppio e gli antidetonanti.

— *See* Jones, E. T.: Effect of sideslip on the performance of a multi-engined aircraft.

— *See* Judge, Arthur W.: Automobile engines in theory, design, construction, operation, testing and maintenance.

— *See* King, R. O., and H. Moss: Detonation, mineral lubricating oils and blended fuels.

— *See* Kinner: Kinner R-5 engine.

— *See* Kinner: 160 H. P. type R-5 Kinner engine.

— *See* Kobayashi, Akira: Thermodynamical study of internal combustion engines.

— *See* Kozeluh: Le moteur Kozeluh D. F. Tr. L. 5, 46 CV. (Tchecoslovaquie).

— *See* Kreugner, H.: Motores para aviones de altura.

— *See* Kühn, Fritz: Das Verhalten verschiedener Brandschott-Ausführungen bei Einwirkung von Stichflammen.

— *See* Kurtz, Oskar: Konstruktionserfahrunged beim Bau von Luftfahrzeugmotoren.

— *See* Kurtz, Oskar: Der Luftfahrzeugmotorenbau der Gegenwart und seine Beziehungen zum Kraftfahrzeugmotorenbau.

— *See* Kurtz, Oskar: Die Motoren des Europa-Rundflugs 1932.

— *See* Lee, Dana Willis: Experiments on the distribution of fuel in fuel sprays.

— *See* Lehr, G.: Remarques sur l'équilibrage des forces d'inertie dans les moteurs en étoile.

— *See* Levi-Cases, Armando: Una tabella dei rendimenti teorici dei motori ad iniezione diretta, e la sua significazione pel raffronto dei motori aeronautici ad olio pesante.

— *See* Lippiatt, H. C.: It's the motor.

— *See* Lloyd, Arthur G.: Inspection gauges used in aircraft engine production.

— *See* Löhner, Kurt: Die Reibungswiderstände des Flugmotors.

— *See* Lüranbaum, Karl: Praktische Drehschwingungs-Untersuchung von Luftfahrzeug-Triebwerken.

— *See* Lüranbaum, Karl: Torsional vibration of aircraft engines.

— *See* Lycoming: Lycoming model R-680-BA engine.

— *See* McAvoy, William H., Oscar W. Schey and Alfred W. Young: The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines.

— *See* Mardles, E.: Report on the oxidation characteristics of fuel vapours with regard to engine detonation.

- ENGINES. See Marshall, A. H.: Installation of radial air-cooled engines.
- See Meadows, C. C.: The old OX roars on.
- See Menasco: Overhauling Menasco Pirate B-4.
- See Minelli, Carlo: Sulle velocità critiche degli alberi.
- See Moore, C. S., and J. H. Collins, jr.: The effect of clearance distribution on the performance of a compression-ignition engine with precombustion chamber.
- See Moore, C. S., and J. H. Collins, jr.: The effect of connecting-passage diameter on the performance of a compression-ignition engine with a precombustion chamber.
- See Moors, Clarence John: Aircraft engine mechanics manual.
- See Mucklow, G. F.: Experiments with a supercharged single-cylinder unit.
- See Nakanishi, Fujio, Masaharu Itô and Kikuo Kitamura: A new speed indicator for internal combustion engines.
- See Nakanishi, Fujio: On the balancing of two-stroke 12-cylinder engines.
- See Napier: The Napier E. 97 aero engine.
- See Napier: A new light-aeroplane engine. Messrs. Napier inaugurate a new policy with a six-cylinder air-cooled type.
- See Newman, W. J., and H. J. Fenner: The "Meteor Mark I." A new two-stroke aero engine with many novel features.
- See Nutt, Arthur: High temperature liquid-cooled aircraft engines.
- See Ogawa, Seiji: On the balance weight of radial aero-engine.
- See Packard: The Packard Diesel engine. An important series of British patents covering details of the design.
- See Perring, W. G. A.: The cowling of air-cooled engines. A summary of wind tunnel tests of the effect on performance of various types.
- See Perring, W. G. A.: Wind tunnel experiments on the cowling of air-cooled engines.
- See Pettitt-Herriot, J.: The installation of a racing engine. An account of the problems overcome during the preparations for the 1931 Schneider trophy contest.
- See Pobjoy: The Pobjoy "R" engine.
- See Pobjoy: The Pobjoy "R" engine. Improvements in 1933 model.
- See Polson, J. A.: Internal combustion engines.
- See Pratt & Whitney Aircraft Co.: Overhaul manual for Pratt & Whitney engines.
- See Pye, D. R.: The limits of compression ratio in Diesel engines.
- See R-670: The new Continental "R-670" engine.
- See Ranger: Ranger V-770 engines.
- See Renault: Le nouveau moteur Renault 100 CV inversé.
- See Rentería, Julio de: Cómo nacieron los motores "Dragón."

ENGINES. *See* Ricardo, Harry: Schnellaufende Verbrennungsmotoren.

- *See* Robinson, William: Heavy-oil engines of Akroid type; being developments of compression-ignition oil engines, including modern applications to land purposes, marine and airship propulsion, and railway traction.
- *See* Rodger, R.: Engine mounting stresses.
- *See* Rolls-Royce: The Rolls-Royce Condor Diesel. The first details of a compression-ignition type developed by A. R. C. experiments.
- *See* Rothrock, Addison M., and C. D. Waldron: Effect of engine operating conditions on the vaporization of safety fuels.
- *See* Rothrock, Addison M., and C. D. Waldron: Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine.
- *See* Schey, Oscar W.: Scavenging a supercharged fuel-injection engine.
- *See* Schey, Oscar W.: Scavenging a supercharged spark-ignition engine using fuel injection by the use of large valve overlap.
- *See* Schey, Oscar W., and Alfred W. Young: The use of large valve overlap in scavenging a supercharged spark-ignition engine using fuel injection.
- *See* Schliha: Der 36/40 Schliha-zweitakt-flugmotor.
- *See* Schnauffer, Kurt: Combustion velocity of benzine-benzol-air mixtures in high-speed internal-combustion engines.
- *See* Schnauffer, Kurt: Verbrennungsgeschwindigkeiten von Benzin-Benzol-Luftgemischen in raschlaufenden Zündermotoren.
- *See* Schneider: Los motores del último concurso Schneider.
- *See* Schowalter, C. H.: Reviewing the aircraft engines at the show.
- *See* Schubert, A.: Les moteurs Diesel sans compresseur et les moteurs semi-Diesel.
- *See* Serpi, Luigi: Un nuovo freno-ventilatore per motori d'aviazione raffreddati ad aria.
- *See* Siemens: Siemens SH 14 A.
- *See* Spanogle, J. A., and C. S. Moore: Consideration of air flow in combustion chambers of high-speed compression-ignition engines.
- *See* Stamer, Fritz: Segelflugschulung und motorflugschulung.
- *See* Stanavo Chart: Stanavo Chart fits the fuel to the aircraft engine.
- *See* Stieber, W.: Ventilsteuerung mit Ölgestänge.
- *See* Swan, J., and A. W. Morley: Radial engine tested at reduced mixture strength and with variable ignition timing.
- *See* Taylor, C. F.: Bending moments in the master rod of a radial aircraft engine.
- *See* Taylor, Edward S.: Balancing the four-cylinder aircraft engine.
- *See* Taylor, Edward S.: Valve timing of engines having intake pressures higher than exhaust.
- *See* Thompson, James G.: Engine service and maintenance.
- *See* Thompson, James G.: Engines of 1932.

- ENGINES. See Thornycroft, O., and B. C. Carter: Diesel connecting-rod stresses. The effect of rapid rise of cylinder pressure on connecting-rod loading.
- See Tizard, H. T.: The aircraft industry and chemical engineering.
- See Urbach, Egon: Höchstdruckmesser für schnellaufende Verbrennungsmotoren.
- See Vaughan, Guy V.: Fuels and lubricants in relation to engine design.
- See Vickers: Vickers duplex air compressor. It gives pressure up to 200 lb. per sq. inch for engine starting.
- See Wackett, L. J.: Drift due to engine torque. Some experiments confirming theoretical view of the importance of the effect on navigation.
- See Walter: I motori d'aviazione "Walter" a tre cilindri.
- See Wasp: The twin Wasp Junior. Double banked cylinders show Pratt & Whitney in most interesting development in air-cooled field.
- See Webb, L. D.: The Diesels take the air.
- See Webb, L. D.: Pounds per horsepower.
- See Weidinger, Hans: German experiments with chemical cooling of aircraft engines.
- See Weyl, Alfred Richard: Triebwerkanordnungen bei Mehrmotorenflugzeugen.
- See Willgoos, A. V. D.: Pratt and Whitney fuel injection system.
- See Willgoos, A. V. D.: The "Twin Wasp Junior" engine.
- See Windler, Ray: Drag tests of 4 9-scale model engine nacelles with various cowlings.
- See Wright: New Wright cyclone R-1820-F engine.
- See Wright: Wright cyclone R-1820-F engine.
- ENGLAND. Los avoines de carreras ingleses del último año. Icaro, Núm. 4, Abril 1928, Madrid, pp. 115-121, ills.
- No. 1 air defence group. Speedy concentration of squadrons. Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, pp. 752-755.
- La politique. Le budget anglais. L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, pp. 99-100.
- See Grey, Charles Grey: On the air estimates.
- ENGLAND, E. C. GORDON. Do. X. Flight, Vol. 24, No. 29 (1229) (July 15, 1932), London, pp. 667-669, ills.
- ENGLAND, GORDON. Gordon England on gliding. Flight, Vol. 24, No. 11 (1211) (March 11, 1932), London, p. 217.
- ENOCH, O. Zur Brennstofffrage in der Luftfahrt. Luftschau, 5. Jahrg., Nr. 4 (24 Feb. 1932), Berlin, pp. 56-57.
- EPSTEIN, ALBERT. Analysis of landing gear fittings. Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 9-13, ills.
- EQUIPMENT. See Brintzinger, Wilhelm, und Bruno Bruckmann: Elektrische Triebwerksausrüstung für Luftfahrzeuge.
- EREDIA, FILIPPO. Le condizioni anemologiche nella rotta Cagliari-Tunisi. Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 327-338, diagrs., tabs.

- EREDIA, FILIPPO.** Disposizioni per i sondaggi notturni con palloni piloti.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 529-534, ills.
- La riunione della commissione di aerologia della Federazione Aeronautica Internazionale.
L'Aerotecnica, Vol. 12, N. 4 (aprile 1932), Roma, pp. 556-558.
- ERK, S.** See Wien, Wilhelm Carl Werner Otto Fritz, und F. Harms, unter mitarbeit von H. Lenz: Handbuch der experimentalphysik, Band 4, Hydro- und Aerodynamik, 4. Teil, Rohre, Offene Gerinne, Zähigkeit. Herausgegeben von L. Schiller, F. Eisner, S. Erk.
- ERNST BRANDENBURG.** See Piltz: Die Höhenfahrten des Ballones "Ernst Brandenburg" zur Höhenstrahlenmessung.
- ESKILDTSEN, MARTIN PETER.** Fortegnelse over luftfartstekniske udtryk og betegnelser, udgivet paa foranledning af det Kongelige Danske Aeronautiske Selskab.
København, Ekspedition: A. Bang, 1932, pp. 91, ills.
- ESTIMATES.** See France: Vuelo europeo 1925. Presupuesto aéreo para 1928.
- See Germany: Records mundiales. Presupuesto aéreo para 1928.
- See Great Britain: Air estimates.
- See Great Britain: Presupuesto aéreo para 1928-29.
- See Italy: Presupuesto aéreo para 1928.
- See Sassoon, Philip: The air estimates.
- See Spain: Presupuesto de aeronáutica.
- See Spain: Presupuesto Ministerio de la Guerra 1932. Presupuesto Ministerio de Marina. Presupuesto de la Aeronáutica Civil.
- See United States Navy: Over \$30,000,000 for naval aviation in 1932.
- ESTOURNELLES DE CONSTANT, PAUL HENRI BENJAMIN.** A la mémoire de Paul d'Estournelles de Constant, 1852-1924.
La Flèche, Impr. du Journal Fléchois, 1932, pp. 91, ill.
- ETZDORF, MARGA VON.** Marga von Etdorf erzählt.
Die Luftreise, Heft 1, 1. Aug. 1932, Berlin, pp. 14-15, port.
- EUBANK, JOHN A.** Airspace is not the property of surface owners.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 23-24.
- Who owns the air?
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 38, 59.
- EULA, A.** Il laboratorio idrodinamico della Direzione Superiore Studi ed Esperienze del Ministero dell'Aeronautica.
L'Aerotecnica, Vol. 12, N. 4 (aprile 1932), Roma, pp. 447-472, 640, ills., diags.
- EURASIA.** See Walter, Richard: Aus der tätigkeit der Deutsch-Chinesischen luftverkehrsgesellschaft "Eurasia."
- EUROPE.** Air transport. European air transport operations in 1931.
Flight, Vol. 24, No. 23 (1223) (June 3, 1932), London, pp. 495-496, tabl.
- The circuit of Europe.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, p. 747, map.
- Commercial aircraft in Europe. Details of the numbers of operating personnel and aircraft types in use by various companies.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 236-238.

- EUROPE. Kring Europa runt.
 Flygning, Arg. 10, N: R 10 (Okt. 1932), Stockholm, pp. 169-170.
- See Búlow, Conde V.: Les zonas de influencia de las fuerzas aéreas europeas.
- See Commercial aircraft: Commercial aircraft in Europe.
- See Doering, Hermann: Die Neugestaltung des Lufthebelörderungsvertrages in europäischen Luftverkehr.
- See Hoepfner, Gerd von: Der dritte Europarundflug.
- See Hoepfner, Gerd v.: Sinn und Bewertung des Internationalen Europa-Rundfluges.
- See Kurtz, O.: Die Motoren des Europa-Rundfluges 1932.
- See Pleines, Wilhelm: Die Flugzeugmuster des 3. Internationalen Rundfluges 1932.
- See Poss, R.: Betrachtungen über den Europa-Rundflug.
- See Salomon, H. von: Europa-rundflug 1932.
- See Schulz, W. R.: The Europa Rundflug. A review of the machines entered and of the technical aspect of the competition.
- EVANS, STANLEY H. Design of slotted ailerons.
 Aviation, Vol. 31, No. 12 (Dec. 1932), New York, pp. 469-471, ill.
- EVAPORATIVE cooling. See Brown, C. Anderton, and A. W. Morley: Estimation of wing surface area for evaporative cooling.
- EVERETT, G. E. Kansas city airport.
 Aero Digest, Vol. 21, No. 1 (July 1932), New York, pp. 40-41, ill.
- EVERLING, EMIL. Aussprache und Schlusswort zum Aufsatz "Fliegerlatein oder Tatsachen?"
 Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 23 (14. Dez. 1932), München und Berlin, pp. 686-688.
- Eine Erweiterung des fliegerischen Gefühls.
 Forschungen und Fortschritte, 8. Jahrg., Nr. 14 (10. Mai 1932), Berlin, pp. 190-191.
- Das Gleichgewichtsorgan als Wendezeiger.
 Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 12, 20 (24. Juni 28, Okt. 1932), München und Berlin, pp. 342-343, 601.
- EWING, HAMPTON DENMAN. The right of flight.
 New York, Baker, Voorhis & Co., 1932, pp. 28, ill.
- EXETER. A naval occasion. Being an account of a visit paid to H. M. S. "Exeter" of the 2nd Cruiser Squadron, home fleet.
 Flight, Vol. 24, No. 25 (1225) (June 17, 1932), London, pp. 526-529, ill.
- EXHIBITIONS. See Germany: Deutsche Luftsport Ausstellung.
- EXPORTS. See Rogers, Leighton: Aviation exports during 1931.
- EXPOSITIONS. See I L A: "I L A". Exposición internacional de aeronáutica—
 Berlin, octubre de 1928.
- See Paris: De stand en stand a través del XI Salón de Aeronáutica de Paris.
- EXPRESS. See Commercial aeronautics: Luftexpressgut- und flieverkehr.
- EXPRESS service. See Transport: Interline express service inaugurated by seven major airlines.
- EXTRUSION. See Hollyhock, W. S.: Strip manipulation.

F

- FABRIC.** See Schraivogel, Karl: Prüfung von Flugzeug-Bespannstoffen.
 — See Schraivogel, Karl: The testing of airplane fabrics.
- FABRIC sag.** See Ward, Kenneth E.: Characteristics of an airfoil as affected by fabric sag.
- FAEMI, FRANCO.** Il "Fatto nuovo" della guerra nell'aria in uno dei suoi aspetti politici.
 Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 222-233.
- FAGE, A., and H. C. H. TOWNEND.** The distribution of turbulence over the central region of a pipe.
 Aer. Res. Comm., Rep. Mem., No. 1474 (T 3161 B.), June 1932, London, 1932, pp. 6, ills., diagrs.
- FAGE, A.** The drag of circular cylinders and spheres at high values of Reynold's Number.
 Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 172-177, diagrs., tabs.
- FAGE, A., and V. M. FALKNER.** An experimental determination of the intensity of friction on the surface of an aerofoil.
 Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 117-140, ill., diagrs., tabs.
- Further experiments on the flow around a circular cylinder.
 Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 186-198, diagrs., tabs.
- On the relation between heat transfer and surface friction for laminar flow.
 Aer. Res. Comm., Rep. Mem. No. 1408 (Ae. 529), April 1931, London, 1931, pp. 30, ills., diagrs., tabs.
- FAIRBANKS, E. U.** Combined stresses.
 Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 5-6, diagrs.
- FAIRCHILD.** Fairchild "24" cabin airplane.
 Aero Digest, Vol. 20, No. 4 (April 1932), New York, p. 72, ills.
- FAIREY.** Fairey aircraft in Belgium. Squadrons of "Fireflies" and "Foxes."
 Flight, Vol. 24, No. 38 (1236) (Sept. 2, 1932), London, pp. 815-821, ills.
- More Fairey aircraft for Belgium.
 Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, pp. 30-31, ills.
- FAIRINGS.** See Bradfield, F. B., and G. F. Midwood: Wheels, fairings and mudguards.
- FAIRTHORNE, R. A.** Drag of flags.
 Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 887-891, diagrs., tabs.
 Reports and Memoranda No. 1345 (Ae. 477).
- See Bradfield, F. B., and R. A. Fairthorne: Hinge moments of balanced and unbalanced ailerons on R. A. F. 14 wing, to large angles of incidence.
- See Bradfield, F. B., and R. A. Fairthorne: Maximum force on the fin and rudder of a Bristol fighter.
- See Bradfield, F. B., K. W. Clarke, and R. A. Fairthorne: Measurement of maximum lift in closed tunnels of different sizes, and in open jet tunnel.
- FALCO, ARMANDO.** Le comunicazioni radiotelefoniche aeree.
 Rivista Aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 437-449, ills.

- FALKNER, V. M. *See* Duncan, W. J.: First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton. Experiments on the buffeting of the tail of a model of a low-wing monoplane, by R. A. Frazer, W. J. Duncan and V. M. Falkner.
- *See* Fage, A., and V. M. Falkner: An experimental determination of the intensity of friction on the surface of an aerofoil.
- *See* Fage, A., and V. M. Falkner: Further experiments on the flow around a circular cylinder.
- *See* Fage, A., and V. M. Falkner: On the relation between heat transfer and surface friction for laminar flow.
- FARKAS, HAROLD M. How Glenn Curtiss promoted aviation in Miami.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 19-20, port.
- Miami to stage third annual air meet in January.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., pp. 3-4, ills.
- 179 planes entered in Miami all American air races.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 7-10, 41, ills.
- Santo Domingo relief activities of Pan American Airways.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., pp. 11-12, ill.
- The story of the flight of the DO-X from Miami to New York.
Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 3-5, 8, ills.
- Thrilling aircraft demonstrations at the all American air races.
Southern Aviation, Vol. 3, No. 6 (Feb. 1932), Atlanta, Ga., pp. 9-12, ills.
- *See* Sinclair, J. A. B.: The medical requirements for fliers as described in an interview with Harold M. Farkas.
- FARLEIGH, MINOR M. Principles and problems of aircraft engines.
New York, John Wiley and Sons, Inc., London, Chapman and Hall, Ltd., 1931, pp. xi, 277.
- FARMAN. I Farman F 211 e F 212.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 585-589, ills.
- The Farman night bombers 211 and 212 (French). Four-engine high-wing monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 165, July 12, 1932, Washington, July 1932, pp. 6, ills.
- The Farman 250.
Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, pp. 401-402, ills.
- *See* Ducout, M. S.: Vol d'essai sur le monoplan Farman 234, Salmson 95 CV.
- FARREN, W. S. Air flow—with demonstrations on the screen by means of smoke.
Journ. Roy. Aer. Soc., Vol. 36, No. 258 (June 1932), London, pp. 451-472, ills.
- Smoke investigation of air flow. A small wind-tunnel specially built for visual observation with titanium tetrachloride.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, pp. 169-170, ills.
- FASSBENDER, HEINRICH. Die Aufgaben der Elektrotechnik in der Luftfahrt.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 5 (14. März 1932), München und Berlin, pp. 135-144, ills., diagrs., tabs.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 31-40, ills., diagrs., tabs.

- FASSBENDER, HEINRICH.** Hochfrequenztechnik in der Luftfahrt.
Berlin, Verlagsbuchhandlung Julius Springer, 1932, pp. xii, pp. 577, ills.
Im Auftrage der Deutschen Versuchsanstalt für Luftfahrt und unter Mitarbeit von W. Brintzinger, F. Eisner, H. Fassbender, M. H. Gloeckner, P. v. Handel, K. Krüger, G. Kurtbaum, F. W. Petzel, H. Plendl.
- FAURE-FAVIER, LOUISE.** La section féminine de l'Aéro-Club de France.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, pp. 44-45.
- FAVROLLES, ROBERT.** L'avion, sa description—son fonctionnement.
Paris, Bernardin-Béchet, 1932, pp. [32], ills.
- FEARN, E. J.** The critical diameter of the carburettor choke in supercharged engines.
Journ. Roy. Aer. Soc., Vol. 36, No. 257 (May 1932), London, pp. 444-446.
- FÉCHET, JAMES E.** An adequate air force needed.
Aero Digest, [Vol. 20, No. 2] (Feb. 1932), New York, pp. 27, 90, 92.
- Air mail and national defense.
Aero Digest, Vol. 21, No. 1 (July 1932), New York, pp. 31, 78.
- Are pilots professional men or merely aerial chauffeurs?
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 31, 130-131.
- The army air corps.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., pp. 14-15.
- Bombardment aviation.
Aero Digest, Vol. 21, No. 5 (Nov. 1932), New York, pp. 18-19, 44, 111.
- Bombardment aviation in our system of national defense.
Aero Digest, Vol. 21, No. 3 (Sept. 1932), New York, pp. 25, 70.
- Geneva's warning to aviation.
Aero Digest, Vol. 20, No. 6 (June 1932), New York, pp. 23, 87, 111.
- Have we forgotten the World War.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 27, 102.
- Minimum requirements for U. S. Air Force and army aviation.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 27-29, 111s.
- More aircraft carriers needed.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 23, 93, 100.
- Observation and scouting planes of the United States Navy.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, pp. 18-19.
- Our need for organized reserves.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 19, 76.
- Our precarious military policy.
Aero Digest, Vol. 21, No. 4 (Oct. 1932), New York, p. 17.
- FEDDEN, ANTHONY.** Bristol engine developments. Interesting construction data on the Pegasus and Mercury type of engines.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 11-14, 111s.
- FÉDÉRATION AÉRONAUTIQUE INTERNATIONALE.** Congrès de la Fédération Aéronautique Internationale. La Hage, 5-9 septembre 1932.
L'Aérophile, 40e Année, No. 10 (oct. 1932), Paris, p. 297.
- Ergebnisse der Ausserordentlichen FAI-Sitzung in Paris vom 12.-16. Januar 1932.
Luftschau, 5. Jahrg., Nr. 4 (24. Feb. 1932), Berlin, pp. 52-53.
- FAI:s (Fédération Aéronautique Internationale) konferens i Haag den 5-9 sept.
Flying, Årg. 10, N:R 10 (Okt. 1932), Stockholm, pp. 172-173, 180, ports.

- FÉDÉRATION AÉRONAUTIQUE INTERNATIONALE. FAI—Konferenz im Haag 5.—10.9.1932.
Die Luftreise, Heft 3, Okt. 1932, Berlin, pp. 66-67, ill.
- FÉDÉRATION AÉRONAUTIQUE NATIONALE. The Federation Aéronautique Nationale.
Flight, Vol. 24, No. 41 (1241) (Oct. 6, 1932), London, p. 937.
- FEDIAEVSKY, K. Data on aerodynamical design of airships. Part I. Drag of an airship moving at zero incidence.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 151, Moscow, 1932, pp. 40, ill., diagrs.
- FELLOWS, PERRY A. Protection from fire.
Aviation, Vol. 31, No. 5 (May 1932), New York, p. 227.
- FENNER, H. J. See Newman, W. J., and H. J. Fenner: The "Meteor Mark I." A new two-stroke aero engine with many novel features.
- FENTON, G. B. An investigation of range and endurance.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, pp. 918a-918c, 65-67, diagrs.
- FERRARA, FRANCESCO, jr. Il concetto di parte costitutiva, in relazione ai motori degli aeromobili.
Riv. Dir. Aer., N. 3, luglio 1932-X, Roma, pp. 265-283.
- L'Ipoteca mobiliare ed insieme un contributo alla teoria della pubblicità.
Roma, Soc. Ed. ForoIt., 1932, pp. 378.
- FERRARI, CARLÓ. Sul campo aerodinamico attorno a solidi di rivoluzione siluriformi in corrente rettilinea uniforme.
L'Aerotecnica, Vol. 12, N. 1 (gen. 1932), Roma, pp. 3-13, ill.
- FERRERO, FERRUCCIO. Sulla responsabilità della P. A. per danni arrecati da aeromobili militari.
Riv. Dir. Aer., N. 1, gen. 1932-X, Roma, pp. 90-96.
- FERRETTI, PERICLE. Esperienze su cuscinetti ad aghi.
Rivista Aeronautica, Anno 8, N. 10 (ott. 1932), Roma, pp. 47-71.
- FERRO, GUIDO GATTEGNO. Ai margini della storia. L'aeronave dirigibile dell'abate Vincenzo Curzio di Napoli.
Rivista Aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 581-583, ill.
- FERRY. The airspeed "Ferry." 3 de Havilland "Gipsy" engines.
Flight, Vol. 24, No. 16 (1216) (April 15, 1932), London, pp. 317-320, ill.
- FERRY, ERVIN SIDNEY. Applied gyro dynamics, for students, engineers and users of gyroscopic apparatus.
New York, J. Wiley & Sons, inc.; London, Chapman & Hall, ltd., 1932, pp. xiv, 277, ill., diagrs.
- FIAT. Catalogo nomenclatore per velivolo Fiat B. R. 3: motore Fiat A.25. (Ministero dell'aeronautica; direzione generale delle costruzioni e degli approvvigionamenti).
Torino, Aeronautica d'Italia (Quartara), 1932, pp. 315.
Nomenclatore del materiale speciale d'aeronautica; Vol. 3, categ. 1°, fasc. 29.
- FIELD, R. H., and S. J. MURPHY. Aircraft instruments.
The Engineering Journal, Aeronautical Section, Reprint No. 3, Aug. 1932, Montreal, Canada.
- FIER, GIULIO. L'aviazione militare e civile.
Roma, Casa editrice Pinciana, 1932, pp. 155, ill., diagrs., map.
- FIESELER, GERHARD. Fieseler kunstflugzeug F 2 "Tiger."
Die Luftwacht, Heft 6, Juni 1932, Berlin, pp. 233-235, ill.

- FIESELER, GERHARD.** Geflügelte worte; eine plauderei über fliegersprache, kunstflug and flugmotoren . . . mit einem vorwort von Gerd von Hoepfner.
Hamburg, 1932, pp. 48, ills.
- FILTERS.** See Flachsbar, O.: III. Versuchsergebnisse. 15. Widerstand von Seidengazefiltern, Runddraht- und Blechstreifensieben mit quadratischen Maschen.
- FIN.** See Hübner, Walter: Flugmessungen über den Einfluss eines Spaltes zwischen Höhenruder und -flosse auf die statische Stabilität und Steuerbarkeit um die Querachse.
- FINANCE.** Aircraft companies' stocks and shares.
Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, p. 1018.
- See Young, Clarence M.: An industry weathers a storm.
- FINANCIAL.** See Economics: L'aéronautique économique et financière.
- FINANCING.** See Bredouw, H. L.: An analysis of operation costs.
- FINCH, VOLNEY C.** Air speed indicators and blind flying.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 8-10, ills.
- FINDLEY, ROGER S.** The first steam locomotive cost more than a wagon.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 38-39.
- Read these figures and use air mail. How our 8-cent stamp is spent.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 34-35.
- This child is young and rarin' to go.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., pp. 31-33.
- FINLAND.** Sperrgebiete.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, pp. 326-327, map.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 26-27 (2. Juli 1932), Berlin, p. 181.
- FINN, E., and A. E. WOODWARD.** Measurements of accelerations on aircraft during manoeuvres.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 591-595, diagrs. (R. & M. No. 1932 (Ae. 513)).
- FINS.** See Bradfield, F. B., and R. A. Fairthorne: Maximum force on the fin and rudder of a Bristol fighter.
- See Jones, R., and A. H. Bell: Tests on biplane fins on a model of the R. 101 hull.
- See Schey, Oscar W., and Arnold W. Biermann: Heat dissipation from a finned cylinder at different fin plane air-stream angles.
- FIORÉ, AMEDEO.** Il collaudo statico degli elicotteri.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 41-51, ills.
- FIRE.** See Denne, R. A.: The problem of fire in aircraft. An examination of the various chemicals employed and description of special apparatus evolved.
- See Fellows, Perry A.: Protection from fire.
- See Lederer, Jerome: Fire extinguishers.
- See Theodorsen, Theodore, and Ira M. Freeman: Elimination of fire hazard due to back fires.
- FIRE control.** See Denne, R. A.: Aircraft and the fire problem.
- FIRE risk.** See Swan, Andrew, W. Helmore, and W. C. Clothier: Reduction of fire risk by induction pipe flame traps.

- FIRESTONE TIRE & RUBBER COMPANY.** *See* Tires: New airplane tire.
- FISCHER, H. R.** The normal acceleration experienced by aeroplanes flying through vertical air currents. Part I. The calculation of the acceleration experienced by an aeroplane flying through a given gust.
Aer. Res. Comm., Rep. Mem. No. 1463 March 1932, London, 1932, pp. 16, diags., tabs.
- FISCHER, JOHANNES.** Zwischen wolken un granaten.
Berlin, E. S. Mittler & Sohn, 1932, pp. 206.
- FISCHETTI, UGO.** Dottrina ed organizzazione dell'aeronautica di Francia.
Rivista Aeronautica, Anno 8, N. 3. (marzo 1932), Roma, pp. 399-409.
- FISHERIES.** Aerial spotting of fish shoals.
Nature, Vol. 130, No. 3291 (Nov. 26, 1932), London, pp. 806-807.
- FLACHSBART, O.** III. Versuchsergebnisse. 11. Messungen an ebenen und gewölbten Platten.
Ergebnisse des Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 96-100, ill., diags., tabs.
- III. Versuchsergebnisse. 13. Der Widerstand bon Kugeln in der Umgebung der kritischen Reynolds schen Zahl.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 106-108, diags.
- III. Versuchsergebnisse. 15. Widerstand von Seidengazefiltern, Runddraht- und Blechstreifensieben mit quadratischen Maschen.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 112-118, ill., diags., tabs.
- III. Versuchsergebnisse. 19. Windruck auf geschlossene und offene Gebäude.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 128-134, ill.
- III. Versuchsergebnisse. 20. Winddruck auf Gasbehälter.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 134-138, ill., diags., tabs.
- FLAGS.** *See* Fairthorne, R. A.: Drag on flags.
- FLARES.** *See* James, Jimmie: Using a parachute flare.
- *See* Lighting: Flare illumination. The Driggs-Faber system introduced in Great Britain.
- FLEETSTER.** Fleetster model 17-A. Ten place transport utilized in high-speed service between New York and Washington.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 13-14, ill.
- FLETCHER, W. E.** The new air terminal at Oklahoma City.
Southern Aviation, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., pp. 5, 27; ill.
- FLIGHT.** *See* Giacomelli, R.: Flight in nature and in science.
- FLINT, H. K.** Floodlighting the Detroit airport.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, p. 25, ill.
- FLOATS.** Float construction and repair. The process of building a seaplane float described, with hints on replacing damaged parts.
Aircraft Engineering, Vol. 4, No. 44, 45 (Oct. Nov. 1932), London, pp. 247-249, 282-283, 288, ill.
- *See* Hutchinson, J. L.: Effect of float setting on take-off and top speed of the III F.
- *See* Pabst, Wilhelm: Schwimmwerkentwicklung und ihre versuchstechnischen Hilfsmittel.

- FLOATS.** See Sokolow, N. A.: Beitrag zur berechnung der hydrodynamischen eigenschaften von gleitbooten und seeflugzeugen.
- FLOODLIGHTING.** See Heston: The shadow-bar at Heston.
- FLORIDA.** New laws regulating Florida airways.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., p. 20.
- Proposed aviation laws in Florida.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., p. 10.
- FLORISSON, C.** Contribution à l'étude expérimentale du sondage acoustique par échos à bord d'aéronefs bruyants.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 228.
- FLORMAN, CARL.** "Södermanland" till Noorland med 3 prinsar.
Flygning, Årg. 10, N: R 11 o 12 (Nov. Dec. 1932), Stockholm, pp. 191-192, ports.
- FLOW.** See Alayrac, A.: Étude des écoulements irrotationnels dans l'espace à trois dimensions.
- See Crocco, Luigi: Sulla trasmissione-del calore da una lamina piana a un fluido scorrente ad alta velocità.
- See Farren, W. S.: Air flow—with demonstrations on the screen by means of smoke.
- See Farren, W. S.: Smoke investigation of air flow. A small wind-tunnel specially built for visual observation with titanium tetrachloride.
- See Ferrari, Carló: Sul campo aerodinamico attorno a solidi di rivoluzione siluriformi in corrente rettilinea uniforme.
- See Glauert, H., D. M. Hirst, and A. S. Hartshorn: The induced flow through a partially choked pipe with axis along the wind system.
- See Hooker, S. G.: The flow of a compressible fluid in the neighbourhood of the throat of a constriction in a circular wind channel.
- See Krisam, F.: Speed and pressure recording in three-dimensional flow.
- See Krisam, F.: Über die Messung von Geschwindigkeit und Druck in einer dreidimensionalen Strömung.
- See Pascal, Mario: Azioni di correnti fluide tridimensionale a circuitazione superficiale.
- See Poggi, L.: Campo di velocità in una corrente piana di fluido compressibile.
- See Stanton, T. E., and Dorothy Marshall: On the eddy system in the wake of flat circular plates in three dimensional flow.
- See Thom, A.: Arithmetical solution of problems in steady viscous flow.
- See Thom, A.: Experiments on the flow past a rotating cylinder.
- See Townend, H. C. H.: Hot wire and spark shadowgraphs of the air flow through an airscrew.
- See Tremblot, R.: Application des methodes interférentielles à l'étude de l'écoulement des gaz aux grandes vitesses.
- See Wien, Wilhelm Carl Werner Otto Fritz, und F. Harms, unter mitarbeit von H. Lenz: Handbuch der experimentalphysik, Band 4, Hydro-und Aerodynamik, 4. Teil, Rohre, Offene Gerinne, Zähigkeit. Herausgegeben von L. Schiller, F. Eisner, S. Erk.

- Flow.** *See* Wind tunnels: The study of flow phenomena. A special small wind tunnel of high accuracy built in France described.
- *See* Winny, H. F. Graphical solutions for inviscid flow.
- Flow phenomena.** *See* Silla, Lucio: Influenza della compressibilità sui fenomeni aerodinamici.
- FLUID flow.** *See* Crocco, Luigi: Sulla trasmissione del calore da una lamina piana a un fluido scorrente ad alta velocità.
- *See* Pascal, Mario: Azioni di correnti fluide tridimensionali a circuitazione superficiale.
- *See* Poggi, L.: Campo di velocità in una corrente piana di fluido compressibile.
- FLUID force.** *See* Tomotika, Susumu, and Miduho Inanuma: On the moment of the force acting on a flat plate placed in a stream between two parallel walls.
- FLUID motion.** *See* Camichel, Charles: Mécanique des fluides.—Sur les régimes transitoires.
- *See* Dupin, P., et M. Teissié-Solier: Mécanique des fluides.—Sur les tourbillons produits par des obstacles de révolution autour d'un axe parallèle à la direction générale de l'écoulement.
- *See* Fage, A.: The drag of circular cylinders and spheres at high values of Reynold's Number.
- *See* Fage, A., and V. M. Falkner: An experimental determination of the intensity of friction on the surface of an aerofoil.
- *See* Fage, A., and V. M. Falkner: Further experiments on the flow around a circular cylinder.
- *See* Green, J. J.: The breakaway of the boundary layer on a circular cylinder and an aerofoil.
- *See* Riabouchinsky, D.: Mécanique des fluides.—Sur l'analogie hydraulique des mouvements d'un fluide compressible.
- *See* Richardson, E. G.: On the flow of air adjacent to the surface of a rotating cylinder in a stream.
- *See* Rosenblatt, A.: Hydrodynamique.—Sur la stabilité du mouvement général laminaire des fluides visqueux incompressibles.
- *See* Simmons, L. F. G., and N. S. Dewey: Photographic records of flow in the boundary layer.
- *See* Simmons, L. F. G.: Wind tunnel experiments with circular discs.
- *See* Tanner, T.: Movement of smoke in the boundary layer of an aerofoil without and with slot.
- *See* Tanner, T.: The two-dimensional flow of air around an aerofoil of symmetrical section.
- *See* Taylor, G. I.: The flow of air at high speeds past curved surfaces.
- *See* Taylor, G. I.: Some cases of flow of compressible fluids.
- *See* Thom, A.: The pressure on the front generator of a cylinder.
- *See* Thom, A.: The strength and position of the eddies behind a circular cylinder.

- FLUID motion.** See Tomotika, Susumu: The forces on a flat plate placed in a stream of fluid between two parallel walls.
- See Tomotika, Susumu, and Miduho Inanuma: On the moment of the force acting on a flat plate placed in a stream between two parallel walls.
- See Townend, H. C. H.: On rendering airflow visible by means of hot wires.
- See Walker, P. B.: Experiments on the growth of circulation about a wing with a description of an apparatus for measuring fluid motion.
- FLUTERS, JOSÉ CUBILLO.** El vuelo de planeador remolcado.
Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 73-76, ills., diags.
- FLURY, ARTHUR.** Statistik über sämtliche ozeanflugversuche.
St. Gallen, Selbstverlag von A. Flury, 1932, tabs.
- FLUTTER, speeds.** See Duncan, W. J.: The use of models for the determination of critical flutter speeds.
- FOCACETTI, C.** Esperienze sui velivoli con ruote frenate.
L'Aerotecnica, Vol. 12, N. 4 (aprile 1932), Roma, pp. 543-554, ills., diags., tabs.
- FOCH, ADRIEN.** Introduction à la mécanique des fluides.
Paris, A. Colin, 1932, pp. vi, 200 ills., diags. Collection Armand Colin (Section de mathématiques) No. 148.
- FOCKE, HEINRICH.** The Focke-Wulf wind tunnel. A description of a new commercial experimental apparatus installed in Germany.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 219-220, ills.
- Der Windkanal der Focke-Wulf Flugzeugbau A. G.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 11 (14. Juni 1932), München und Berlin, pp. 305-308, ills., diagr.
- FOCKE-WULF.** Die übungsflugzeuge Focke-Wulf L 102 W 102.
Die Luftwacht, Heft 9, Sept. 1932, Berlin, pp. 362-366, ills.
- See Focke, Heinrich: Der Windkanal der Focke-Wulf Flugzeugbau, A. G.
- FÖRSTNER, GUSTAV.** Vereinfachtes Verfahren zur Berechnung der Flugleistungen von Landflugzeugen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin, Adlershof, München und Berlin, [1932], pp. VI 25-29, ills., diags.
- Vereinfachtes Verfahren zur Berechnung der Flugleistungen von Landflugzeugen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 6 (29. März 1932), München und Berlin, pp. 169-173, diags.
- FOG.** Fog landing system experiment by Army.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 49.
- See Kline, Sherman J.: New instrument warns fliers of fog and ice.
- See Nukiyama, Daizō, and Atusi Kobayasi: On the transmissibility of the visible light through a cloud of particles. (Part I)
- See Roder, Hermann: Navegación sin visión de tierra en niebla y sobre nubes.
- See Steeger, C. O.: Aeronáutica y lucha contra la niebla.
- FOKKER.** Descripción de los Fokker F. XXa.
Icaro, Año 5, Núm. 60 (dic. 1932), Madrid, p. 4.
- Essential points in civil aircraft. The views of the Dutch Fokker Company on the relative importance of various characteristics.
Aircraft Engineering, Vol. 4, No. 35 (Jan. 1932), London, pp. 10-12, ills.

- FOKKER.** Fokker de Caza D. XVII.
Icaro, Año 5, Núm. 49 (enero 1932), Madrid, pp. 4-6, ill.
- The Fokker type F.XVIII. A new model for the Holland-Dutch East Indies air route.
Flight, Vol. 24, No. 31 (1231) (July 29, 1932), London, pp. 711-712, ills.
- Fokker F.XVIII.
Icaro, Año 5, Núm. 57 (Sept. 1932), Madrid, pp. 4-8, ills.
- FORBES, ALEXANDER.** Learning to fly.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 63-64.
- FORCE, KENNETH,** Maintenance of an airline.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 30-32.
- FORCE measurements.** See Freeman, Hugh Barton: Force measurements on a 1/40-scale model of the U. S. airship "Akron."
- FORCED landings.** See Bonnalie, Alan F.: If your motor quits.
- FORD.** The big Ford transport.
Aviation, Vol. 31, No. 4 (Apr. 1932), New York, pp. 181-184, ills.
- The new Ford air liner.
Aero Digest, Vol. 20, No. 4 (April 1932), pp. 64-68, ills.
- FORD MOTOR COMPANY.** Parts price list Ford tri-motor airplane. Effective February 1, 1932.
Dearborn, Mich., 1932, pp. 74.
- FOREIGN.** Foreign activities.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 136-139, diagrs., tabs.
- Foreign trade.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 129-130, diagrs., tabs.
- FOREIGN trade.** See Curtis, A. E.: Air transport development and its effect on foreign trade.
- FOREST, A. V. DE** A novel recording strain gauge.
Research Laboratory Record, Vol. 11, No. 2 (Nov. 1932), New York, p. 59, ill.
- FOREST fires.** Flying relief to forest fires.
Nat. Aer. Mag., Vol. 10, No. 4 (April 1932), Washington, pp. 13-15, ills.
- FORGES GEORG.** Akustisches Nahortungsverfahren für Flugzeuge.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 17 (14. Sept. 1932), München und Berlin, pp. 508-510, ills., diagr.
- FORLANINI.** A new Forlanini airship.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 289, ills.
- FORSVARSLIGAEN.** Københavns luftforsvar, udgivet af Forsvarsligaen.
København, A. Christensen, 1932, pp. 31.
- FORT WORTH.** Fort Worth airport is worthy.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 30.
- FOSTER, FRED E.** Some developments we may expect in air transportation.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 8, port.
- FOULOUS, BENJAMIN D.** The Air Corps in 1932.
Western Flying, Vol. 12, No. 12 (6) (Dec. 1932), Los Angeles, p. 21.
- Important needs stressed in General Foulois' annual report.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., p. 18.
- Keeping America first in the air.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, pp. 6-12, ills.

- FOUOIS, BENJAMIN D.** The military plane.
Western Flying, Vol. 12, No. 2 (Aug. 1932), Los Angeles, pp. 12-14, ills.
- FOWLER.** See Weick, Fred E., and Robert C. Platt: Wind-tunnel tests of the Fowler variable-area wing.
- FOX MOTH.** See De Havilland: Il De Havilland 83 "Fox Moth."
— See De Havilland: The D. H. 83 "Fox Moth" commercial airplane (British). A three-passenger light cabin biplane.
- FRADKIN, ELVIRA K.** The air menace and the answer.
New York, The MacMillan Company, pp. 332.
- FRAGALI, MICHELE.** Autonomia e singolarità nel diritto aeronautico.
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 30-37.
— L'elemento psicologico nei reati aeronautici.
Riv. Dir. Aer., N. 4, Dicembre 1932-X, Roma, pp. 449-456.
- FRAMEWORK.** See Ebner, H.: Uber Fachwerke mit gekreuzten Diagonalen.
- FRANCE.** Alprecht, bodensignal.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, p. 70.
— La aviación militar en Francia, 1928.
Icaro, Núm. 6, 7 y 8, junio-julio-agosto 1928, Madrid, pp. 187-189.
— Aviazione da bombardamento.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 361-362.
— Dijon, Flugfunkpeiler.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 28.
— Direction de la sûreté générale. Instruction pratique sur la défense passive contre les attaques aériennes.
Melun, Imprimerie administrative, 1931, pp. 67.
— A French all-metal fighter. The twin-engined multi-seater Bréguet 410 of mixed steel and duralumin construction.
Aircraft Engineer, Vol. 4, No. 39 (May 1932), London, pp. 115-116, ills.
— A French all-metal light plane.
Flight, Vol. 24, No. 43 (1243) (Oct. 20, 1932), London, p. 992.
— French military aeroplane nomenclature.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, p. 87.
— Ministère de l'Air. Atlas aéronautique.
Paris, Blondel La Rougery [1930-1932], 1 vol., maps, plans.
— Ministère de l'Air. Règlement provisoire de manoeuvre de l'aéronautique.
Paris, Charles-Lavauzelle, 1932.
— Mont Afrique, Luftfahrtfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 66.
— A new French night bomber. (Type D. B. 70).
Flight, Vol. 24, No. 9 (1209) (Feb. 26, 1932), London, p. 170, ill.
— The new helium "belt" in France.
Flight, Vol. 24, No. 30 (1230) (July 22, 1932), London, p. 683.
— The observation type in France. The Potez 37R.2 two-seater monoplane with oval tubular rear-end of fuselage.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, p. 87.
— Organización de la aeronáutica marítima francesa.
Icaro, Año 5, Núm. 50, 51 (feb., marzo 1932), Madrid, pp. 4-6, 9-13.

- FRANCE. Paris-Le Bourget-Dugny, Flughafen. Verkehrsregeln für Französisch-Westafrika.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13. 20. Aug. 1932), Berlin, pp. 219-220.
- La politique. Le budget.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, p. 99.
- La politique. Le Cabinet Tardieu et les services officiels de l'aviation.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, p. 67.
- Signale zwischen Luftfahrzeugen und französischen Handelsschiffen.
Paris-Le Bourget, flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, p. 161.
- La situación de la aeronáutica Francesa.
Icaro, Núm. 3, Marzo 1928, Madrid, pp. 54-61, map.
- Sperrgebiete. Marseille-Marignane, seeflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, pp. 91-92.
- Stand der luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 2-11, ill.
- Tours, Flugfernmeldestelle.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 28.
- Utilizzazione rapida della fotografia aerea.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 565-576, ill.
- Verordnung über Luftverkehr in Tunis vom 7. März 1932.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, pp. 192-196.
- Vuelo europeo 1925. Presupuesto aéreo para 1928.
Icaro, Núm. 3, marzo 1928, Madrid, pp. 87-88.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 56.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 214.
- See Blériot: The Blériot 137 military airplane (French). A twin-engine multiplace monoplane.
- See Constantinoff, Jean: Le droit aérien français et étranger; droit interne et droit international.
- See Dupuy, Pierre: La fotogrammetria Francese.
- See Economics: L'état de quelques questions, au 1er janvier 1932.
- See Farman: The Farman night bombers 211 and 212 (French). Four-engine high-wing monoplane.
- See Fischetti, Ugo: Dottrina ed organizzazione dell'aeronautica di Francia.
- See Gastambide, Robert: L'envol. . .
- See Instruction. Francia. Contributo allo studio di un nuovo apparate per l'istruzione, in sala, sul tiro aereo.
- See Latécoère: The Latécoère 501 commercial seaplane (French). A three-engine metal sesquiplane.
- See Légière, Pierre: The Breguet 410 and 411 military airplanes (French). Multiplace sesquiplane fighters.
- See Nieuport-Delage: Nieuport-Delage 590 military airplane (French). A two-place high-wing cantilever monoplane.
- See Schröder, Th.: Französische luftfahrt.

- FRANCE.** See Société Provençale de Constructions Aéronautiques: The S. P. C. A. 30 M.4 military airplane (French). A multiplace low-wing monoplane.
- See Vivent, Jacques, et Étienne Riché: L'organisation générale des aérodromes en France et aux colonies.
- See Wind tunnels: The study of flow phenomena. A special small wind tunnel of high accuracy built in France described.
- FRANCIS, W. E.** See Pippard, A. J. Sutton, and W. E. Francis: The stresses in a radially spoked wire wheel under loads applied to the rim. Part II.— Simplified formulae and curves.
- See Sutton, A. J., Miss M. J. White and W. E. Francis: The stresses in a wire wheel under rim loads. Part I. The stresses in a wire wheel with non-radial spokes under rim loads in the plane of the rim. Part II. The stresses in a wire wheel under side loads on the rim.
- FRANKLIN, BENJAMIN.** See Goodman, Nathan G.: Ingenious Doctor Franklin. Selected scientific letters of Benjamin Franklin.
- FRASER, CHELSEA CURTIS.** Heroes of the air.
New York, Thomas Y. Crowell Company, 1932, pp. xxiii, 648, ills.
- See Maclean, John Kennedy, and Chelsea Fraser: Heroes of the farthest North and farthest South.
- FRAZER, R. A.** See Duncan, W. J.: First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton. Experiments on the buffeting of the tail of a model of a low-wing monoplane, by R. A. Frazer, W. J. Duncan, and V. M. Falkner.
- FREE JETS.** See Betz, A., and E. Petersohn: Application of the theory of free jets.
- FREEMAN, HUGH BARTON.** Force measurements on a 1/40-scale model of the U. S. airship "Akron."
National Advisory Committee for Aeronautics, Report No. 432, Oct. 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diagrs., tabs.
- Measurements of flow in the boundary layer of a 1/40-scale model of the U. S. Airship "Akron."
National Advisory Committee for Aeronautics, Report No. 430, Sept. 30, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diagrs., tabs.
- Pressure-distribution measurements on the hull and fins of a 1/40-scale model of the U. S. Airship "Akron."
National Advisory Committee for Aeronautics, Report No. 443, Nov. 21, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diagrs., tabs.
- FREEMAN, IRA M.** See Theodorsen, Theodore, and Ira M. Freeman: Elimination of fire hazard due to back fires.
- FREEMAN, LEWIS RANSOME.** Afloat and aflight in the Caribbean.
New York, Dodd, Mead and Company, 1932, pp. viii, 456, ills.
- FRENCH, JOSEPH LEWIS.** Conquerors of the sky . . . introduction by Amelia Earhart.
Springfield, Mass., McLoughlin Bros., inc., 1932, pp. 305, ills.
- FRICTION.** See Gruschwitz, Eugen: Über den Ablösungsvorgang in der turbulenten Reibungsschicht.
- See Wieselsberger, C.: Zur theoretischen Behandlung der gegenseitigen Beeinflussung.

- FRICTION** eliminator. *See* Hoffman: New Hoffman development.
- FRIEDENSBURG, WALTER.** 18,000 Kilometer über Urwald und Atlantik. *Junkers W 34 in Venezuela.*
Luftschau, 5. Jahrg., Nr. 5 (10. März 1932), Berlin, pp. 71-72, ill.
- FROELICH, MICHAEL H.** Engineering deductions of a flight around the world.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 24, 39, ill.
- Increasing airline business. Part II—American airways.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 46-48, ill.
- Increasing airline business. Part III—Transcontinental & Western Air, inc.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 21-23, ill.
- FROMY, E.** Déviations radio-goniométriques à bord d'avion.
Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 6, Paris, 1932.
- FUCINI, MARIO.** Un argomento che non invecchia.
Rivista Aeronautica, Anno 8, N. 5 (maggio 1932), Roma, pp. 253-266.
- Difesa aerea o contraerea?
Rivista aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 395-398.
- Ricorsi—storici.
Rivista Aeronautica, Anno 8, N. 6 (giugno 1932), Roma, pp. 517-526.
- Voli sul nemico.
Firenze, R. Bemporad & F., 1932, pp. 211, ill.
- FUEL.** Flying on coal.
The Aeroplane, Vol. 42, No. 24 (June 15, 1932), London, pp. 1080, 1082.
- Fuel economy.
Flight, Vol. 24, No. 6 (1206) (Feb. 5, 1932), London, p. 111.
- Fuel recommendations.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., p. 32.
- Fuels for the Diesel engine.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 8-9, 25, ill.
- *See* Banks, F. R.: Fuels for aircraft engines.
- *See* Blackmore, Thomas L.: Fuel gas and its effect on airship performance.
- *See* Clothier, W. C.: Carburetter fuel metering characteristics.
- *See* Costanzi, Giulio: Il problema dell'autorazione in Italia.
- *See* Enoch, O.: Zur Brennstofffrage in der Luftfahrt.
- *See* Godchot, M., et Mlle. G. Cauquil. E. Carrière et R. Lautié. M. Schmitt: Étude sur les constituants des essences. (1) Contribution à l'étude physico-chimique des carbures cyclaniques, par M. Godchot et Mlle. G. Cauquil. (2) Recherches des constituants des essences d'aviation par mesures de densités ou d'indices de réfraction ou de viscosités, par E. Carrière et R. Lautié. (3) Études comparatives des colonnes à distiller en vue de la séparation des carbures d'hydrogène, par M. Schmitt.
- *See* Haenlein, A.: Disintegration of a liquid jet.
- *See* King, R. O., and H. Moss: Detonation, mineral lubricating oils and blended fuels.
- *See* Lee, Dana Willie: Experiments on the distribution of fuel in fuel sprays.
- *See* Mielnikowa, Bolesawa: Benzol lotniczy w mieszkankach alkoholowo-benzynowych.

FUEL. See Parri, Walter: Detonazione ed antidetonanti.

— See Pratt & Whitney: The Pratt & Whitney fuel injection system.

— See Rothrock, A. M., and C. D. Waldron: Effect of engine operating conditions on the vaporization of safety fuels.

— See Spanogle, J. A.: Compression-ignition engine tests of several fuels.

— See Stanavo Chart: Stanavo Chart fits the fuel to the aircraft engine.

— See Tizard, H. T.: The aircraft industry and chemical engineering.

— See Vaughan, Guy V.: Fuels and lubricants in relation to engine design.

— See Willgoos, A. V. D.: P. & W. fuel injection system.

FUEL injection. Direct injection of fuel.

The Aeroplane, Vol. 42, No. 7 (Feb. 17, 1932), London, pp. 289-290, ills.

— See Gelalles, Achille George, and E. T. Marsh: Rates for fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines.

— See Willgoos, A. V. D.: Pratt and Whitney's new fuel injection system.

FUEL pumps. See Romec: Romec fuel pump.

FUEL sprays. See Lee, Dana Willie: The effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays.

— See Lee, Dana Willie: Experiments on the distribution of fuel in fuel sprays.

— See Lee, Dana Willie, and Robert C. Spencer: Preliminary photomicrographic studies of fuel sprays.

— See Rothrock, Addison M.: The N. A. C. A. apparatus for studying the formation and combustion of fuel sprays and the results from preliminary tests.

— See Rothrock, Addison M.: Preliminary tests on the vaporization of fuel sprays.

FUEL systems. See Curran, E.: Fuel systems in aircraft.

FUEL vapours. See Mardles, E.: Report on the oxidation characteristics of fuel vapours with regard to engine detonation.

FUEL vaporization. See Rothrock, Addison M., and C. D. Waldron: Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine.

FUGO. L'impiego dei mezzi aerei nel conflitto di Shanghai.

Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 516-540, ills.

FUSELAGE. Longitudinal and transverse shearing stress in a monocoque fuselage of constant or variable cross-section.

Air Corps Information Circular, Vol. 7, No. 675 (June 30, 1932), Washington, pp. 2, ill.
Air Corps Technical Report No. 3525.

— See Davies, H.: Torsion calculations for a rear fuselage with two or more "unknowns."

— See Larson, A. E.: Autogiro development. Improvement in performance obtained through the use of streamlined cabin type fuselage.

— See Nelson, William: The monocoque fuselage.

FUTURUM. See Kirchner, V.: Das schwanzlose Segelflugzeug "Futurum."

G

- GABRIELLI, G. Sul comportamento dei tubi sottili in dural assoggettati a flessione e sulle loro applicazioni nella costruzione degli aeromobili.
L'Aerotecnica, Vol. 12, N. 12 (dic. 1932), Roma, pp. 1594-1605, 1700, ill., diags.
- GALANTE, NICOLÒ. Circa la possibilità di un più ampio sviluppo nell'uso della proiezione gnomonica per il tracciamento dell'ortodromia.
L'Aerotecnica, Vol. 12, N. 6 (giugno 1932), Roma, pp. 889-896, 969, ill.
- Nota sul calcolo grafico della velocità economica di un aeroplano tenendo conto del vento.
L'Aerotecnica, Vol. 12, N. 12 (dic. 1932), Roma, pp. 1606-1612, 1700, diags.
- GALLO, G., E D. CORBI. Protezione delle leghe di alluminio con cromo elettrolitico.
L'Aerotecnica, Vol. 12, N. 9 (sett. 1932), Roma, pp. 1145-1174, 1305, ill.
- GALLOWAY, R. B. Manufacturing light planes.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 17-18, ill.
- GALOYER, RAYMOND. Les artistes de l'air.
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 203.
- GALTIER, J. Considérations sur les avions de grand raid.
L'Aérophile, 40e Année, No. 10 (oct. 1932), Paris, pp. 299-309, ill., diags.
- GAMBA, P. See Conti, G., e P. Gamba: Due sondaggi dell'atmosfera a mezzo di un aeroplano.
- GAMBIOLI, MARIO. Protezione dell'alluminio e duralluminio con rivestimenti elettrolitici di zinco e di cadmio.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 314-320.
- GARDNER, GRANDISON. Wing tip vortices observed in flight.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 7, 26, ill.
- GARDNER, IRVINE C. The optical requirements of airplane mapping.
Bureau of Standards, Journal of Research, Vol. 8, No. 4 (April 1932), Washington, pp. 445-455, diags.
- GARGES, J. P. D. High speed expectations in the Seversky Sev-3. Novel construction features make newest product interesting development.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 21-22, 33, ill.
- See Bowman, R. G., and J. P. D. Garges: The effect of slipstream on longitudinal stability.
- GARLAND, E. R. Aviation's insurance problem.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 11-12, 41, port.
- GARLOCK, E. A. See Brooks, D. B., and E. A. Garlock: The effect of humidity on engine power at altitude.
- GARNER, H. M. Porpoising tests on a model of a flying boat hull.
Aer. Res. Comm., Rep. Mem., No. 1492 (T. 3233), March 1932, London, 1932, pp. 12, ill., diag., tabs.
- GARNER, JAMES W. International regulation of air warfare.
Air Law Review, Vol. 3, No. 2, 3 (April, July 1932), New York, pp. 103-126, 309-323.
- GARNETT, DAVID. A rabbit in the air; notes from a diary kept while learning to handle an aeroplane.
London, Chatto & Windus, 1932, pp. ix, 117, ill.
- GARRONI, AUGUSTO. Come aumentare la potenza massima dei motori ad esplosione per il decollo degli aeromobili.
Rivista Aeronautica, Anno 8, N. 10 (ott. 1932), Roma, pp. 39-46.

- GARROS, ROLAND.** *See* Beaubois, Henry: Le bulletin du "Roland Garros." Groupement d'aviation privée de l'Aéro-Club de France, Numéro 9-12.
- GARUFFA, ERGIDIO.** *Aviazione moderna.*
Torino, Unione Tipografica Editrice Torinese, pp. 572.
- GAS starter systems.** *See* Great Britain. Air Ministry: Gas starter systems for aero-engines.
- GAS warfare.** *See* Izard, L., J. des Cilleuls, et R. Kermarrec: La guerre aéro-chimique et les populations civiles; étude historique, clinique, thérapeutique et préventive.
- GASES,** *See* Capetti, A.: L'accensione e la combustione delle miscele di gas e vapori combustibili.
- *See* Duchene, R.: Combustion of gaseous mixtures.
- *See* Duchène, R.: Étude de la combustion des mélanges gazeux.
- *See* Parisot, Jacques, et A. Ardisson: La protection contre le danger aéro-chimique; rôle des infirmières, secouristes et assistantes du devoir national; éléments d'instruction à leur fournir; préface du médecin-général inspecteur Sieur.
- *See* Rocard, Y.: L'hydrodynamique et la théorie cinétique des gaz.
- *See* Stackelberg, S. de: Fléau aérien; la guerre aéro-chimique et la défense anti-aérienne.
- *See* Stevens, F. W.: The gaseous explosive reaction at constant pressure—further data on the effect of inert gases.
- GASOLINE.** *See* Doolittle, James H.: The new Army fighting grade anti-knock aviation gasoline.
- *See* Layte, Ralph R.: Increased safety through gas filtration.
- GASPERI, MARIO.** *L'aeroplano d'alta quota.*
Rivista Aeronautica, Anno 8, N. 4 (aprile 1932), Roma, pp. 56-67, diags.
- Studio sui vantaggi economici conseguibili con l'impiego dell'aeroplano commerciale tutt'ala.
L'Aerotecnica, Vol. 12, N. 1 (Gen. 1932), Roma, pp. 14-33, ills., diags., tabl.
- GASTAMBIDE, ROBERT.** *L'envol . . .*
[Paris], Gallimard, [1932], pp. 219, Les Documents Bleus. [2. sér.] Notre temps, No. 39.
- GATES, S. B.** The determination of the moments of inertia of aeroplanes.
Aer. Res. Comm., Rep. Mem. No. 1415 (Ae. 536), March 1931, London, 1932, pp. 8, ills., diagr.
- The effect of centrifugal force on the controls in a spin.
Aer. Res. Comm., Rep. Mem. No. 1416 (Ae. 537), May 1931, London, 1932, pp. 3, tabl.
- GATES, S. B., and D. M. HIRST.** Some features of the earlier Pterodactyl design.
Aer. Res. Comm., Rep. Mem. No. 1423 (Ae. 544), June 1931, London, 1932, pp. 8, diags.
- GATES, S. B.** *See* Batson, A. S., H. B. Irving, and S. B. Gates: Spinning experiments on a single seater fighter.
- GATTY.** *Gatty's navigation instrument.*
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 57-58, ills.
- *See* Simeon Giuseppe: Considerazioni sul cinemo-derivometro Gatty.
- GATTY, HAROLD.** *Aerial navigation—methods and equipment.*
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 128, ill.

- GAUGES.** See Lloyd, Arthur G.: Inspection gauges used in aircraft engine production.
- GAVINO, VIRGILIO.** La rigenerazione delle candele di accensione.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 61-74, ills.
- GAYLER, L. V., and G. D. PRESTON.** Age-hardening of aluminum alloys.
Aer. Res. Comm., Rep. Mem. No. 1431, May 1931, London.
- GAZLEY, RICHARD C.** Splicing aircraft cable.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 24-28, ills.
- GEDDES, NORMAN BEL.** Horizons.
Boston, Little, Brown, and Company, 1932, pp. xix, 293, ills., diags.
- GEIGER, ROY S.** The Marines take wing.
Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 6-12, ills.
- GELALLES, ACHILLE GEORGE, and E. T. MARSH.** Rates of fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines.
National Advisory Committee for Aeronautics, Report No. 433, Oct. 10, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diags.
- GENERATOR SHAFTS.** See Handel, Paul von: Stabile und labile Schwingungen eines Zweikreis-Röhrengenerators bei überkritischer Kopplung.
- GENEVA.** See Balbo, Italo: Genfer abrüstung.
— See Fechet, James E.: Geneva's warning to aviation.
- GENEVA.** Air Commission. Report to the General Commission, called for by that Commission's resolution dated April 22nd 1932 (document Conf. D./C. G. 28 (2)). Rapporteur: M. Boheman (Sweden).
[Geneva] 1932, pp. 14. (Conf. D. 123. <Conf. D./C. A. 34 (1)>)
- GENEVA.** Bureau. Report submitted to the Bureau on the question of air forces, in compliance with the decision taken on September 26th 1932 Rapporteur: M. de Madariaga (Spain).
[Geneva], 1932, pp. 2. (Conf. D. 141. <Conf. D./Bureau 23>)
- GEORGIA.** Aerial photography for Georgia highway department. Contract let for mapping Georgia-Louisiana tract.
Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., p. 4, ill.
- GEORGIA SCHOOL OF TECHNOLOGY.** See Knight, Montgomery: The Guggenheim School of Aeronautics at Georgia School of Technology.
- GEORGI, WALTER.** Ergebnisse des 12. Rhön-Segelflug-Wettbewerbes 1931.
Zeitschr. Flug. Motorluftsch., 23. Jahrg., Nr. 4, 5 (29. Feb., 14. März 1932), München und Berlin, pp. 97-102, 125-132, maps., diags.
- Twelfth Rhön soaring contest, 1931.
National Advisory Committee for Aeronautics, Technical Memorandums No. 671, May 21, 1932, Washington, May 1932, pp. 15, maps, diags., tabs.
- Veröffentlichungen des Forschungsinstitutes der Rhön-Rossitten-Gesellschaft E. V. Nr. 5: Jahrbuch 1930 und Abhandlungen.
München, Verlag R. Oldenbourg, 1932, pp. 101, ills.
- Vuelo a vela.
Icaro, Año 5, Núm. 58 (Oct. 1932), Madrid, pp. 5-7, ills.
- GEPPERT, JOHN W.** Questions and answers on aerial navigation.
Southern Aviation, Vol. 3, No. 1-4 (Sept.-Déc. 1931), Atlanta, Ga., pp. 9-10, 11-12, 5-7, 11, 5-7, ills.
- Questions and answers on aerial navigation.
Southern Aviation, Vol. 3, Nos. 6, 9, 12 (Feb., May, Aug. 1932), Atlanta, Ga., pp. 15-16, 11-12, 29, 10-12, ill., map. Vol. 4, Nos. 1-3 (Sept.-Nov. 1932), pp. 11-12, 13-14, 11-12, 29, ills.

GERARD, I. J. Mechanical tests of aircraft structural components.

Flight, Vol. 24, No. 8 (1208) (Feb. 19, 1932), London, pp. 157-158, ills.

Journ. Roy. Aer. Soc., Vol. 36, No. 261 (Sept. 1932), London, pp. 673-703, ills., diags.

— A method of testing the strength and stiffness of a large wing.

Aer. Res. Comm., Rep. Mem. No. 1462 January 1932, London, 1932, pp. 5, ills.

— The testing of aircraft components.

The Aeroplane, Vol. 42, No. 8 (Feb. 24, 1932), London, p. 329.

GERMANY. Abkommen. Vereinbarung über Luftverkehr zwischen Deutschland und den Vereinigten Staaten von Amerika. Wetterdienst. Funkdienst. Flugsicherungsdienst, Aenderung des Fernmeldeverkehrsplanes. Weser-Seeflughafen. Hirschberg, flughafen. Freiburg i. B., flughafen. Trebbin i. M., Segelfluggelände. Flugentfernungen. Reichsluftkursbuch. Genehmigung zum Luftverkehr.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, pp. 153-158.

— Das amtliche Flughandbuch für das Deutsche Reich.
Berlin.

— Berlin-Johannisthal, flughafen. Breslau, flughafen. Nürnberg Fürth, flughafen. Hannover, flughafen. Notlandplätze. Luftfahrtfeuer und hilfsländplätze. Harvesse, luftfahrtfeuer. Stolp, schiessübungen. Wolfhagen, schiessübungen. Flugentfernungen. Übersicht über die Deutsche Luftfahrt. Genehmigung. Erlöschen einer genehmigung.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, pp. 89-90.

— Berlin-Tempelhof, flughafen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 33, map.

— Berlin-Tempelhof, flughafen. Dortmund, flughafen. Braunschweig, flughafen. Wilhelmshaven, Wasserflughafen. Zentralstelle für Flugsicherung, Aufgaben. Luftfahrtfeuer. Lindenbert. Kieler Bucht, schiessübungen. Kolberg, schiessübungen. Wangerooge, schiessübungen. Betriebstüchtigkeitsklärung.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 16 (16. April 1932), Berlin, pp. 109-110.

— Berlin-Tempelhof, Flughafen. Flugzeugführerschein. Wiesbaden Mainz' Flughafen: Verkehrsgesellschaften: Fernsprechan schlüsse: Höhenmarken a. d. Karte vom März 1932: Rollfeldgrenzen a. d. Luftbildschrägaufnahme. Reichsluftkursbuch. Lufttüchtigkeitsklärungen. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen—. Flugentfernungen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 51-52 (24. Dez. 1932), Berlin, pp. 337-340.

— Berlin-Tempelhof, Flughafen. Görlitz, Flughafen. Wiesbaden Mainz' Flughafen. Wilhelmshaven, Wasserflughafen. Flensburg, Flughafen. Wetzlar, Notlandeplatz. Luftfahrtfeuer. Flugzeuge, Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen —. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen —. Kunstflug in niedriger Höhe. Kieler Bucht, Schiessübungen. Blindflugzeuge, Erkennungszeichen. Wetterdienst, Winter 1932/33. Weihnachtsluftverkehr. Funkabstimmprüfung der Deutschen Reichspost. Fernmeldeverkehrsplan, Aenderungs des —s. Genehmigungsurkunde.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Nov. 1932), Berlin, pp. 313-319.

— Berlin-Tempelhof, Flughafen. Königsberg, Flughafen. Karlsruhe' Flughafen. Kolberg, Schiessübungen. Pillau, Schiessübungen. Borkum' Schiessübungen. Meppen, Schiessversuche auf dem Kruppschen Versuchsplatz. Norddeich, Ozeanfunkwetterberichte. Reichsluftkursbuch. Genehmigung eines Luftfahrtunternehmens.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13./20. Aug. 1932), Berlin, pp. 217-218.

- GERMANY. Bremerhaven, Flughafen. Helgoland, Wasserflughafen. Grafenwöhr, Schiessübungen. Anschnallgurte. Haftpflichtversicherung. Ungültigkeitserklärung eines Zulassungsscheins. Privattelegramme, Druckfehlerberichtigung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 38-39 (24. Sept. 1932), p. 260.
- Convenio general de navegación aérea con Alemania.
Icaro, Num. 1, enero 1928, Madrid, pp. 48-52.
- Die Deutsche flugzeug-unfallstatistik bis 1930.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 134-138.
- Deutsche Luftsport Ausstellung.
Flygning, Årg. 10, N:R 10 (Okt. 1932), Stockholm, pp. 168-169, 174-175, ill.
- Deutschland. Heilbronn, privat-landeplatz. Lindenberg, warnung vor dem ueberfliegen des Aeronautischen Observatoriums. Luftfahrtfeuer. Neuhof, schiessübungen. Swinemünde, schiessübungen. Wetterdienst. Ungültigkeitserklärung. Ungültigkeitserklärung eines zulassungsscheins. Normen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, pp. 69-70.
- Deutschland im Weltluftverkehr.
Berlin, Herausgegeben von der Deutschen Weltwirtschaftlichen Gesellschaft, pp. 102.
Sonderheft der Zeitschrift Weltwirtschaftlichen Gesellschaft, Heft 4 vom April 1932.
- Deutschlands Kampf gegen eine neue Knebelung seiner Zivilluftfahrt. Die Rede des Ministerialdirektors Brandenburg in Genf.
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, pp. 199-200.
- Düsseldorf, Flughafen. Gera, Flugsicherung. Trier, Rundfunksender. Königsberg, Wetterdienst. Wetterdienst. Seewetterbericht. Deutschlandsender Königswusterhausen. Lufttüchtigkeitserklärungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 325.
- Entwicklungsmöglichkeiten des deutschen luftpostverkehrs.
Die Luftreise, Heft 1, 1. Aug. 1932, Berlin, p. 18, ill.
- Erster weltflug einer Deutschen besatzung mit eimen Deutschen flugzeug.
Die Luftwacht, Heft 12, Dez. 1932, Berlin, pp. 509-512, ill., map.
- Erfurt, Flughafen. Wilhemshaven, Schiessübungen. Wangerooge, Ballon- und Drachenaufstiege. Cuxhaven, Schiessübungen. Swine, Schiessübungen. Hoher Hagen, Luftfahrtfeuer. Reichsluftkursbuch. Flugpläne. Flugsicherungsdienst. Ungültigkeitserklärung eines Eintragungs- und Zulassungsscheins.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 35 (27. Aug. 1932), Berlin, pp. 229-231.
- Fernmeldeverkehrsplan. Erfurt, flughafen. Mannheim, flughafen. Rendsburg, nachtlandeplatz Westerland a. Sylt, flughafen. Wetterdienst. Demmin, schiessübungen. Post. Uebersicht über die deutsche Luftfahrt.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 14-15 (9. April 1932), Berlin, pp. 97-98.
- Fliegen bei böigem oder unsichtigem Wetter. Deutscher Flugsicherungsdienst. Freiberg i. Brsg., Flughafen. Plaven, Flughafen. Zerbst, Notlandeplatz. Frankenberg i. Sa., Notlandeplatz. Krefeld, Fesselballoon. Kieler Bucht, Schiessübungen. Hohe Rhön, Schiessübungen. Sennelager, Schiessübungen. Privattelegramme von Verkehrsflugzeugen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 43 (22. Okt. 1932), Berlin, pp. 285-289.

GERMANY. Flugpläne für den Frühjahrsluftverkehr 1932. I. Deutsche Luft Hansa A. G. II. Deutsche Verkehrsflug A. G. Goslar, flughafen. Bayrischzell, schiessübungen. Tölz, schiessübungen. Grafenwöhr, schiessübungen. Ungültigkeitserklärung. Flugzeuge, Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragen— Flugzeugführer, Verzeichnis der in Deutschland zugelassenen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, pp. 61-66.

— Flugpläne für den Sommer- und Herbstluftverkehr 1932. I. Deutsche Luft Hansa A. G. II. Deutsche Verkehrsflug A. G. Stolp, schiessübungen. Kolberg, schiessübungen. Greiz, privatlandeplatz. Dresden, flughafen. Mannheim, flughafen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 17-18 (30. April 1932), Berlin, pp. 117-128.

— Flugpläne für den Winterluftverkehr 1932/33. I. Deutsche Luft Hansa A. G. II. Deutsche Verkehrsflug A. G. Luftfahrtfeuer. Dessau, Flughafen. Frottmaninger Heide, Schiessübungen. Wetterdienst, Winter 1932/33. Flughandbuch für das Deutsche Reich. Genehmigung eines Luftfahrtunternehmens. Post.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 44 (29. Okt. 1932), Berlin, pp. 293-300.

— Flugzeugführer, verzeichnis der in Deutschland zugelassenen—

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 22-23.

— Frankfurt Main, Flughafen. Friedrichshafen, Flughafen. Würzburg, Flughafen. Steutz a. d. Elbe. Kolberg, Schiessübungen. Reichsluftkursbuch. Wochenendluftverkehr Hannover—Goslar—Wernigerode. Kinder. Sportflüge, Abgabe von Startmeldungen. Flugentfernungen. Genehmigung eines Luftfahrtunternehmens. Zurückziehung von Genehmigungen. Funkverkehrsbezirke.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 24-25 (18. Juni 1932), Berlin, pp. 165-167, 170-171, map.

— Freiburg i. Brsg., Flughafen. Weser-Seeflughafen. Wetterdienst. Kolberg, Schiessübungen. Reichsluftkursbuch.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 42 (15. Okt. 1932), Berlin, p. 277.

— Gebührenordnung. Breslau, flughafen. Freiburg i. Brsg., flughafen. Reichsluftkursbuch. Königsberg i. Pr., schiessübungen. Luftfahrtfeuer. Post. Luftpost im Sommer 1932. Flugzeugführer, verzeichnis der in Deutschland zugelassenen—

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 21 (21. Mai 1932), Berlin, pp. 145-149.

— German air show as viewed by an American.

U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 16-18, ills.

— A German light aeroplane. The Heinkel H. E. 64 low-wing monoplane. Designed for the Europa Rundflug.

Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 227, ills.

— Germany to Chicago by flying boat.

Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, p. 390.

— Gleiwitz, Flughafen. Stralsund, Flughafen. Wasserflughäfen, Wiedereinbetriebnahme. Wilhelmshaven, Drachenaufstiege. Ostsee, Schiessübungen. Pillau, Schiessübungen. Reichsluftkursbuch. Wetterdienst. Norddeich. Ozeanfunktetterberichte. Luftfahrtfeuer. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen—. Luftfahrtfeuer. Funkzeugnis 2. Klasse.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, pp. 185-191, map.

- GERMANY. Haftpflichtversicherung der Luftfahrzeughalter. Auslandsflüge, Bezahlung von Telegrammkosten. Berlin-Staaken, flug- und luftschiffhafen. Wetterdienst, sommer 1932. Flugzeugführer, verzeichnis der in Deutschland zugelassenen- Flugzeuge verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen-. Notlandeplätze. Nachweisung über die deutschen— Vorlesungen über Luftfahrt. Sommersemester 1932. Normen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 19 (7. Mai 1932), Berlin, pp. 123-135.
- Hannover, flughafen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 34.
- La industria aeronáutica en Alemania. Icaro, Núm. 3, marzo 1928, Madrid, pp. 79-81, ill.
- Lachen-Speierdorf, Notlandeplatz. Schwerin, Schiessübungen. Kolberg, Schiessübungen. Ungültigkeitserklärung. Helder, Schiessübungen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 6 (6. Feb. 1932), Berlin, p. 41.
- Leipzig, fesselballon. Nachrichten für luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 35.
- Lighting German airports. Germany's requirements for lighting its airports found just as strict as ours. Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 52-53, ill., diagrs.
- Luftfahrtfeuer. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 35.
- Das luftfahrtprüfwesen in Deutschland. Die Luftwacht, Heft 8, Aug. 1932, Berlin, ff. 317-320.
- Luftschiffsbesatzung, verzeichnis der in Deutschland zugelassenen— Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, pp. 23-27.
- Neisse, flughafen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, pp. 34-35.
- A new German airship. Flight, Vol. 24, No. 34 (1234) (Aug. 19, 1932), London, p. 788, ill.
- Nürnberg Fürth, flughafen. Warnemünde, privatflughafen. Torgau, Notlandplatz. Kolberg, schiessübungen. Cuxhaven, schiessübungen. Lüben, schiessübung. Klasseneinteilung. Genehmigung eines Luftfahrtunternehmens. Bauvorschriften. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 12 (19. März 1932), Berlin, pp. 81-83.
- Records mundiales. Presupuesto aéreo para 1928. Icaro, Núm. 3, marzo 1928, Madrid, pp. 83-87.
- Reichsluftkursbuch. Buchholz (Mecklenburg-Schwerin), Schiessübungen. Wilhelmshaven, Schiessübungen. Kiel, Schiessübungen. Sennelager, Truppenübungsplatz, Schiessübungen. Mühlhausen, Notlandeplatz.. Hamburg, Flughafen. Luftfahrzeugbau. Marburg (Reg.-Bez. Kassel), Schiessübungen. Zurückziehung einer Genehmigung. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 26-27 (2. Juli 1932), Berlin, pp. 177-180.
- Schneekufen. Stuttgart-Untertürkheim, Notlandeplatz. Vechta i. o., Flughafen II. Ordnung. Halle Leipzig, Flugbodenfunk- und Peilstelle. Pillau, Schiessübungen. Deutscher Flugsicherungsdienst. Fernmeldeverkehrsplan, gültig ab 2. Oktober 1932. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen—Luftgahrtreuer. Lindenberg, Warnung vor dem Ueberfliegen des Aeronautischen Observatoriums —. Reichsluftkursbuch, Ausgabe 21. Nachrichten für Luftgahrer, 13. Jahrg., Nr. 40 (1. Okt. 1932), Berlin, pp. 261-267.

GERMANY. Schiessübungen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 35.

- Statistik des deutschen Luftverkehrs im Kalenderjahr 1931. A. Statistik des deutschen Fluglinienverkehrs 1931. B. Unfallstatistik des deutschen Fluglinienverkehrs im Kalenderjahr 1931. C. Statistik. D. Flughafen-Statistik 1931. E. Funkstatistik.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 38-39, 40, 41, 42, 43 (24. Sept., 1. 8. 15. 22. Okt. 1932), Berlin, pp. 249-260, 264, 270-272, 278-284, 290-291.

- Tiavemünde. Ueberfliegen des Ostseebades. Wittenberg, Gefahrzone. Frankenberg i. Sa., Notlandeplatz. Hamburg, Flughafen. Fernmeldeverkehrsplan, Aenderung. Luftfahrtfeuer. Flugzeuge Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen—.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 30-31 (30. Juli 1932), Berlin, pp. 197-201.

- Unbefügter Gebrauch von Kraftfahrzeugen. Berlin-Tempelhof, Flughafen. Hamburg, Flughafen. Magdeburg, Flughafen. Leipzig Mockau, Flughafen. Fernmeldeverkehrsplan. Ungültigkeitserklärungen. Flugzeuge, Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen—.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 45-46 (5. Nov. 1932), Berlin, pp. 301-305.

- Ueberfliegen von Menschenansammlungen. Vereinbarung zwischen dem Deutschen Reich und Oesterreich über die gewerbmässige Beförderung von Personen und Gütern im Luftverkehr und die gegenseitige Anerkennung von Luftfahrerscheinen. Privattelegramme von Verkehrsflugzeugen. Flugwetterdienst. Gr. Feldberg, Luftfahrtfeuer. Luftfahrtfeuer. Flugzeugführer, Verzeichnis der in Deutschland zugelassenen —. Stuttgart-Böblingen, Flughafen. Bielefeld, Hilfslandeplatz. Garz, Notlandeplatz. Swinemünde, Luftschutzübung. Bülk, Leuchtturm, Schiessübungen. Stoller Grund, Schiessübungen. Norddeich, Ozeanfunktweerberichte. Reichsluftkursbuch. Aerzliche, Sachverständige. Genehmigung eines Luftfahrtunternehmens. Ungültigkeit einer Genehmigung.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, pp. 237-243.

- Uebersicht über die deutsche Luftfahrt nach dem Stande Ende 1931.

Nachrichten für Luftfahrer, 13. Jahrg. Nr. 1-2 (9. Jan. 1932), Berlin, pp. 1-20.

- Wetzlar, Notlandeplatz. Luftfahrtfeuer, Berlin-Hannover. Wettermeldungen, Wellenänderung von—. Flugzeugfunkanlagen, Ausweise für—. Normung auf der Leipziger Messe. Flugzeuge-Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen—. Deutscher Flugsicherungsdienst Fernmeldeverkehrsplan, gültig ab 1. März 1932.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, pp. 49-55.

- Winderschleppflüge. Hamburg, Flughafen. Erfurt, Flughafen. Hirschberg, Flughafen. Leobschütz, Notlandeplatz. Beelitz, Luftverkehr über der Kurzwellenempfangs station. Funkverkehrsbezirke. Wangerooze, Schiessübungen, Ballon- und Drachenaufstiege. Wangerooze, Flughafen. Grafenwöhr, Schiessübungen. Genehmigung eines Luftfahrtunternehmens. Zurückziehung einer Genehmigung. Post. Flugzeuge Verzeichnis der in die deutsche Luftfahrzeugrolle eingetragenen —.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, pp. 209-213.

- Zentralstelle für Flugsicherung, Telegrammanschrift. Erfurt, Flughafen. Luftfahrtfeuer. Zwickau, Flughafen. Wilhelmshaven, Schiessübungen und Drachenaufstiege. Genehmigung eines Unternehmens. Zurückziehung einer Genehmigung.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 41 (8. Okt. 1932), Berlin, p. 269.

- GERMANY. See Heinze, Edwin P. A.: German Air Union's two standard planes for home construction.
- See Heinze, Edwin P. A.: German transport airplanes. (Part VI) Rohrbach.
- See Heinze, Edwin P. A.: German transport airplanes (Part VII concluded) Rohrbach.
- See Heinze, Edwin P. A.: Increasing the speed range. German plane with variable wing area and profile.
- See Roethig: Deutscher Luftfahrtskalender 1932.
- See Sachsenberg, Gotthard: Die deutsche luftfahrt-wirtschaft als gesamtproblem.
- See Schulz, W. R.: The German aero show. A review of the aircraft at the D. E. L. A. exhibition with notes on the trends in design.
- See United States. Treaties: Air navigation. Arrangement between the United States of America and Germany. Effected by exchange of notes signed May 27, 30, and 31, 1932. Effective June 1, 1932.
- See Vigilant: German war-birds.
- See Weese, Wolfgang: 5 Jahre Deutsche Luftfahrt G. m. b. H.
- See Weidinger, Hans: German experiments with chemical cooling of aircraft engines.
- See Weitzmann, Ludwig: Flugzeug-Unfallstatistik 1930.
- See Weitzmann, Ludwig: German aircraft accident statistics, 1930.
- See Wrongsy, Martin: Tráfico aéreo Alemán.
- GERRISH, HAROLD C., and FRED VOSS. Influence of several factors on ignition lag in a compression-ignition engine.
National Advisory Committee for Aeronautics, Technical Notes No. 434, Nov. 8, 1932, Washington, November 1932, pp. 8, ills. diags.
- GIACOMMELLI, R. Flight in nature and in science.
Journ. Roy. Aer. Soc., Vol. 36, No. 259 (July 1932), London, pp. 578-597.
- The largest landplane. The Italian Caproni 90 P. B. bomber with six Isotta-Fraschini engines described.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 182, ills.
- GIANNINI, AMEDEO. L'assistenza agli aeromobili in pericolo.
Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 279-293.
- Il cabotaggio aereo.
Rivista Aeronautica, Anno 8, N. 11 (nov. 1932), Roma, pp. 276-291.
- I primi tentativi di regolamento della guerra aerea.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 169-173.
- Il regime doganale del traffico aereo.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 102-115.
- Saggi di diritto aeronautico.
Milano, Società editrice "Vita e Pensiero", 1932, pp. viii, 362. Pubblicazioni della Università Cattolica del Sacro Cuore, Ser. 2: Scienze Giuridiche, Vol. XXXVI.
- Sulla garanzia da parte dell'esercente pei danni causati ai terzi nella navigazione aerea.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 68-74.

- GIBLETT, M. A. Structure of wind over level country.
Geophysical Memoir, No. 54, London, H. M. Stationery Office, pp. 119, ills. Reviewed by
A. H. R. G. Nature, Vol. 130, No. 3277 (Aug. 20, 1932), London, pp. 265-266. Superintendent
of the Airship Division of the Meteorological Office.
- GIGLI, ALBERTO. Esposizione intuitiva del funzionamento dell'elica aerea.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 87-101, ills.
- GIMNICH, ALFREDO. Condiciones previas del tráfico aéreo transoceánico.
Icaro, Núm 1, 2, enero, feb. 1928, Madrid, pp. 11-12, 15-23.
- GIOVINE, VITTORIO. Guerra aerea o guerra terrestre?
Rivista Aeronautica, Anno 8, N. 4 aprile 1932), Roma, pp. 1-20.
- See Monti, Edoardo, e Vittorio Giovine: Guerra aerea o guerra terrestre?
(Polemica aeronautica).
- GIPSY engines. See Great Britian. Air Ministry: Gipsy aero-engine.
— See Handasyde, G. H.: Gipsy engines in the making. High standard
of finish obtained by good design and sound production methods.
- GIRERD, HENRY. Mécanique des fluides.—Mesure des caractéristiques aérodynamiques
d'une aile sustentatrice en courant plan.
C. R. Acad. Sci., T. 195, No. 18 (2 nov. 1932), Paris, pp. 731-733.
- GISART, HEINZ. Funkrecht im luftverkehr.
Königsberg Pr. u. Berlin, Ost-Europa-Verlag, 1932, pp. iv, 177.
- GISCI, GIOVANNI. La legittimazione dell'aeromobile alla navigazione aerea;
prefazione del Prof. Antonio Ambrosini; presentazione di Guido Mattioli.
Roma, Editrice "L'Aviazione", 1932, pp. xiv, 174. Biblioteca della Rivista di Diritto
Aeronautica. Fuori serie.
- GIULIANO, ENRIQUES. Lo spazio atmosferico nel diritto internazionale.
Padova, Cedam, 1931, pp. 182.
- GLASS. See Abraham, Martin: Prüfung von Sicherheitsglas.
- GLAUERT, H. Airscrews for high speed aeroplanes.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 287-304,
diags., tabs.
- Drift due to engine torque. Some reasons for reconsideration of the
conclusions arrived at by Wing Commander Wackett.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 176.
- GLAUERT, H., D. M. HIRST, and A. S. HARTSHORN. The induced flow through a
partially choked pipe with a xis along the wind system.
Aer. Res. Comm., Rep. Mem. No. 1469, March 1932, London, 1932, pp. 15, ills., diags.,
tabs.
- GLAUERT, H. The interference on the characteristics of an airfoil in a wind
tunnel of circular section.
Aer. Res. Comm., Rep. Mem. No. 1453, December 1931, London, 1932, pp. 12.
- The interference on the characteristics of an aerofoil in a wind tunnel of
rectangular section.
Aer. Res. Comm., Rep. Mem. No. 1459, February 1932, London, 1932, pp. 7, diagr., tabs.
- Wind tunnel, interference on aerofoils.
Aer. Res. Comm., Rep. Mem., No. 1470 (T. 3249), April 1932, London, 1932, pp. 11, ills.,
diags.
- GLENDINNING, W. G. An investigation of a possible cause of aircraft fires on
crash.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 485-503,
diags., tabs.
- GLENN CURTISS AIRPORT. Glenn Curtiss Airport.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, p. 30, ill.

GLIDERS. The roly-poly glider.

Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 120, 122, ills.

GLIDERS. See Bartocci, Enzo, e Guido Mattioli: L'ala silanziosa. Prefazione di Guido Mattioli.

— See Bonomi, Vittorio, e Camillo Silva: Il volo a vela; teoria, pratica del volo e della costruzione degli apparecchi, illustrata da tavole contenenti i disegni costruttivi di un apparecchio scuola.

— See Coffin, Harold: The greatest glider flight.

— See Haanen, Karl Theodor: Ein segelflieger: Robert Kronfeld.

— See Jacobs, Hans: Schwanzlose segelflugmodelle und raketenflug modelle; bauanleitung für leicht und Schnell zu bauende modelle in verschiedener grösse.

— See Jacobs, Hans: Segelflugzeug. Anleitung zum selbstbau.

— See Jacobs, Hans: Werkstattpraxis für den Bau von Gleit- und Segelflugzeugen.

— See Lindner, Fred V.: Der Segelflug.

— See Sablier, G.: Plans et construction d'un planeur d'entrainement.

GLIDING. Training glider pilots.

Western Flying, Vol. 11, No. 6 (June, 1932), Los. Angeles, pp. 12-13.

— See Bonomi, Vittorio, e Camillo Silva: Il volo a vela.

— See Dowd, R. E.: The launching of gliders.

— See Dowd, R. E.: Soaring and gliding at Elmira.

— See Eaton, Warren: A transport pilot's reaction to gliding and soaring.

— See England, Gordon: Gordon England on gliding.

— See Haller, Augustine C.: Notes on gliding.

— See Haller, Gus: Gliding.

— See Howard-Flanders, Leonard, and C. F. Carr: Gliding and motorless flight.

— See Hüber, Walter, und Wilhelm Pleines: Das DVL-Gleitwinkelsteuer (Bauart W. Hübner). Aerodynamische Grundlagen der Vorrichtung; Flugmessungen mit einer Ausführungsform.

— See Jarlaud: Les commandes différentielles d'ailerons pour les planeurs.

— See Kronfeld, Robert: Kronfeld on gliding and soaring.

— See Lawrence, Arthur L.: The future of gliding by auto tow.

— See Meloon, Walt: New ideas in gliding.

— See Scud: The Scud II. A high efficiency sailplane especially suitable for groups of "C" licensed glider pilots who wish to possess their own sailplane.

— See Soaring.

— See Stamer, Fritz: Segelflugschulung und motorflugschulung.

— See Ysenburg, Graf: Rhön-segelflugwettbewerb 1932.

— See Zinnecker, Bruno: Segelfliegen; vorschläge für die einrichtung von segelfluggruppen.

- GLOECKNER, M. HEINRICH. Methods for facilitating the blind landing of airplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 687, Oct. 6, 1932, Washington, October 1932, pp. 23, ill.
- Verfahren zur Erleichterung von Blindlandungen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 12 (24. Juni 1932), München und Berlin, pp. 347-355, ill., diagrs. Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin, Adlershof, München und Berlin, [1932], pp. VII 49-57, ill., diagrs.
- See Fassbender, Heinrich: Hochfrequenztechnik in Luftfahrt.
- GLOSTER. La hélice graduable Gloster Hele-Shaw Beacham.
Icaro, Núm. 3, marzo 1928, Madrid, pp. 65-66, ill.
- GLOSTER AIRCRAFT COMPANY. See Handasyde, G. H.: Strip-steel wing construction. The Gloster Aircraft Company's works at Brockworth visited and described.
- GLOVER, W. IRVING. Costs of air mail operations.
Western Flying, Vol. 12, No. 1 (July 1932), Los Angeles, pp. 16-17.
- The air mail.
Nat. Aer. Mag., Vol. 10, No. 7 (July 1932), Washington, p. 5.
- GLUES. See Bocharoff, N. F.: Casein glues.
- GNOMONIC PROJECTION. See Galante, Nicolò: Circa la possibilità di un più ampio sviluppo nell'uso della proiezione gnomonica per il tracciamento dell'ortodromia.
- GODCHOT, M., ET MLE. G. CAUQUIL. E. CARRIÈRE ET R. LAUTIÉ. M. SCHMITT. Études sur les constituants des essences. (1) Contribution à l'étude physico-chimique des carbures cyclaniques, par M. Godehot et Mlle. G. Cauquil. (2) Recherches des constituants des essences d'aviation par mesures de densités ou d'indices de réfraction ou de viscosités, par E. Carrière et R. Lautié. (3) Études comparatives des colonnes à distiller en vue de la séparation des carbures d'hydrogène, par M. Schmitt.
Publ. Scient. Techn. Min. Air. Serv. Rech. Aér., No. 7, Paris, 1932.
- GOEFFERICH, WILLY. Der Selbstbau eines Modellluftschiffes (Zeppelin).
Berlin-Charlottenburg, Verlag C. J. E. Volkman Nachf. G. m. b. H., 1932, pp. 24, ill.
- GOLDSTEIN'S THEORY. See Lock, C. N. H.: The application of Goldstein's theory to the practical design of airscrews.
- GOODFELLOW, ALAN. The aircraft owner always pays.
Flight, Vol. 24, No. 49, 51 (1249, 1251) (Dec. 1, 15, 1932), London, p. 1146, 1194.
- GOODMAN, NATHAN G. Ingenious Doctor Franklin. Selected scientific letters of Benjamin Franklin.
Philadelphia, Pa., University of Pennsylvania.
- GOODYEAR. Goodyear good cheer.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 9-10.
- GORDON-BENNETT. See Settle, T. G. W.: Winning the Gordon-Bennett cup.
- GORRELL, EDGAR S. Colonel Gorrell prophesies after flying for eighteen years. Former chief of staff air service, A. E. F., uses commercial air lines constantly as president of the Stutz Motor Car Company.
• U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 16-20, port.
- Why riding boots sometimes irritate an aviator's feet.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 24-30.

- GORSKY, V. P. Untersuchung über den einfluss des rumpfes und der tragfläche auf horizontale schwanzflächen des flugzeuges.
UdSSR Die Hauptverwaltung der Flugzeugindustrie. Werke des Zentralen Aero-hydrodynamischen Instituts, Lieferung 131, Moskau, Leningrad, 1932, pp. 55, ills., diagrs.
- GOTTINGEN. See Prandtl, Ludwig, und A. Betz: Ergebnisse der Aerodynamischen Versuchsanstalt zu Gottingen. Vol. IV, 1932.
- See Prandtl, L., und A. Betz: Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen (angegliedert dem Kaiser Wilhelm-Institut für Strömungsforschung). IV. Lieferung.
- GOUGH, H. J., and D. G. SOPWITH. The behaviour of a single crystal of aluminium under alternating torsional stresses while immersed in a slow stream of tap-water.
Aer. Res. Comm., Rep. Mem. No. 1433 September 1930, London, 1932, pp. 30, ills., diagrs., tabs.
- GOUGH, H. J., and H. L. COX. The behaviour of single crystals of bismuth subjected to alternating torsional stresses.
Aer. Res. Comm., Rep. Mem. No. 1432 December 1930, London, 1932, pp. 25, ills., diagrs.
- The mode of deformation of a single crystal of silver.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 821-833, ills., diagrs., tabs. Reports and Memoranda No. 1385, (M. 70).
- GOUGH, MELVIN N., and ERNEST JOHNSON. Methods of visually determining the air flow around airplanes.
National Advisory Committee for Aeronautics, Technical Notes No. 425, July 26, 1932, Washington, July 1932, pp. 8, ills.
- GOUGH, H. J., and D. G. SOPWITH. Relative temperatures of brass when subjected to reversed direct stresses in vacuo and in air.
Aer. Res. Comm., Rep. Mem., No. 1482 (E. F. 317), June 1932, London, 1932, pp. 4, diagrs.
- GRADY, J. J. See Adams, L., W.: The aerial adventures of Colonel Grady.
- GRAF ZEPPELIN. The Graf Zeppelin at Hanworth.
The Aeroplane, Vol. 43, No. 1 (July 6, 1932), London, pp. 12, 14, 16.
- Graf Zeppelin-Kalender 1933.
Stuttgart, Verlag W. Speman, 1932.
- Photogrammetrie equipment of the Graf Zeppelin.
The Geographical Journal, Vol. 80, No. 5 (Nov. 1932), London, pp. 462-463.
- Visit of the "Graf Zeppelin" to England.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, p. 624, ill.
- See Sonntag, Albert: Mit Graf Zeppelin und Kondor-flugzeugen Europa-Brasilien! Eine reisebeschreibung.
- GRAFFIGNY, H. DE. See Marquis, Raoul. Graffigny, H. De [pseud]: L'exploration de la haute atmosphere et de l'espace interplanetaire.
- GRAHAM, R. A. Safety devices in wings of birds.
Journ. Roy. Aer. Soc., Vol. 36, No. 253 (Jan. 1932), London, 24-58, ills.
- GRAHAM, R. R. Slots in the wings of birds.
Journ. Roy. Aer. Sec., Vol. 36, No. 259 (July 1932), London, pp. 598-600, ill.
- GRAHAME, DOUGLAS. The planes of this Mexican air line travel 4,000 miles a day.
southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 10-11, 14, ills.
- GRANADA. Fiesta de aviación en Granada.
Icaro, Año 5, Núm. 55 (julio 1932), Madrid, pp. 6-7.

- GRANVILLE.** The World's fastest landplane. Major J. Doolittle's 800 h. p. Pratt and Whitney Wasp engined Granville monoplane described.
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, pp. 285-286, ills., diagr.
- GRARD.** L'unification et les produits standards dans la mobilisation industrielle de l'aéronautique.
Paris, Gauthier-Villars, 1932.
- GRAZDANSKAIA aviatsiia.** Gravnoe upravlenie grazhdanskogo vozdušnogo flota pri D. N. K. U. S. S. R. 1931— Moscow, 1931— Monthly 1931— (Civil aviation. Published by Main Administration of civil air fleet, 'attached to Council of Peoples' commissar of U. S. S. R.) Nos: 1-42.
- GREAT BRITAIN.** Accessories.
Flight, Vol. 24, No. 48 (1248) (Nov. 24, 1932), London, pp. 1121-1132, ills.
- Air estimates.
Flight, Vol. 24, No. 11 (1211) (March 11, 1932), London, pp. 213-217.
- Air ministry restrictions.
Flight, Vol. 24, No. 45, 47 (1245, 1247) (Nov. 3, 17, 1932), London, pp. 1033-1034, 1086.
- Bristol-Whitchurch, flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-22 (12. März 1932), Berlin, p. 70.
- British aero engines.
Flight, Vol. 24, No. 48 (1248) (Nov. 24, 1932), London, pp. 1113-1120, ills.
- British aircraft at the Paris aero show.
Flight, Vol. 24, No. 47 (1247) (Nov. 17, 1932), London, pp. 1064-1083, ills.
- A British full-scale wind tunnel.
Flight, Vol. 24, No. 18 (1218) (April 29, 1932), London, p. 372, ill.
- British standard specifications. An up-to-date list of all the standards laid down for aircraft materials and components.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, p. 71.
- Convention between His Majesty, in respect of the United Kingdom, and the federal President of the Republic of Austria respecting air navigation. Vienna, July 16, 1932. (This convention has not been ratified by His Majesty) . . .
London, His Majesty's Stationery Office, 1932, pp. 15. Cmd. 4166.
Foreign Office, Austria No. 1, 1932.
- Convention between His Majesty, in respect of the United Kingdom, and the President of the Hellenic Republic respecting air transport services. Athens, April 17, 1931. (Ratifications exchanged at Athens, April 16, 1932.)
London, His Majesty's Stationery Office, 1932, pp. 31. Foreign Office. Treaty Series, No. 15, 1932. Cmd. 4085.
- The employment of air forces with the army in the field. 1932.
London, H. M. Stationery Office, [printed by W. Clowes & Sons, Ltd.,] 1932, pp. vi, 93, ills.
- Flughäfen. London-Croydon, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13. 20. Aug. 1932), Berlin, pp. 218-219.
- Gefahrzonen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 244.
- Hindernislichter.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 43 (22. Okt. 1932), Berlin, p. 292.
- Hongkong, Luftverkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 41 (8. Okt. 1932), Berlin, p. 274.
- London-Croydon, flughafen. Kingston-upon-Hull, Drachenaufstiege.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 326.

- GREAT BRITAIN. London-Croydon, flughafen. Themse, Hochspannungsleitungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, p. 161.
- London-Croydon, flughafen. Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, pp. 55-56.
- Lympne, flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 27.
- Malta, Sperrgebiet.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 214.
- Nachtflugübungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9, 14-15 (27. Feb., 9. April 1932), Berlin, pp. 66, 98.
- Presupuesto aéreo para 1928-29.
Icaro, Núm. 4, abril 1928, Madrid, pp. 125-126.
- Report from the Select Committee on Sky-writing together with the proceedings of the Committee, Minutes of evidence, appendices and index.
London, His Majesty's Stationery Office, 1932, pp. xxx, 213. Parliament 1932. H. of C. Reports and papers 95.
- Stand der lufrüstungen ende 1931.
Die luftwacht, Heft 1, Jan. 1932, Berlin, pp. 11-13.
- Studi e ricerche in Gran Bretagna.
L'Aerotecnica, Vol. 12, N. 11 (Nov. 1932), Roma, pp. 1491-1513, ills.
- Unterseeboote, Warnung vor—.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, p. 196.
- Verkehrsvorschriften für den kontinentalluftverkehr. London-Croydon, flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, pp. 90-91.
- Zollvorschriften. Zollflughafen. Hochspannungsleitungen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 26-27 (2. Juli 1932), Berlin, pp. 180-181.
- See Armstrong-Whitworth: Armstrong-Whitworth A. W. XV "Atalanta" airplane (British). A commercial multiplace cantilever monoplane.
- See Athens: British aircraft at the Athens Aero Exhibition.
- See Avro: The Avro 631 training airplane (British). A two-seat light biplane.
- See Burge, C. G.: The air annual of the British Empire 1931/32. III.
- See Butcher, Harold: England's great airway to India:
- See De Havilland: The D. H. 83 "Fox Moth" commercial airplane (British). A three-passenger light cabin biplane.
- See Meteorology: The A. A. weather reports.
- See Sassoon, Philip: The air estimates.
- See Sims, C. A.: British aviation illustrated, with references to international aviation.
- See Somerhough, Anthony George: A guide to air force law procedure, from minor offences to court-martial.
- See Spartan: Spartan "Cruiser" commercial airplane (British). A six-seat low-wing cantilever monoplane.
- See Sprigg, T. Stanhope, and A. J. Thompson: Who's who in British aviation, 1932.

- GREAT BRITAIN. *See* Stieger: The Stieger St. 4 light airplane (British). A twin-engine four-seat low-wing cabin monoplane.
- *See* Supermarine: Supplement to the Supermarine S. 6. B. racing seaplane (British). A low-wing twin-float monoplane.
- GREAT BRITAIN. AIR MINISTRY. Air Ministry official notices. Instructions to aircraft owners and ground engineers regarding essential modifications.
Aircraft Engineering, Vol. 4, Nos. 35, 36, 39, 43, 44 (Jan. Feb. May, Sept. Oct. 1932), London, pp. 27, 53, 130, 239-240, 265-266.
- Airworthiness handbook for civil aircraft. [Another issue].
London, His Majesty's Stationery Office, 1932. Air Publication 1208.
- The Bulldog IIA aeroplane Jupiter VIII F or VII F. P engine . . .
London, His Majesty's Stationery Office, 1932. Air publication 1393. Vol. 1, 2nd ed., May 1932.
- Camera aircraft type F. 24.
London, His Majesty's Stationery Office, 1932, pp. 43, illus., diagrs. 1st edition, Nov. 1931. Air Publication 1403.
- Gas starter systems for aero-engines.
London, His Majesty's Stationery Office, 1932, pp. 80, illus., diagrs. 2nd edition April 1932. Air Publication 1181.
- Gipsy aero-engine . . . Vol. 1, 1st ed., July 1931.
London, His Majesty's Stationery Office, 1932, pp. 64, illus., diagrs. Air publication 1420.
- Great British flights: 1918 to 1931 . . . Press section, Air Ministry. 25th January, 1932.
London, 1932, 24 numbers. Mimeographed.
- Index to D. T. D. specifications. Oct. 1931.
London, 1931, pp. 2.
- Index to D. T. D. specifications. April 1931.
London, 1931, pp. 2.
- Jupiter VIII F., VIII F. P., XIF. & XIF. P. aero engines.
London, His Majesty's Stationery Office, 1932, pp. 236, illus., diagrs. Air publication 1417. Vol. 1, 2nd edition.
- Kestrel aero-engines . . . Air Ministry, Feb. 1932 . . .
London, His Majesty's Stationery Office, 1932, pp. 178, diagrs., illus. Air publication 1416. Volume 1. 1st edition, Dec. 1931.
- Notices to aircraft owners and ground engineers. 1920-1931 . . . Air Ministry . . . April 1932.
London, His Majesty's Stationery Office, 1932, pp. 118, tabs.
- Sidestrand III aeroplane (two Jupiter VIII F engines).
London, His Majesty's Stationery Office, 1932, pp. 70, illus., diagrs. Air Publication 1381. Vol. 1. 2nd edition Nov. 1932, Vol. 1.
- The III. F. (F. A.) aeroplane (3-seater fleet air arm type) Lion XIA. engine . . .
London, His Majesty's Stationery Office, 1932, pp. 92, illus., diagrs. 2nd edition, Vol. 1, Feb. 1932. Air Publication 1336. Vol. 1.
- The III. F. (G. P.) aeroplane (2-seater general purpose type) Lion XIA. engine.
London, His Majesty's Stationery Office, 1932, pp. 86, illus., diagrs. Air Publication 1351. Vol. 1. 2nd edition, Feb. 1932.

- GREAT BRITAIN. FOREIGN OFFICE.**—Exchange of notes between His Majesty's governments in the United Kingdom, Canada, the Commonwealth of Australia; New Zealand, and the Union of South Africa and the Government of India and the Italian government respecting documents of identity of aircraft personnel. London, April 13, 1931.
Ottawa, F. A. Acland, printer to the King, 1932, pp. 6. Canada. Treaty Series, 1931, No. 1.
- GREAT BRITAIN WAR OFFICE.** The employment of air forces with the army in the field 1932.
London, His Majesty's Stationery Office, 1932, pp. vi, 93, ill.
- GREAT LAKES AIRCRAFT CORPORATION.** See Kalinowski, L. B.: The development of the Great Lakes steam power plant.
- GREBEL, A.** Moteurs.—Diagramme représentant les phénomènes réels de compression, de combustion et détente dans les moteurs rapides.
C. R. Acad. Sci., T. 195, No. 25 (19 déc. 1932), Paris, pp. 1230-1332, diagr.
- GREECE.** Air transport. The commercial air lines of Greece.
Flight, Vol. 24, No. 27 (1227) (July 1, 1932), London, p. 605.
- Sperrgebiet.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26 März 1932), Berlin, p. 93.
- Sperrgebiete. Korfu, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 215.
- Stand der lufrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 25-26.
- Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8, 19 (20. Feb., 7. Mai 1932), Berlin, pp. 59, 135.
- Zollwesen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13. 20. Aug. 1932), Berlin, pp. 221-222.
- See Great Britain: Convention between His Majesty, in respect of the United Kingdom, and the President of the Hellenic Republic respecting air transport services. Athens, April 17, 1931. (Ratifications exchanged at Athens, April 16, 1932.)
- GREEN, C. F.** Altimeters whereby your ears tell your height.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 29-30, ill.
- GREEN, J. J.** The breakaway of the boundary layer on a circular cylinder and an aerofoil.
Aeronautics, Techn. Rep. Adm. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 152-154, ill.
- GREEN, ROY M.** Construction of runways, Union Airport.
Aero Digest, Vol. 20, [No. 2] (Feb. 1932), New York, p. 44, ill.
- GREENLAND.** The east Greenland survey.
Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, p. 1016, ill.
- Grönland utforskas.
Flygning, Årg. 10, N: R 9, 10 (Sept. Okt. 1932), Stockholm, pp. 155-156, 174, ports., map.
- Luftphotogrammetrische vermessung in Ost-Grönland.
Die Luftreise, Heft 5, Dez. 1932, Berlin, p. 109, ill.
- See Arnesen, Odd: Vi flyver over Eirik Raudes land.
- See Gronau, Wolfgang von: In a flying boat across the Greenland ice cap to U. S. A.
- See Mirrless, S. T. A.: The weather on a Greenland air route.
- GREENSBORO, NORTH CAROLINA.** See Levinson, David: The part played by Greensboro in air transport development.

GREGG, WILLIS RAY. Recent advances in weather service in relation to aerial navigation.

U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 23-33, maps.

GREGORY-QUILTER. The Gregory-Quilter parachute.

Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, p. 1013, ills.

GRENIER, M. See Beyne, Mazer, et M. Grenier: Inhalation d'oxygène pour le vol à l'haute altitude.

GREVE, L. W. All eyes toward Cleveland.

Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 24-27, ills., ports.

GREY, CHARLES GREY. The Canadian air estimates.

The Aeroplane, Vol. 42, No. 11 (Mar. 16, 1932), London, p. 460.

— Interference.

The Aeroplane, Vol. 42, No. 3 (Jan. 20, 1932), London, pp. 116, 118, 120, diags.

— On disarmament.

The Aeroplane, Vol. 42, No. 6 (Feb. 10, 1932), London, pp. 221-222, 224, 226.

— On Imperial airways.

The Aeroplane, Vol. 42, No. 4 (Jan. 27, 1932), London, pp. 137-138, 140, 142, 144, 146, 148, 150, ills.

GREY, CHARLES GREY, und LEONARD BRIDGMAN. Jane's all the World's aircraft, 1932.

London, Sampson Low, Marston & Company, 1932.

GREY, CHARLES GREY. On more matters of equipment.

The Aeroplane, Vol. 42, Nos. 15, 16 (Apr. 13, 20, 1932), London, pp. 633-634, 636, 677-678, 680.

— On our private war with America.

The Aeroplane, Vol. 42, Nos. 17, 18, 19, 20 (Apr. 27, May 4, 11, 18, 1932), London, pp. 733-736, 740, 777-778, 780, 825-828, 873-874, 876, 878.

— On peace in our time.

The Aeroplane, Vol. 42, Nos. 1, 2, 3 (Jan. 6, 13, 20, 1932), London, pp. 1-2, 4, 6, 45-46, 48, 89-90, 92.

— On the air estimates.

The Aeroplane, Vol. 42, No. 10, 11 (Mar. 9, 16, 1932), London, pp. 411-412, 449-450, 452, 454, 456, 458, 460.

— On the engineer fallacy.

The Aeroplane, Vol. 42, No. 5 (Feb. 3, 1932), London, pp. 177-178, 180, 182, 184.

— On the equipment of the Royal Air Force.

The Aeroplane, Vol. 42, Nos. 12, 13, 14 (Mar. 23, 30, Apr. 6, 1932), London, pp. 497-500, 537-538, 585-587.

— On the King's Cup Race.

The Aeroplane, Vol. 43, No. 2 (July 13, 1932), London, pp. 61-62, 64, 66, 68, 70, 72.

— On the peace of dives.

The Aeroplane, Vol. 43, Nos. 3, 4, 5 (July 20, 27, Aug. 3, 1932), London, pp. 129-132, 134, 173-176, 221-224.

— On the safety of civil aviation.

The Aeroplane, Vol. 42, Nos. 21, 22, 23, 24 (May 25, June 1, 8, 15, 1932), London, pp. 921-922, 924, 973-976, 1021-1023, 1061-1063.

— On the South African air-line scandal.

The Aeroplane, Vol. 43, No. 1 (July 6, 1932), London, pp. 1-2, 4, 6, 8-9.

— On the thirteenth Air Force display.

The Aeroplane, Vol. 42, No. 26 (June 29, 1932), London, pp. 1177-1180, 1182, 1184, 1186, 1188, 1190.

— On the turning worm.

The Aeroplane, Vol. 42, No. 7 (Feb. 17, 1932), London, pp. 261-262, 264, 266, 268.

- GREY, CHARLES GREY. On this air mail business.
The Aeroplane, Vol. 42, No. 10 (Mar. 9, 1932), London, pp. 401-402, 404, 406, 408, 410.
- On us and our customers.
The Aeroplane, Vol. 42, Nos. 8, 9 (Feb. 24, Mar. 2, 1932), London, pp. 309-310, 312, 314, 349-350, 352, 354, 356.
- Some points about air-cooling.
The Aeroplane, Vol. 42, No. 9 (Mar. 2, 1932), London, pp. 376, 378, 380.
- See Tichenor, Frank A.: Air—hot and otherwise. "Oh, I say, C. G. G.!
are you there?"
- GRIDLEY, WM. H. Standards useful servants but poor masters.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 24-25, ills.
- GRIERSON, JOHN. A flight in Russia.
Flight, Vol. 24, No. 46, 47 (1246, 1247) (Nov. 10, 17, 1932), London, pp. 1043-1045, 1091-1092, ills., map.
- GRIGORESCO, CONSTANT. Entwicklung der zivilluftfahrt in Rumänien.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 138-139.
- GROENHOFF. Groenhoff sufre un accidente mortal en el Rhön.
Icaro, Año 5, Núm. 56 (Agosto 1932), Madrid, p. 3.
- GROENHOFF, GÜNTER. Ich fliege mit und ohne Motor.
Frankfurt, a. M., Societäts-Verlag, 1932, pp. 92, ills.
- GROGAN, J. D., and D. CLAYTON. Dimensional stability of heat-treated aluminium alloys.
Aer. Res. Comm., Rep. Mem. No. 1435, Dec. 3rd, 1931, London, 1932, pp. 18, diagrs., tabs.
- GROGAN, J. D. See Rosenhain, W., J. D. Grogan, and T. H. Schofield: Gas removal and grain refinement in aluminium alloys.
- See Rosenhain, W., J. D. Grogan, and T. H. Schofield: The influence of titanium tetrachloride on the gas content and grain size of aluminum and some alloys.
- GRONAU, WOLFGANG VON. The arctic air route to the United States.
The Aeroplane, Vol. 42, No. 18 (May 4, 1932), London, pp. 786, 788, 790, ills.
- In a flying boat across the Greenland ice cap to U. S. A.
Journ. Roy. Aer. Soc., Vol. 36, No. 263 (Nov. 1932), London, pp. 918-944, ills.
- Wolfgang von Gronau berichtet.
Die Luftreise, Heft 5, Dez. 1932, Berlin, p. 100, 110, port., map.
- GROSVENOR, GILBERT H. See Ellsworth, Lincoln: Search. Foreword by Gilbert H. Grosvenor . . .
- GROTEWAHL. See Perlewitz, und Grotewahl: Im Freiballon über die Ostsee.
- GROUND. See Tönnies, E.: Effect of the ground on an airplane flying close to it.
- GROUND effect. See Tönnies, E.: Der Boden-Effekt beim Fluge in Erdnähe.
- GROUND ENGINEERS. Training ground engineers. The college of aeronautical engineering provides a welcome addition to facilities.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, p. 77, ills.
- GROUND SPEED. See Berry, A. W.: Ground speed and course correction.
- GRUBER, O. VON. Über die photogrammetrische ausrüstung des Graf Zeppelin auf der Arktisfahrt 1931.
Geographical Journal, Vol. 80, No. 5 (Nov. 1932), London, pp. 462-463.
Bildmessung und Luftbildwesen 1932.

- GRUBER, O. VON. *Photogrammetry. Collected lectures and essays. Translated by G. T. McCaw and F. A. Cazalet.*
London, Chapman and Hall, 1932, pp. xii, 454, ills., maps.
- GRUNAU. *Grunau "Baby."*
Icaro, Año 0, Núm. 54 (Junio 1932), Madrid, p. 15, ill.
- *Jahresergebnis 1931 der Segelflugschule Grunau i. Rsgb.*
Luftschau, 5. Jahrg., Nr. 3 (10 Feb. 1932), Berlin, p. 41, ill.
- *Der Schleppdoppelsitzer "Grunau 8."*
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, p. 204, ill.
- *Schlepp-Segelflugzeug "Grunau 6."*
Luftschau, 5. Jahrg., Nr. 8 (24. April 1932), Berlin, pp. 118-119, ill.
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 191-192, ill.
- GRUSCHWITZ, EUGEN. *Über den Ablösungsvorgang in der turbulenten Reibungsschicht.*
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 11 (14. Juni 1932), München und Berlin, pp. 308-312, diags.
- GRUSCHWITZ, EUGEN, und OSKAR Schrenk. *Über eine einfache Möglichkeit zur Auftriebsserhöhung von Tragflügeln.*
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 20 (28. Okt. 1932), München und Berlin, pp. 597-601, diags.
- GRUSS STRUT. *See Shock absorber: Dynamic test of Gruss shock absorber model X-58.*
- GRĘDZIELSKI, ALEKSANDER. *O współczynnikach sprężystości sklejek. (Sur les coefficients d'élasticité du contreplaqué.)*
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10, (Nr. 50), Warszawa, 1932, pp. 26-30.
- GUATEMALA. *Dirección general de aeronáutica. Carta postal aérea de la república de Guatemala. Cróquis y datos relativos a los aeropuertos, aeródromos y estaciones aéreas, construidos en el país.*
Guatemala, Centro América [Tipografía nacional], 1932, pp. 87, plans, tabl., map.
- GUERBILSKY, A. *Navigation aérienne.—Enregistrement des déformations et des vibrations d'une aile d'avion en vol.*
C. R. Acad. Sci., T. 194, No. 3 (18 Jan. 1932), Paris, pp. 249-251, ill.
- GUERCHAIS. *Le fuselage du monoplan stratosphérique Guerchais.*
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, p. 7, ill.
- GUGGENHEIM SCHOOL OF AERONAUTICS. *See Knight, Montgomery: The Guggenheim School of Aeronautics at Georgia School of Technology.*
- GUGLIELMETTI, ALDO. *Considerazioni sulle strutture alari monoplane a sbalzo e in particolare su quella denominata "Mono-Spar."*
Rivista Aeronautica, Anno 8, N. 4 (aprile 1932), Roma, pp. 21-34, ills.
- *Prove dinamiche degli aeroplani.*
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 26-60, ills.
- *Prove dinamiche dell'aletta a fessura tipo Handley Page.*
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 521-523, ill.
- GUIBERSON. *The Guiberson Diesel engine.*
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 39-40, ills.
- *Guiberson Diesel motor production plans.*
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., p. 38, ill.
- *Guiberson 185-H. P. Diesel engine.*
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 74-75, ills.

- GUIBERSON.** Il motore d'aviazione Diesel Guiberson.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 619-626, ills.
- A technical description of the Guiberson Diesel engine. How decompression in aircraft Diesel design raises valves completely enabling "Free Wheeling" in flight.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 19-21, ills., diagr.
- GUIBERSON-DEISEL.** Der Guiberson-Diesel, ein neuer Amerikanischer ölflugmotor.
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 188-191, ills.
- GUIDE.** International Air Guide. Guide aéronautique internationale. Internationales flughandbuch . . . 2d edition.
Paris, Imprimerie Créteil s. a., 1932, 2 vols., ills., maps.
- Internationales Flug-handbuch 1932-33. Band I. Das nachschlagewerk der internationalen luftfahrt. Band II. Der flugführer.
Berlin, Union Deutsche Verlagsgesellschaft.
- GUILLAUX, A.** The fun and knack of aerial snapshooting.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, p. 19.
- GUNNING, J. HENRY.** A system of weight and balance control.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 10-14, ills.
- GYRODYNAMICS.** See Ferry, Ervin Sidney: Applied gyro dynamics, for students, engineers and users of gyroscopic apparatus.
- GYROPLANE.** See Wilford, E. Burke: The Wilford gyroplane
- GYROSCOPE.** See Ferry, Ervin Sidney: Applied gyro dynamics, for students, engineers and users of gyroscopic apparatus.
- See Marmonier, L.: Stabilisateur automatique pour aéroplanes à actionnement pneumatique.
- See Newton, Byron R.: Grandfather's top.

H

- HAANEN, KARL THEODOR.** Ein segelflieger: Robert Kronfeld.
Köln a. Rhein, Gilde-verlag g. m. b. h., 1932, pp. 99, ills.
- HAEGELEN, MARCEL.** See Records: Record de vitesse sur 2.000 kilomètres. (Marcel Haegelen).
- HAENLEIN, A.** Disintegration of a liquid jet.
National Advisory Committee for Aeronautics, Technical Memorandums No. 659, Feb. 20, 1932, Washington, February 1932, pp. 19, ills., diagrs., tabs.
- HAIFTER, MITCHEL.** Buhl pusher type autogiro.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 24, 32, ills.
- HAIFTER, MITCHELL.** A study in spark-plug manufacture. Refinements and accuracy as evidenced in B. G. Spark Plug construction.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 22-24, ills.
- HALL, H. H.** The dispatcher, how he operates.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., pp. 22-23.
- HALL, NORMAN B.** Life boats in the sky.
Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 16-17, ill.
- HALL, ROY.** Carburetor facts.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 24-25, 27, ills., diagr.

- HALL, ROY M. Selection, care and maintenance of porcelain spark plugs.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 35-36, ills.
- HALLER, AUGUSTINE C. Matching wits with the wind.
Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, pp. 13-15, ill.
- Notes on gliding.
Nat. Aer. Mag., Vol. 10, No. 4 (April 1932), Washington, pp. 6-11, ills.
- Thoughts while soaring.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, pp. 13-14.
- Where and why we can soar.
Nat. Aer. Mag., Vol. 10, No. 6 (June 1932), Washington, pp. 13-15, ills.
- HALLER, GUS. Gliding.
Western Flying, Vol. 12, No. 5, 12 (Nov., Dec. 1932), Los Angeles, pp. 14-16, 15-17.
- HALLIBURTON, RICHARD. The flying carpet.
Indianapolis, The Bobbs-Merrill Company, 1932, pp. 352, ills.
- HAMPTON ROADS NAVAL AIR BASE. See Debham, W. E.: Servicing Naval airplanes in the Hampton Roads shops.
- HANDASYDE, G. H. Aeroplane construction at Bristol. Unusual stores methods and the wide use of special jigs and tools.
Aircraft Engineering, Vol. 4, No. 35 (Jan. 1932), London, pp. 13-16, ills.
- Duralumin and steel construction. Essentially practical methods of production mark the Westland works at Yeovil.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, pp. 88-90, ills.
- Gipsy engines in the making. High standard of finish obtained by good design and sound production methods.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 35-37, ills.
- Jigs for aircraft construction. A survey of current practice with some suggestions for improvement and wider application.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 143-145, ills.
- A radial engine for light aircraft. The factory at which the British-built examples of the Salmson engines are produced.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, pp. 65-68, 76, ills.
- Strip-steel wing construction. The Gloster Aircraft Company's works at Brockworth visited and described.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, pp. 117-119, ills.
- HANDBOOK. Aviation handbook.
Warner & Johnston.
- HANDEL, PAUL VON. Stabile und labile Schwingungen eines Zweikreis-Röhren-generators bei überkritischer Kopplung.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 1-7, ills., diagrs.
- See Fassbender, H.: Hochfrequenztechnik in Luftfahrt.
- HANDLEY, PAGE. See Guglielmetti, Aldo: Prove dinamiche dell'aletta a fessura tipo Handley Page.
- See Pleines, Wilhelm: Further tests on the effectiveness of Handley Page automatic control slots.
- See Pleines, Wilhelm: Weitere Flugmessungen über die Wirksamkeit von automatischen Handley-Page-Schlitzquerrudern.
- See Weick, Fred E., and Carl J. Wenzinger: Effect of length of Handley Page tip slots on the lateral-stability factor, damping in roll.

- HANGERS. Housing aeroplanes.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, pp. 903-904, ills.
- HANGARS. See Schmalhorst, L. D. A., und Peterson: Neuartige Luftschiffhalle mit sechseckigem Grundriss.
- HANOI. See Codos and Robida: The Hanoi—Paris flight of Codos and Robida.
- HANSEN, M. III. Versuchsergebnisse. 14. Untersuchung einer offenen und geschlossenen Halbkugel.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 108-112, diagrs., tabs.
- HANWORTH. See Graf Zeppelin: The Graf Zeppelin at Hanworth.
- HARDIN, GLENN. Air travel as the public sees it.
Southern Aviation, Vol. 3, No. 5 (Jan. 1932), Atlanta, Ga., pp. 15, 20.
- HARDING, GARDNER L. Our air mail service with Latin America.
Nat. Aer. Mag., Vol. 10, No. 9 (Sept. 1932), Washington, pp. 20-27, ills.
- HARDY, J. K., and K. V. WRIGHT. A system for the automatic timing of aircraft over a speed course.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 314-322, ills., diagrs.
- HARNEY, LAURA B. The skycraft book . . . with a foreword by Roland H. Spaulding.
Boston, New York, D. C. Heath and Company, 1932, pp. vi, 338, ills.
- HARRIS, THOMAS A. The 7 by 10 foot wind tunnel of the National Advisory Committee for Aeronautics.
National Advisory Committee for Aeronautics, Report No. 412, March 31, 1932, Washington, U. S. Government Printing Office, 1931, pp. 9, ills., diagrs.
- See Weick, Fred E., and Thomas A. Harris: The aerodynamic characteristics of a model wing having a split flap deflected downward and moved to the rear.
- See Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. IV—Floating tip ailerons on rectangular wings.
- See Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices particularly at high angles of attack. VI—Skewed ailerons on rectangular wings.
- See Wenzinger, Carl J., and Thomas A. Harris: The U. S. verticle wind tunnel. A full description with details of calibration tests and some preliminary experiments.
- HART. The Hart trophy.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, pp. 896-897, ills.
- HARTSHORN, A. S. The influence of a fuselage on the lift of a monoplane.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 1, London, 1932, pp. 349-362, ills., diagrs., tabs.
- HARTSHORN, A. S., and G. P. DOUGLAS. Wind tunnel experiments on high tip speed airscrews.
Aer. Res. Comm., Rep. Mem. No. 1438, July 1, 1931, London, 1932, pp. 12, diagrs., tabs.
- Wind tunnel tests on high tip speed airscrews. Further experiments on scale effect.
Aer. Res. Comm., Rep. Mem. No. 1417 (Ae. 538), May 1931, London, 1932, pp. 17, ills., diagrs., tabs.

- HARTSHORN, A. S., D. M. HIRST, and G. F. MIDWOOD. Wind tunnel tests on a model of the "Wapiti" including the effect of the slipstream on certain derivatives.
Aer. Res. Comm., Rep. Mem. 1419 (Ae. 540), March 1931, London, 1932, pp. 15, ills., diagrs., tabs.
- See Bradfield, F. B., and A. S. Hartshorn: Some preliminary tests on the effects of side-slip on the rolling and yawing moments due to roll of a Bristol biplane.
- See Glauert, H., D. M. Hirst, and A. S. Hartshorn: The induced flow through a partially choked pipe with axis along the wind system.
- See Hirst, D. M., and A. S. Hartshorn: Efficiency of tail plane behind wing of R. A. F. 34 section.
- HATSCHEK, ÉMILE. La viscosité des liquides, traduction de l'anglais par Georges Arçay.
Paris, Dunod, 1932, pp. vxi, 268, ills.
- HAUS, FR. Automatic stability of airplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 695, Dec. 16, 1932, Washington, December 1932, pp. 58, ills., diagrs.
- HAWAII. See Coffin, Harold: Wings over Hawaii.
- HAWKS, FRANK M. The courtesy code.
Nat. Aer. Mag., Vol. 10, No. 8, (Aug. 1932), Washington, p. 5.
- HAY, T. PARK. Airlines form new system of general express.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, p. 47.
- The economics of air transport.
U. S. Air services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 32-33.
- HAYAKAWA, SEINOSUKE. Hiko-hei hittai. [An aviator's pocket handbook.] Practical instruction.
Tôkyo, Heiyo tosho kabushiki kaisha, 1931, 1 vol., ills., diagrs.
- Kiko-hei hittai. [An aviator's pocket handbook]. Theoretical instruction.
Tôkyo, Heiyo tosho kabushiki kaisha, 1931, 2nd edition, 1 vol., ills.
- HAYTHORNE. Haythorne inspection lamp.
Flight, Vol. 24, No. 43 (1243) (Oct. 20, 1932), London, p. 996, ill.
- HAZEN, RONALD M. Development problems of aircraft engines of high specific output.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 129.
- HEALY, THOMAS H. Outlook for disarmament.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 30-34.
- HEAT. See Crocco, Luigi: Transmission of heat from a flat plate to a fluid flowing at high velocity.
- See Schey, Oscar W., and Arnold W. Biermann: Heat dissipation from a finned cylinder at different fin plane air-stream angles.
- HEAT transmission. See Crocco, Luigi: Sulla trasmissione del calore da una lamina piana a un fluido scorrente ad alta velocità.
- HEAT treatment. See Younger, John E.: Airplane construction and repairs; for airplane mechanics. With a chapter on heat treatment by N. F. Ward.
- HEATH. Heath LNB-4 parasol.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, p. 55, ills.
- HEATHCOTE, DUDLEY. Conquest of the stratosphere at hand, by Prof. Auguste Piccard as told to Maj. Dudley Heathcote.
The Sunday Star Magazine, Feb. 14, 1932, pp. 5, 18, ills.

- HEATHCOTE, MICHAEL A. UNWIN. By mail to Kenya.
The Geographical Journal, Vol. 79, No. 6 (June 1932), London, pp. 502-506, ills.
- HEATING. See Amarillo airport: The unusual heating system at the Amarillo airport.
- HECK, LUDWIG. Über elektrische und pneumatische Messverfahren und ihre Anwendung im Flugzeug.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 416-419, ills., diagrs.
- HECK, LUDWIG, and GÜNTHER SUDECK. Neue Meteorographen für drahtlose Fernübertragung.
Jahrb. 1932, Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VII 53-64, ills.
- HEGENBERGER, ALBERT F. Hegenberger makes world's first blind solo flight.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 12-14, ill., port.
- HEILINGER, E. Metodo corretto di lancio di aerovelieri con cavo elastico.
Rivista Aeronautica, Anno 8, N. 9 (Sett. 1932), Roma, pp. 613-616, diagrs., tabl.
- HEINEMANN, WILHELM. Wie ich mein Motorflugzeug aus Spargroschen baute.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 185-186, ills.
- HEINEN, ANTON. See Debnam, W. E.: The development of Heinen's air yacht.
An article based on an interview with Captain Anton Heinen and a flight in his new light dirigible which he designates as "the motor boat of the sky."
- HEINKEL. Heinkel HE 64.
Die Luftwacht, Heft 8, Aug. 1932, Berlin, pp. 290-293, ills.
- See Germany: A German light aeroplane. The Heinkel H. E. 64 low-wing monoplane. Designed for the Europa Rundflug.
- See Heinze, Edwin P. A.: The new Heinkel HE 64.
- HEINZ, W. B. Value of controllable-pitch propellers to the aeronautics industry.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 14-16, 18, ill., diagrs.
- HEINZE, EDWIN P. A. The D. E. L. A. exhibition.
Flight, Vol. 24, No. 42 (1242) (Oct. 13, 1932), London, pp. 953-954, ills.
- The Dreieck I tailless airplane (German). A low wing cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 159, March 26, 1932, Washington, March 1932, pp. 3, ills.
- German Air Union's two standard planes for home construction.
Flight, Vol. 24, No. 8 (1208) (Feb. 19, 1932), London, pp. 148-149, ills.
- German transport airplanes. (Part VI) Rohrbach.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 62-63, ills.
- German transport airplanes (Part VII Concluded) Rohrbach.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 76, 78, ills.
- Increasing the speed range. German plane with variable wing area and profile.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, p. 417, ills.
- The international touring competition.
Flight, Vol. 24, No. 35, 36 (1235, 1236) (Aug. 26, Sept. 2, 1932), London, pp. 803-808, 826-830, ills., tabl.
- The new Heinkel HE 64.
Flight, Vol. 24, No. 37 (1237) (Sept. 9, 1932), London, pp. 848-849, ills.
- The Tilling rocket.
Flight, Vol. 24, No. 45 (1245) (Nov. 3, 1932), London, p. 1023, ills.

- HELBIG, HANS. Entwicklung der Gleit- und Segelflugbewegung im Deutschen Luftfahrt-Verband e. V.
Luftschau, 5. Jahrg., Nr. 9 (10. Mai 1932), Berlin, pp. 138-144, ills., diags., tabs.
- Schlepptätübungen des DLV.
Luftschau, 5. Jahrg., Nr. 6 (24. März 1932), Berlin, p. 88.
- Die Universalseilwinde des DLV.
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, pp. 204-206, ills.
- HELDERS. Luftkrieg 1936; die zertrümmerung von Paris.
Berlin, W. Kolk, 1932, pp. 148.
- The war in the air, 1936 . . . translated from the German by Claud W. Sykes.
London, J. Hamilton, [1932], pp. 254, ills. map.
- HELDT, PETER MARTIN. High-speed Diesel engines for automotive, aeronautical, marine, railroad and industrial use, with a chapter on other types of oil engines.
Philadelphia, Pa., P. M. Heldt, 1932, pp. viii, 312, ills., diags.
- HÉLICAT. See Leyat, Marcel: Un nouvel appareil l'Hélicat Marcel Leyat.
- HELICOPTERS. See Fiore, Amedeo: Il collaudo statico degli elicotteri.
- See Herrick, Gerard P.: The Herrick vertoplane.
- See Marmonier, L.: Avion-hélicoptère à hélices orientables.
- HELIUM. See France: The new helium "belt" in France.
- HELLEMANS, ALBERT. Aviation reine des batailles. By L. L. L. [pseud]. Extrait de la Revue le Flambeau, août 1932 et avril 1933.
Bruxelles, Imprimerie "Finacom", 1932-33. 2 parts.
- HELMBOLD, H. B. Ansätze zur Berechnung von Verstellluftschrauben.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 413-416, ills.
- HELMORE, W. See Swan, Andrew, W. Helmore, and W. C. Clothier: Reduction of fire risk by induction pipe flame traps.
- HEM, L. W. Resistance and interference of large size tires. A study of the parasite drag of parts of the airplane and the use of fenders and fairings.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 22-24, ills., diags.
- HEMISPHERE. See Hansen, M.: III. Versuchsergebnisse. 14. Untersuchung einer offenen und geschlossenen Halbkugel.
- HENDERSON, CLIFFORD W. Warming up for Cleveland.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 28, 74.
- HENDON. See Cesar, Wolfgang: Besuch in Hendon.
- HENDRICKSON, H. B. See Strother, D. H., and H. B. Hendrickson: Effect of aging on taut rubber diaphragms.
- HENSLEY FIELD. The development of Hensley Field. A comprehensive development program has been carried out at this training center for air service officers.
Southern Aviation, Vol. 2, No. 7 (March 1931), Atlanta, Ga., pp. 21-22, 29, ills.
- HERMANN KOHL. Il velivolo senza coda "Hermann Kohl."
Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 325-327, ill.
- See P., A.: L'ala volante.
- HERMES. The new Hermes IV engine.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, pp. 637-638, ills.

- HERRICK, GERARD P.** The Herrick vertoplane.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 33, 37, ill.
- HERRIOT, WALTER.** Flying risks and life insurance.
The Aeroplane, Vol. 42, No. 20 (May 18, 1932), London, pp. 900, 902, 904, tabs.
- HERTEL, HEINRICH.** Die Schubmoduln von Furnier und Sperrholz, von Heiner Hertel. Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen, von Paul Brenner und Otto Kraemer.
Luftfahrtforschung, Bd. 9, Heft 4, 1932, pp. 18, ill. Berichtd. Deutsch. Versuchsanstalt für Luftfahrt e. V., Berlin-Adlershof. Statische Abteilung. Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof München und Berlin, [1932], pp. III 43-52, ill., diags., tabs.
- See Blenk, Hermann, Heinrich Hertel und Karl Thalau: Die deutsche Untersuchung des Unfalls bei Meopham (England).
- See Blenk, Herman, Heinrich Hertel and Karl Thalau: The German investigation of the accident at Meopham (England).
- HESTON.** Heston air park.
Flight, Vol. 24, No. 12 (1212) (March 18, 1932), London, pp. 238-239, ill.
- The shadow-bar at Heston.
The Aeroplane, Vol. 42, No. 24 (June 15, 1932), London, pp. 1074, 1076, ill.
- See Lighting: Nuovo dispositivo per facilitare le monovre di partenza e di atterraggio nel volo notturno.
- HEWES, GEORGE R.** South's oldest college inaugurates complete course in aviation.
Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., pp. 3-4, ill.
- HIGHTOWER, LOUISE.** A village goes skyward.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 5, 14, ill.
Pauls Valley.
- HILBERT, VON B.** Club flying at low cost.
Nat. Aer. Mag., Vol. 10, No. 12 (Dec. 1932), Washington, pp. 7-8.
- HILDEBRANDT.** Zur Erinnerung an Hans Bartsch von Sigsfeld.
Luftschau, 5. Jahrg., Nr. 4 (24. Feb. 1932), Berlin, p. 58.
- HILDEBRANDT, ALFRED.** Alpenrundflug-wettbewerb der verkehrsflugzeuge.
Die Luftreise, Heft 2, 1. Sept. 1932, Berlin, pp. 41-42, ill.
- HINDENBURG cup.** Hindenburg-Pokal.
Luftschau, 5. Jahrg., Nr. 11 (10. Juni 1932), Berlin, pp. 166-170.
- See Madelung: Zur Verleihung des Hindenburg-Pokals an August Lauw.
- HINKLER.** Hinkler's "Ibis."
Flight, Vol. 24, No. 1 (1201) (Jan. 1, 1932), London, pp. 7-8, ill.
- HIRST, D. M., and A. S. HARTSHORN.** Efficiency of tail plane behind wing of R. A. F. 34 section.
Aer. Res. Comm., Rep. Mem., No. 1478 (T. 3254), April 1932, London, 1932, pp. 4, ill., diags., tabl.
- HIRST, D. M.** See Gates, S. B., and D. M. Hirst: Some features of the earlier Pterodactyl design.
- See Glauert, H., D. M. Hirst, and A. S. Hartshorn: The induced flow through a partially choked pipe with axis along the wind system.
- See Hartshorn, A. S., D. M. Hirst and G. F. Midwood: Wind tunnel tests on a model of the "Wapiti" including the effect of the slipstream on certain derivatives.

- HIRTH.** Flugmotor Hirth HM 150 und HM 150 U.
Die Luftwacht, Heft 10, Okt. 1932, Berlin, p. 420, ill.
- HIRTH, HELMUTH.** Wettbewerbe einst und jetzt. Wie ich den Kathreiner-Preis gewann. München—Berlin am 29. bis 30. Juni 1911.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 186-188.
- HISTORY.** Potencias aéreas mundiales.
Icaro, Núm. 1, 2, 3, 5 (enero, feb., abril, mayo 1928), Madrid, pp. 3-6, 2-12, [78]-79, 99-102 136-144.
- See Abbot, Charles Greeley: Great inventions.
- See Aimé, Emmanuel: L'Aéro-Club de France en deuil. Le comte Henri de la Valette, Santos Dumont.
- See Baracca, Francesco: L'eroe Francesco Baracca nelle sue relazioni di guerra aerea.
- See Boffito, Giuseppe: L'aeronautica nelle città italiane.
- See Boffito, Giuseppe: Spedienti e strumenti aeronautici nella storia del volo. Estratto dal volume: Timina Caproni Guasti e Achille Bertarelli, Francesco Zambeccari aeronauta.
- See Brower, Edward N.: History of aviation, with interesting records.
- See Carganico, V.: 20 Jahre Wissenschaftliche Gesellschaft für Luftfahrt E. V. (WGL).
- See Chevennes, Francois: La gloire à des ailes
- See Davis, Henry Duncan, and Christopher Sprigg: Fly with me; an elementary textbook on the art of flying.
- See Denmark: Besuch beim dänischen Edison.
- See Dollfus, Charles, and Henri Bouché: Histoire de l'aéronautique; texte et documentation de Charles Dollfus & Henri Bouché.
- See Dornier, Claude: The development of the aeroplane.
- See E. M.: Ai margini della storia. Il primo atterramento di un velivolo italiano in alta montagna.
- See Ferro, Guido Gattegno: Ai margini della storia. L'aeronave dirigibile dell'abate Vincenzo Curzio di Napoli.
- See Flury, Arthur: Statistik über sämtliche ozeanflugversuche.
- See Hirth, Helmuth: Wettbewerbe einst und jetzt. Wie ich den Kathreiner-Preis gewann. München—Berlin am 29. bis 30. Juni 1911.
- See Jacquier: L'aeronautica nelle città italiane: Roma IV. Una memoria aeronautica del padre Jacquier (1783).
- See Large, Mrs. Laura Antoinette (Stevens): Air travelers, from early beginnings to recent achievements.
- See Newton, Byron R.: Recollections of the days when wings emerged.
- See Nybergs: Fran flygkonstens barndom. Nybergsminnen i Tekniska Muséet.
- See Wallace, Archer: Adventures in the air.
- HOAG, EARL S.** Miami's new Army field.
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 17, 30, port.

- HOAGLAND, ROLAND WATERBURY. *See* Blue book: The Blue book of aviation; a biographical history of American aviation. 1932.
- HOEPPNER, GERHARD VON. Bukarester Lufttouristik-Tagung.
Archiv für Luftrecht, Nr. 1, 1932.
- Der dritte Europarundflug.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 188-189, port.
- Mit dem Zepp in 3 Tagen nach Süd-Amerika.
Die Luftreise, Heft 1, 1. Aug. 1933, Berlin, pp. 12-13, ill.
- Sinn und Bewertung des Internationalen Europa-Rundfluges 1932.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 15 (12. Aug. 1932), München und Berlin, pp. 441-442, map.
- HOERNER, S. Der Windkanal im Flugtechnischen Institut der TH Braunschweig.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 16 (27. Aug. 1932), München und Berlin, pp. 486-487, ill.
- HOFF, WILH. Jahrbuch 1932 der Deutschen Versuchsanstalt für Luftfahrt, E. V., Berlin-Adlershof. Veröffentlichungen der DVL. Aerodynamische Abteilung. Flugversuche zur Messung der Flugzeugpolare und der Beeinflussung der c_x - und c_w -Werte durch den Schraubenstrahl, (293. DVL-Bericht.) von H. Ebert, pp. II 1-19. Versuche über Luftschraubenschwingungen, (274. DVL-Bericht.) von F. Liebers, pp. II 20-28. Statistische Abteilung. Die deutsche Untersuchung des Unfalls bei Meopham (England), (267. DVL-Bericht; vgl. auch S. III 36.) von H. Blenk, H. Hertel und K. Thalau, pp. III 1-14. Die auf die Stosstelle der einseitigen Landung reduzierte Masse der Flugzeuge, (265. DVL-Bericht.) von J. Taub, pp. III 15-16. Zur Frage der Abmessungen von Luftreisen für Flugzeuglaufräder, (280. DVL-Bericht.), von F. Michael, pp. III 17-30. Müller-Breslau's "Elastizitätstheorie des starren Luftschiffs", von E. Seydel, pp. III 31-35. Berichtigung zum 267. DVL-Bericht, von H. Blenk, p. III 36. Entwicklung der Festigkeitsvorschriften für Flugzeuge, von H. G. Küssner und K. Thalau, pp. III 37-42. Die Schubmodellen von Furnier und Sperrholz, (287. DVL-Bericht.) von H. Hertel, pp. III 43-52. Zur Berechnung auf Knickbiegung beanspruchter Flugzeughölme, von A. Teichmann, pp. III 53-62. Über Fachwerke mit gekreuzten Diagonalen, (301. DVL-Bericht.) von H. Ebner, pp. III 63-82. Motoren-Abteilung. Die Reibungswiderstände des Flugmotors, (266. DVL-Bericht.) von K. Löhner, pp. IV 1-4. Verbrennungsgeschwindigkeiten von Benzin-Benzol-Luftgemischen in raschlaufenden Zündermotoren, (259. DVL-Bericht.) von K. Schnauffer, pp. IV 5-12. Praktische Drehgeschwindigkeits-Untersuchung von Luftfahrzeug-Triebwerken, (268. DVL-Bericht.) von K. Lürenbaum, pp. IV 13-22. Der Luftfahrzeugmotorenbau der Gegenwart und seine Beziehungen zum Kraftfahrzeugmotorenbau, (276. DVL-Bericht.) von O. Kurtz, pp. IV 23-38. Das Verhalten verschiedener Brandschott-Ausführungen bei Einwirkung von Stichflammen, (295. DVL-Bericht.) von F. Kühn, pp. IV 39-42. Neue DVL-Geräte zur Drehzahlmessung, von E. Kloss, pp. IV 43-44. Höchstdruckmesser für schnelllaufende Verbrennungsmotoren, von E. Urbach, pp. IV 45-46. Stoff-Abteilung. Baustofffragen bei der Konstruktion von Flugzeugen, (258. DVL-Bericht.) von P. Brenner, pp. V 1-12. Untersuchung von Duralplattblechen, (271. DVL-Bericht.) von K. Schraivogel und E. K. O. Schmidt, pp. V 13-18. Der Oberflächenschutz der Flugzeugbespannstoffe, (277. DVL-Bericht.) von E. K. O. Schmidt, pp. V 19-32. Prüfung von Flugzeugbespannstoffen, (289. DVL-Bericht.) von K. Schraivogel, pp. V 33-42. Holzvergütung.

durch Tränken und Aufteilen in dünne Einzellagen, (288. DVL-Bericht.) von P. Brenner und O. Kraemer, pp. V 43-50. Prüfung von Sicherheitglas, (286. DVL-Bericht.) von M. Abraham, pp. 51-58. Röntgenuntersuchungen von Flugzeugbauteilen bei der DVL, (292. DVL-Bericht.) von K. Matthaes, pp. V 59-64. Untersuchungen über Spannungs-Korrosionsrisse an Leichtmetallteilen, (296. DVL-Bericht.) von P. Brenner, pp. V 65-72. Abteilung für Luftbildwesen und Navigation. Die Photogrammetrie, insbesondere die Luftbildmessung, ihre Entwicklung und ihre Ziele, (290. DVL-Bericht.) von O. Lacmann, pp. VI 1-12. Die DVL-Geräte zur Untersuchung von Luftbildkammern und ihren Teilen, (297. DVL-Bericht.) von W. Block, pp. VI 13-24. Vereinfachtes Verfahren zur Berechnung der Flugleistungen von Landflugzeugen, (270. DVL-Bericht.) von G. Förstner, pp. VI 25-29. Einfaches Verfahren zur photogrammetrischen Festlegung von Flugbahnen aus erdfesten Stationen, (273. DVL-Bericht.) von O. Lacmann, pp. VI 30-31. Prüfung eines Collinears auf Verzeichnungsfehler, von P. Ballmann, p. VI 32. Über die Einwirkung von Stoffen mit bestimmten chemischen Eigenschaften auf nicht sensibilisierte, orthochromatische und panchromatische Emulsionen, (298. DVL-Bericht.) von U. Schmieschek, pp. VI 33-43. Ein neues Umkehrverfahren für Luftbildzwecke, (299. DVL-Bericht.) von F. Leiber, pp. VI 44-50. Photographie unsichtbarer Farben, (DVL-Bericht.) von F. Lieber, pp. VI 51-60. Abteilung für Elektrotechnik und Funkwesen. Stabile und labile Schwingungen eines Zweikreis-Röhrengenerators bei überkritischer Kopplung, (257. DVL-Bericht.) von P. v. Handel, pp. VII 1-8. Strahlungsmessungen an einer modernen Richtantennen-Anlage, (262. DVL-Bericht.) von K. Krüger und H. Plendl, pp. VII 9-12. Die drahtlose Nachrichtenübermittlung in den Polargebieten, (260. DVL-Bericht.) von K. Krüger, pp. VII 13-24. Untersuchungen über Polarisationsfadings, (255. DVL-Bericht.) von K. Krüger und H. Plendl, pp. VII 25-30. Die Aufgaben der Elektrotechnik in der Luftfahrt, (269. DVL-Bericht.) von H. Fassbender, pp. VII 31-40. Neue Funkgeräte im deutschen Luftverkehr, (275. DVL-Bericht.) von F. Eisner, pp. VII 41-48. Verfahren zur Erleichterung von Blindlandungen, (284. DVL-Bericht.) von M. H. Gloeckner, pp. VII 49-57. Neue Meteorographen für drahtlose Fernübertragung, von L. Heck und G. Sudeck, pp. VII 58-64. Das Rauschen von Empfängern, (282. DVL-Bericht.) von W. Brintzinger und H. Viehmann, pp. VII 65-73. Elektrische Triebwerkerausüstung für Luftfahrzeuge, (291. DVL-Bericht.) von W. Brintzinger und Br. Bruckmann, pp. VII 75-83. Frequenzanalyse von Flugzeuggeräuschen, (294. DVL-Bericht.) von F. Eisner, H. Rehm und H. Schuchmann, pp. VII 85-95. Flug-Abteilung. Flugmessungen über den Einfluss eines Spaltes zwischen Höhenruder und -flosse auf die statische Stabilität und Steuerbarkeit um die Querachse, (281. DVL-Bericht.) von W. Hübner, pp. VIII 1-3. Das DVL-Gleitwinkelsteuer (Bauart W. Hübner) (283. DVL-Bericht.) von W. Hübner und W. Pleines, pp. VIII 4-8. Weitere Flugmessungen über die Wirksamkeit von automatischen Handley-Page-Schlitzquerrudern, (279. DVL-Bericht.) von W. Pleines, pp. VIII 9-16. Die Seitenstabilität des ungesteuerten Normalfluges und ihre technischen Vorbedingungen, (272. DVL-Bericht.) von G. Mathias, pp. VIII 17-31. Querruderform und Querruderwirkung, von G. Mathias, pp. VIII 32-34. Untersuchung der Trudeleigenschaften des Musters Focke-Wulf A 32 "Bussard", (285. DVL-Bericht.) von H. D. Knoetzsch, pp. VIII 35-36. Verschiedene Berichte. Über das Zusammenwirken von Flugwerk und Triebwerk. (261. DVL-Bericht.) von M. Schrenk, pp. IX 1-15. Auswertung experimenteller Untersuchungen über Luftschrauben mit verdrehbaren Flügelblättern, (256. DVL-Bericht.) von H. Reissner und M. Schiller, pp.

- IX 16-22. Flugzeug-Unfallstatistik 1930, (264. DVL-Bericht.) von L. Weitzmann, pp. IX 23-33.
München und Berlin, Druck von R. Oldenbourg, [1932], pp. I 64, II 28, III 82, IV 46, V 72, VI 60, VII 96, VIII 36, IX 34, ills., diags., tabs.
- HOFFMAN. New Hoffman development.
Flight, Vol. 24, No. 38 (1238) (Sept. 16, 1932), London, p. 884, ills.
Hoffman "Sun and Planet" friction eliminator.
- HOFFMAN, E. L. The triangle parachute.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 27-30, ills., diags., tabs.
- HOFFMAN, WILLY. The Danish law of March 31, 1931, dealing with protective measures against disturbances of radio broadcast reception.
Air Law Review, Vol. 3, No. 1 (Jan. 1932), New York, pp. 44-47.
- HOGLUND, G. O. See Nagel, C. F., Jr., and G. O. Hoglund: How to take care of dural.
- HOHENEMSER, K. Beitrag zur Dynamik des elastischen. Stabes mit Anwendung auf den Propeller.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 2 (28. Jan. 1932), Berlin, pp. 37-43, diags., tabl.
- HOLLAND. Holland.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, p. 23.
- HOLLYHOCK, W. S. Strip manipulation.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 31, 35 (1231, 1235) (July 29, Aug. 26, 1932), London, pp. 710c-710g, 802b-802e, ills., diags., tabs.
- HOOKE, S. G. The flow of a compressible fluid in the neighbourhood of the throat of a constriction in a circular wind channel.
Aer. Res. Comm., Rep. Mem. No. 1429, May 1931, London, 1932, pp. 9, diags., tabs.
- HOOVER, HERBERT, Jr. Radio in transport operation.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, p. 64.
- HORIZON. See Sperry Gyroscope Company: The new Sperry horizon.
— See Geddes, Norman Bel: Horizons.
- HORNET. An injection "Hornet."
Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, p. 29.
- HOUDARD, GEORGES. Französische stimme zur internationalisierung der zivil-luftfahrt.
Die Luftwacht, Heft 7, Juli 1932, Berlin, pp. 256-257, ill.
- HOUGHTON, R. Note on the velocity distribution in the neighbourhood of a corrugated sheet.
Aer. Res. Comm., Rep. Mem. No. 1466 15th April 1932, London, 1932, pp. 5, diags., tabs.
- HOUNSFIELD, F. R. C. See Bradfield, F. B., G. F. Midwood, and F. R. C. Hounsfeld: Wind tunnel tests on aileron loads.
- HOVGARD, PAUL E. Safety—with performance.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 12-13, ills., diags.
- HOWARD, CHAS. H. The bomber speeds up.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, p. 12.
- HOWARD, C. W. Air Corps engineering. A résumé of Material Division activities showing 1931 developments.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 28-30, 46-47, ills.
- HOWARD, LESLIE H. Aero industry in Portugal.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, pp. 760-761, ills.

- HOWARD-FLANDERS, LEONARD, and C. F. CARR.** Gliding and motorless flight. London, New York, Sir I. Pitman & Sons, Ltd., 1932, pp. xiii, 145, ills., diagrs.
- HOWARTH, C.** See Jennings, W. G., R. P. Alston, and C. Howarth: Investigation of atmospheric turbulence by aircraft carrying accelerometers.
- HÜBER, WALTER, and WILHELM PLEINES.** Das DVL-Gleitwinkelsteuer (Bauart W. Hübner). Aerodynamische Grundlagen der Vorrichtung; Flugmessungen mit einer Ausführungsform.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 15 (12. Aug. 1932), München und Berlin, pp. 455-459, ills., diagrs., tabls.
Jahrb. 1932 Deutschen. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VIII 4-8, ills., diagrs., tabls.
- The D. V. L. gliding-angle control (W. Hübner design).
National Advisory Committee for Aeronautics, Technical Memorandums No. 697, Jan. 19 1933, Washington, January 1932, pp. 9, ills., diagrs.
- HÜBNER, WALTER.** Flugmessungen über den Einfluss eines Spaltes zwischen Höhenruder und -flosse auf die statische Stabilität und Steuerbarkeit um die Querachse.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 11 (14. Juni 1932), München und Berlin, pp. 318-320, diagrs.
Jahrb. 1932 Deutschen. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. VIII 1-3, ills., diagrs.
- HUGHES, W. E.** Chronicles of Icarus.
Penhurst Gardens, Edgware, W. E. Hughes, 1932.
No. 1 Air mail history. No. 2, Air mails in Great Britain 1914-25. No. 3, British air posts, 1850-3. No. 4, Air mail history. No. 5, 1870-1.
- HULL construction.** Practical metal hull construction. The results of the experience of many years in the erection of flying boats.
Aircraft Engineering, Vol. 4, No. 41, 42 (July, Aug. 1932), London, pp. 165-168, 197-199, ills., diagrs., tabl.
- HUMBLE, RICHARD.** Cape Town to Clyde . . . with a foreword by Colonel the Master of Sempill.
London, New York, Longmans, Green and Co., 1932, pp. xii, 91, ills., tabls., maps.
- HUMIDITY.** See Brooks, D. B., and E. A. Garlock: The effect of humidity on engine power at altitude.
- HUNGARY.** Verkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 93.
- HUNKE, HEINRICH.** Luftgefahr und Luftschutz. Mit besonderer Berücksichtigung des deutschen Luftschutzes.
Berlin, Verlag E. S. Mittler und Sohn, 1933, pp. 200, ills.
- HUNSAKER, JEROME C.** This month's cover.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., p. 31, port.
- HUNTINGTON, DWIGHT.** Improving the control system.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 15-17, ills.
- HURLBERT, W. B.** Increased sales of airplanes in the Southern States.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 8.
- HURST, RALPH.** Birmingham's anniversary air carnival.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., pp. 5, 9, ills.
- HUTCHINSON.** See Martin, Harald: Hutchinsons familjeflygning. Till skada eller gagn för flygpropagandan?
- HUTCHINSON, J. L.** Air-race handicapping. An allowance for wind when the course is a closed circuit.
Flight, Vol. 24, No. 43 (1243) (Oct. 20, 1932), London, pp. 991-992, ills., diagr.

- HUTCHINSON, J. L. Climb and service ceiling. Over a wide range of aeroplane types time to ceiling is practically constant.
Aircraft Engineering, Vol. 4, No. 42 (Aug. 1932), London, p. 203, ill.
- Effect of float setting on take-off and top speed of the III F.
Aer. Res. Comm., Rep. Mem., No. 1487 (S. 91), December 1930, London, 1932, pp. 2, diagr.
- The theory of aircraft performance. The simplification of the physical problems by the introduction of dimensional methods.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 139-142, diagrs.
- HUTTON, C. T. *See* Ower, E., and C. T. Hutton: Note on the measurement of the drag of small streamline bodies.
- *See* Ower, E., and C. T. Hutton: On the interference of a streamline nacelle on a monoplane wing.
- HYDRAULICS. *See* Szymanski, Piotr: Un écoulement du fluide visqueux par le tuyau conique.
- HYDRODYNAMICS. *See* Camichel, C., P. Dupin et M. Teissié: Hydrodynamique. Sur le régime non turbulent au delà du critérium des tourbillons alternés.
- *See* Buri, Alfred: Eine berechnungsgrundlage für die turbulente grenzschicht bei beschleunigter und verzögerter grundströmung.
- *See* Cotton, Émile: Hydrodynamique—Sur le mouvement irrotationnel d'un liquide limité par des parois mobiles indéformables.
- *See* Dryden, Hugh L., Francis D. Murnaghan and H. Bateman: Report of the Committee on Hydrodynamics, Division of Physical Sciences National Research Council.
- *See* Luntz, Michel: Hydrodynamique expérimentale.—Sur les profils virtuels de moindre résistance.
- *See* Pabst, Wilhelm: Schwimmwerkentwicklung und ihre versuchstechnischen Hilfsmittel.
- *See* Poncin, Henri: Recherches sur le mouvement d'un fluide pesant dans un plan vertical.
- *See* Poncin, Henri: Sur les cavitations de forme permanente . . .
- *See* Rosenblatt, A.: Hydrodynamique.—Sur la stabilité du mouvement général laminaire des fluides visqueux incompressibles.
- *See* Rossinol, J.: Hydrodynamique.—Problème touchant des tourbillons cylindriques de section finie.
- *See* Sheridan, Laurence Ward: On the two-dimensional flow of air past a series of Rankine ovals.
- *See* Siadbei, G.: Hydrodynamique.—Sur la mesure de la résistance opposée par un milieu visqueux au mouvement des corps.
- *See* Sottorf, W.: Experiments with planing surfaces.
- *See* Sottorf, W.: Über den Einfluss des Modellmasstabes bei der Untersuchung von Flugzeugschwimmern.
- HYDROGEN. *See* Armstrong, E. F.: Hydrogen and its uses.
- HYDROMECHANICS. Konferenz über hydromechanics probleme des schiffsantriebes, Hamburg 1932.
Berlin, Julius Springer, 1932.
- *See* Foch, Adrien: Introduction à la mécanique des fluides.

HYZER, LELAND. The regulation and encouragement of air transportation.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, pp. 17-19, ill.

I

ICE. See Biddlecombe, C. H.: Eliminating the ice hazard. A study of the phenomenon of the formation of ice on airplanes in flight and the means to combat and prevent it.

— See Clay, William C.: Combating ice formation with heat.

— See Kline, Sherman J.: New instrument warns fliers of fog and ice.

— See Kline, Sherman J.: Tulsa inventor patents wing ice eliminator.

— See Samuels, L. T.: Meteorological conditions during the formation of ice on aircraft.

— See Theodorson, Theodore, and Wm. C. Clay: Ice prevention by engine heat.

ICE bombing. See Wiley, Frank: The art of ice bombing.

IDAHO. Department of Public Works. Aeronautics division. Idaho aeronautic law, air navigation facilities, air marking, licensing and regulation, miscellaneous information. Aeronautics bulletins No. 1 and 2, revised to June 1, 1931.

Payette, Independent Printing Co., 1931, pp. 68, diagr., map.

IDRAC, PIERRE. Aviation.—Sur des enregistreurs ultrasensibles pour avion de variation d'altitude et de température.

C. R. Acad. Sci., T. 195, No. 19 (7 nov. 1932), Paris, pp. 761-762.

— Experimentelle untersuchungen über den segelflug mitten im fluggebiet grosser segelnder vögel (geier, albatros usw.) ihre anwendung auf den segelflug des menchen.

München und Berlin, R. Oldenbourg, 1932, pp. 81, ill., diagrs. Translated by F. Höhndorf.

IGNITION. Un nuevo encendido alemán por magneto para motores de aviación.
Icaro, Núm. 9, sept. 1928, Madrid, pp. 275-277, ill.

— See Schey, Oscar W.: Scavenging a supercharged spark-ignition engine using fuel injection by the use of large valve overlap.

I L A. "I L A." Exposición internacional de aeronáutica—Berlin, octubre de 1928.

Icaro, Núm. 10, oct. 1928, Madrid, pp. 291-312, ill.

ILLINOIS. Aeronautics Commission. Air School and aeronautic instruction regulations of the state of Illinois prescribed by the Illinois Aeronautics Commission and effective May 5, 1932.

Springfield, Jeffersons Printing & Stationery Co., 1932, pp. 6.

ILLUSTRIERTE technische wörterbücher. See Schlomann, Alfred: Illustrierte technische wörterbücher . . . Bd. 17: Luftfahrt, aeronautics, aeronautique, aeronautica . . .

IMMLER. Misuratore del vento e di deriva Immler.

Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 410-419, ill., diagrs.

INANUMA, MIDUHO. See Tomotika, Susumu, and Miduho Inanuma: On the moment of the force acting on a flat plate placed in a stream between two parallel walls.

INCLINOMETER. Un nouveau dérivomètre à l'usage des touristes.

L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, p. 231, ill.

- India.** Grenzüberflug.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 248.
- Lichtbildgerät.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 95.
- Luftverkehr Karachi-Madras.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Okt. 1932), Berlin, p. 324.
- Viceroy's cup air race.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, p. 50.
- Zollflughäfen. Nachluftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 59.
- INDUCTION pressures.** Increasing induction pressures. Experiments on the effect on power output, heat losses and fuel consumption.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, p. 315.
- INDUSTRY.** See Atkinson, L. M.: How an airplane enlarges the territory of an industrial engineer.
- See Lincke, Jack: Developing more and better publicity for the aviation industry.
- INERTIA.** See Gates, S. B.: The determination of the moments of inertia of aeroplanes.
- INGALLS, DAVID S.** Universal air marking . . .
Nat. Aer. Mag., Vol. 10, No. 2 (Feb. 1932), Washington, p. 5.
- INSECT flight.** See Zalesskin, G.: Observation sur la nervation des ailes des libellules et des éphémères et sur leur évolution phylogénétique.
- INSLEY, ROBERT.** The new Continental R-670.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 25, ill.
- INSTRUCTION.** Francia. Contributo allo studio di un nuovo apparate per l'istruzione, in sala, sul tiro aereo.
Rivista Aeronautica, Anno 8, N. 6 (giugno 1932), Roma, pp. 581-588, ill.
- INSTRUCTORS.** See Baldwin, J. E. A.: Training of pilots and instructors.
- INSTRUMENT flying.** See Blind flying.
- See Schaefer, E. B.: The Stark system of instrument flying.
- INSTRUMENTS.** Cannocchiale di avvistamento per difesa controaerea.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 616-622, ill.
- See Alston, R. P., D. A. Jones, and E. T. Jones: A flight path recorder suitable for performance testing.
- See Beij, K. Hilding: Aircraft speed instruments.
- See Bigelow, Paul W.: Seeing through the "Blindfold."
- See Colvin, Charles H.: Flight instruments.
- See Crocco, G. A.: Meccanica.—La stabilità nel volo strumentale.
- See Deviometer: Deviometer for air courses not on regular radio beacon beam path.
- See Fassbender, H.: Hochfrequenztechnik in Luftfahrt.
- See Field, R. H., and S. J. Murphy: Aircraft instruments.
- See Finch, Volney C.: Air speed indicators and blind flying.
- See Gatty: Gatty's navigation instrument.

INSTRUMENTS. *See* Heck, L.: *Über elektrische und pneumatische Messverfahren und ihre Anwendung im Flugzeug.*

— *See* Immler: *Misuratore del vento e di deriva Immler.*

— *See* Inclinator: *Un nouveau dérivomètre à l'usage des touristes.*

— *See* Kaster, Howard B.: *Interesting new navigation instrument.* [Spherant.]

— *See* Lincke, Jack: *Instrument maintenance.*

— *See* Marmonier, L.: *Stabilisateur automatique pour avions à actionnement pneumatique.*

— *See* Sperry Gyroscope Company: *The new Sperry horizon.*

INSTYTUTU AERODYNAMICZNEGO W WARSZAWIE. *See* Bieniek, Czesław: *Prace doświadczalne wykonane w czasie od 1927-1931 r.*

INSURANCE. *An aircraft insurance rating formula. Presenting airplane performance standards for "Standard Aircraft" ratings.*

Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 18-19.

— *Insurance for pilots.*

Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 28.

— *New low insurance will encourage amateur flying.*

U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 46.

— *See* Doering, Hermann: *Le assicurazioni aeronautiche negli Stati Uniti di America ed in Europa.*

— *See* Doering, Hermann: *Haftpflicht und Haftpflichtversicherung der Luftfahrzeughalter.*

— *See* Dunn, Ray A.: *Aviation and life insurance; a study of the hazards and mortality in aviation and their relation to life insurance.*

— *See* Garland, E. R.: *Aviation's insurance problem.*

— *See* Herriott, Walter: *Flying risks and life insurance.*

INTERCEPTOR control. *See* Ormerod, A.: *Full-scale determination of the motions, at the stall, of a Bristol fighter aeroplane fitted with auto control slots and interceptors.*

INTERFERENCE. *Interference.*

Flight, Vol. 24, No. 4 (1204) (Jan. 22, 1933), London, pp. 77-79, ills., diags.

— *See* Andrews, W. R.: *Notes on airscrew-body interference.*

— *See* Ower, E.: *Interference.*

— *See* Ower, E.: *Some aspects of the mutual interference between parts of aircraft.*

INTERNATIONAL AIR FORCE. *See* Spaight, J. M.: *An international air force.*

INTERNATIONAL AIR GUIDE. *International air guide. Guide aéronautique internationale. Internationales flughandbuch . . .*

Paris, Imprimerie Crété s. a. 1932, 2 vol., ills, maps.

INTERNATIONAL AIR REGULATION. *The need of new code of international air regulation.*

U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., p. 15.

INTERNATIONAL CODE. *See* Ambrosini, Antonio: *Liability for damages caused by aircraft on the ground: A proposed international code.*

- INTERNATIONAL COMMISSION FOR AIR NAVIGATION. Règlement aux conditions minima de délivrance du certificat de navigabilité.
Paris, 1931.
- See Allied and associated powers: Protocol amending articles 3, 5, 7, 15, 34, 37, 41, 42 and the final clauses of the Convention for the regulation of Aerial Navigation of October 13, 1919. Paris, June 15, 1929. Irish ratification deposited on April 9, 1930.
- See Allied and associated powers: Protocol relating to amendments to articles 34 and 40 of the Aerial Navigation Convention of October 13, 1919. Signed at Paris, December 11, 1929. Canadian ratification deposited September 19, 1930.
- See Warner, Edward P.: The International Convention for Air Navigation: And the Pan American Convention for Air Navigation: A comparative and critical analysis.
- INTERNATIONAL COMMISSION FOR THE STUDY OF CLOUDS. Atlas international des nuages et des états du ciel.
Paris, 1932.
- INTERNATIONAL RELATIONS: See Curtis, Arthur E.: Effects of aviation on international relations.
- INTERNATIONAL RUNDFLUG. See Leander: Der technische Wettbewerb des dritten Internationalen Rundfluges. 1932.
- See Pleines, Wilhelm: Die Flugzeugmuster des 3. Internationalen Rundfluges 1932.
- INTERNATIONALE LUFTFAHRT. See Tetens, H.: Betrachtungen zur Frage "Internationale Luftfahrt."
- INTERNATIONALISM. Internationalisierung der Handelsluftfahrt.
Die Luftreise, Heft 1, 1. Aug. 1932, Berlin, p. 17.
- See Wronsky, Martin: Luftbrücken von continent zu continent.
- INTERPLANETARY VOYAGES. See Marquis, Raoul: Irons-nous dans la lune? . . . Avec une préface de l'abbé Th. Moreux . . . Illustré de gravures explicatives, dessinées par l'auteur.
- INTERSTATE AIRLINES. See Lance, O. B.: Two-year operations record of the Interstate Airlines.
- INTUBED PROPPELLER. See Stipa, Luigi: Experiments with intubed propellers.
- IOCCO, ENRICO. Il traffico aereo in Italia per le linee civili, con prefazione del ch. mo prof. avv. Vincenzo Sinagra della R. Università di Napoli.
Napoli, R. Majolo & figlio, 1932, pp. 90, diags.
- IRAQ. Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 31-32 (30. Juli 1932). Berlin, p. 208.
- IRELAND. Irische See, Ueberflug. Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 214.
- Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 69.
- See Allied and associated powers: Protocol amending articles 3, 5, 7, 15, 34, 37, 41, 42 and the final clauses of the Convention for the Regulation of Aerial Navigation of October 13, 1919. Paris, June 15, 1929. Irish ratification deposited on April 9, 1930.

- IRVIN.** A new safety-belt harness.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, pp. 429-430, ills.
- IRVING, H. B.** Addition of rolling moments due to roll and sideslip.
Aer. Res. Comm., Rep. Mem. No. 1418, June 1931, London, 1932, pp. 3, diags.
- IRVING, H. B., and A. V. STEPHENS.** Safety in spinning.
Journ. Roy. Aer. Soc., Vol. 36, No. 255 (Mar. 1932), London, pp. 145-204, ills., diags.
- Safety in spinning. A summary of recent investigations, models and full-scale, and general deductions to be drawn.
Aircraft Engineering, Vol. 4, No. 35, 36 (Jan. Feb. 1932), London, pp. 17-22, 39-44, ills., diags.
- IRVING, H. B., and A. S. BATSON.** Spinning experiments and calculations on a model of the Fairey IIF seaplane with special reference to the effect of floats, tailplane modifications, differential and floating ailerons and "interceptors."
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 576-590, ills., diags., tabs. Reports and Memoranda No. 1356 (Ae. 487).
- IRVING, H. B., A. S. BATSON, and A. V. STEPHENS.** Spinning experiments on a single seater fighter with deepened body and raised tailplane, Part I: Model experiments, by H. B. Irving and A. S. Batson. Part II: Full scale spinning tests, by A. V. Stephens.
Aer. Res. Comm., Rep. Mem. No. 1421, December 1931, London, 1932, pp. 7, ills., diags.
- See Batson, A. S., H. B. Irving, and S. B. Gates: Spinning experiments on a single seater fighter.
- IRVING AIR CHUTE COMPANY.** Service manual for Irvin Air Chutes; safety parachutes for aeroplanes, balloons, dirigibles; standard life-saving equipment for United States Army, Navy, Marine Corps; British Air Ministry; many other governments and numerous commercial companies throughout the world.
Buffalo, Irvin Air Chute Company, inc., 1932, pp. 48, ills.
- IRWIN, R. RANDALL.** Should pilots unionize?
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 10-12.
- ITALIA.** See Dithmer, Elisabeth: Sandheden om Nobile, Bjørnstjerne Bjørnson in memoriam.
- ITALIAANDER, ROLF.** Hallo! Boys! Flugmodellbau mit Rolf Italiaander.
Bern, P. Haupt, 1932, pp. 20, ills.
- See Schuler, Fritz: Flugmodellbau mit Rolf Italiaander!
- ITALY.** Accordo aeronautico fra il Regno d'Italia e gli Stati Uniti d'America.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 218-223.
- Annuario della aeronautica; 1932, a. X. (Touring club italiano; Reale aereo club d'Italia).
Milano, Touring club italiano (Mondaini e C.), 1932, pp. 1116.
- Aviation facilities in Italy.
Flight, Vol. 24, No. 4 (1204) (Jan. 22, 1933), London, p. 72, map.
- Bari, Verkehrsregelung für Seeflugzeuge.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 24-25 (18. Juni 1932), Berlin, p. 175.
- Bauvorschriften. Reglement für den Luftfahrtendienst des Registro Italiano Navale ed Aeronautico.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 24-25 (18. Juni 1932), Berlin, pp. 167-169, 172-175, 181-184.
- Bauvorschriften. Schleppevorschriften für Seeflugzeuge. Brindisi, Verkehrsregelung für Wasserflugzeuge.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, pp. 162-164.

- ITALY. Genua, Seeflughafen. Brindisi, flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 67.
- Lichtbildgerät, Mitführung von—
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 27.
- Lichterführung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, p. 215.
- Ostia, Zentralfunkstelle.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 35 (27. Aug. 1932), Berlin, p. 232.
- La politique. Le budget italien.
L'Érophile, 40e Année, No. 4 (avril 1932), Paris, p. 100.
- Presupuesto aéreo para 1928.
Icaro, Núm. 3, marzo 1928, Madrid, p. 88.
- Registro italiano navale ed aeronautico. (R. I. N. ed A.) per la visita e la classificazione delle navi mercantili, di galleggianti e degli aeromobili commerciali. Libro-registro 1932, X.
Genova, stab. del Registro ital. navale ed aeronautico (Arti graf. Pellas), 1932, pp. cxcvii, 952.
- Rom—Tunis, Luftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 26-27 (2. Juli 1932), Berlin, p. 181.
- Stand der luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 13-18, ill.
- Waffen, Mitführung von —.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 36-37 (10. Sept. 1932), Berlin, p. 248.
- Zollflughäfen.
Nachrichten für Luftfabrer, 13. Jahrg., Nr. 7-8, 13 (20. Feb., 26. März 1932), Berlin, pp. 58, 92.
- See Boffito, Giuseppe: L'aeronautica nelle città italiane.
- See Breda: The Breda 32 commercial airplane (Italian). A three-engine all-metal low-wing monoplane.
- See Direzione Superiore Studi ed Esperienze: Il laboratorio aerodinamico della Direzione Superiore Studi ed Esperienze del Ministero dell'Aeronautica.
- See E. M.: Ai margini della storia. Il primo atterramento di un velivolo italiano in alta montagna.
- See Eula, A.: Il laboratorio idrodinamico della Direzione Superiore Studi ed Esperienze del Ministero dell'Aeronautica.
- See Great Britain. Foreign Office: Exchange of notes between His Majesty's governments in the United Kingdom, Canada, and the Commonwealth of Australia, New Zealand, and the Union of South Africa and the Government of India and the Italian government respecting documents of identity for aircraft personnel. London, April 13, 1931.
- See Marino, Salvatore: La responsabilità extracontrattuale aeronautica nella giurisprudenza italiana.
- See Pirozzi, Alfonso: Le comunicazioni aeree verso l'oriente.
- See Poturzyn, Fischer von: Minister Balbos tätigkeitsbericht zur luftfahrtdebatte in der italienischen Kammer.
- See Treaties and Conventions: Accordo aeronautico fra il Regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13 e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932, n. 254.

ITALY. **MINISTERO DELL'AERONAUTICA.** Accordo fra il regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932.
Roma, Istituto Poligrafico Stato, 1932, pp. 23.

— **MINISTERO DELL'AERONAUTICA.** Biblioteca.
Roma, Istituto poligr. Stato, Libreria, 1931.

— **MINISTERO DELLA GUERRA.** Istruzione sull'impiego della nebbia artificiale.
Roma, Libreria dello Stato, 1932.

ITÔ, KYÔJI. On hollow spindle-shaped liquid jet.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 81 (Vol. 6, 15), July 1932, Tôkyô, pp. 441-467, ills., diagrs.

ITÔ MASAHARU. See Nakanishi, Fujio, Masaharu Itô and Kikuo Kitamura: A new speed indicator for internal combustion engines.

IZARD, L., J. DES CILLEULS, ET R. KERMARREC. La guerre aéro-chimique et les populations civiles; étude historique, clinique, thérapeutique et préventive.
Paris, Charles-Lavauzelle & Cie., 1932, pp. 212, ills.

IZZO, ATTILIO. Il fenomeno della detonazione dei motori a scoppio e gli antide-tonanti.
Rivista Aeronautica, Anno 8, N. 4, 5 (aprile, Maggio 1932), Roma, pp. 81-115, 295-356, ills., tabs., diagrs.

J

JACK. See Yamamoto, Mineo: An improved form of jack for use in the load test of aeroplanes.

JACKSONVILLE. See Records: How Lees and Brossy established a new endurance record at Jacksonville.

JACOBS, EASTMAN NIXON. Airfoil section characteristics as affected by protuberances.
National Advisory Committee for Aeronautics, Report No. 446, Dec. 12, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, diagrs., tabs.

— Characteristics of two sharp-nosed airfoils having reduced spinning tendencies.
National Advisory Committee for Aeronautics, Technical Notes No. 416, April 26, 1932 Washington, April 1932, pp. 5, diagrs.

JACOBS, EASTMAN NIXON, and IRA H. ABBOTT. The N. A. C. A. variable-density wind tunnel.
National Advisory Committee on Aeronautics, Report No. 416, Aug. 31, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagr.

JACOBS, EASTMAN NIXON, and JAMES M. SHOEMAKER. Tests on thrust augmentors for jet propulsion.
National Advisory Committee for Aeronautics, Technical Notes No. 431, Sept. 20, 1932, Washington, September 1932, pp. 5, ills., diagr.

JACOBS, EASTMAN NIXON, and KENNETH E. WARD. Tests of N. A. C. A. airfoils in the variable-density wind tunnel, series 24.
National Advisory Committee for Aeronautics, Technical Notes No. 404, Jan. 30, 1932, Washington, January 1932, pp. 19, diagrs., tabs.

JACOBS, HANS. Schwanzlose segelflugmodelle und raketenflugmodelle; bauanleitung für leicht und schnell zu bauende modelle in verschiedener grösse . . .
Ravensburg, O. Maier, 1932, pp. 60, ills. Spiel und Arbeit, Bd. 134.

— Segelflugzeug. Anleitung zum Selbstbau.
Ravensburg, Otto Maier, 1932, pp. 78, ills.

— Werkstattpraxis für den Bau von Gleit- und Segelflugzeugen.
Ravensburg, Verlag Otto Maier, 1932, pp. 132.

- JACQUIER. L'aeronautica nelle città italiane: Roma IV. Una memoria aeronautica del padre jacquier (1783).
Rivista Aeronautica, Anno 8, N. 6 (Giugno 1932), Roma, pp. 669-677.
- JAGOSZEWSKI, KONRAD. Badania prądnic lotniczych typu RD 1. (Essais des dynamos d'aviation type RD 1).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 9, (Nr. 47), Warszawa, 1932, pp. 53-77, ill., diagrs., tabs.
- JAHRBUCH DER LUFTFAHRT. See Langsdorff, Werner, v.: Jahrbuch der Luftfahrt. Jahrbuch 1931-1932.
- JAMES, JIMMIE. Using a parachute flare.
Western Flying, Vol. 12, No. 12(6) (Dec. 1932), Los Angeles, p. 17.
- JANE, FREDERICK T. Jane's All the world's aircraft, 1931.
London, Sampson Low.
- See Grey, Charles Grey, und Leonard Bridgman: Jane's all the World's aircraft, 1932.
- JANETS, EMILE. Il y a trente ans. Le domaine aérien et le régime juridique des aérostats.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, p. 68.
- JANIK, FRANCISZEK. Calcul de la longueur de Roulement à l'atterrissage de l'avion en tenant compte du freinage des roues.
Sprawozdanie Instytut Baden Technicznych Lotnictwa, No. 8, Report No. 42, 1932, Warsaw.
- O obciążeniu i stateczności Podowzia. (Sur la charge et la stabilité du train d'atterrissage).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10, (Nr. 48), Warszawa, 1932, pp. 5-14, ill.
- Obliczenie drogi dobiegu lądującego samolotu z uwzględnieniem hamowania kół. (Calcul de la longueur de roulement à l'atterrissage de l'avion en tenant compte du freinage des roues).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8, (Nr. 42), Warszawa, 1932, pp. 139-157, ill., diagrs.
- Obliczanie podwozi statycznie niewyznaczalnych. (Calcul des trains d'atterrissage hyperstatiques).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 9, (Nr. 46), Warszawa 1932, pp. 24-52, ill., tabs.
- Wpływ masy kół na równowagę lądującego samolotu. (Influence de la masse des roues sur l'équilibre de l'avion à l'atterrissage).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8, (Nr. 43), Warszawa, 1932, pp. 158-162.
- JANIS, ELSIE. The higher, the smoother!
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 12-17, port.
- JAPAN. Airways of Japan.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 25, 100-102, map.
- Die Japanischen luftstreitkräfte in Mandschurischen kriege.
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 176-178.
- La organización de la aeronáutica japonesa y de la U. R. S. S.
Icaro, Año 5, Núm. 50 (Feb. 1932), Madrid, pp. 7-9.
- Stand der luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 29-31.

- JAPAN. *See* Takamatsu, H.: Japanese military airplanes.
- JARLAUD. Les commandes différentielles d'ailerons pour les planeurs.
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, pp. 141-142, ills., diags.
- Les planeurs d'entraînement et de performances Avia.
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, pp. 206-208, ills.
- JEFFREYS, W. REES. Transport problems of the Empire.
Journ. Roy. Soc. Arts, Vol. 81, No. 4180 (Dec. 30, 1932), London, pp. 154-178.
- JENKINS, CADEN. The Air Corps Reserve officer.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 22-24.
- Training the reserves.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 10-12.
- JENNINGS, W. G. Directional stability of high speed aircraft.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 504-507, diags., tabl.
- JENNINGS, W. G., and A. ORMEROD. Full scale experiments on high tip speed aircrews. The effect of thickness of section on aircrews performance.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 281-286, diags., tabs.
- JENNINGS, W. G., R. P. ALSTON, and C. HOWARTH. Investigation of atmospheric turbulence by aircraft carrying accelerometers.
Aer. Res. Comm., Rep. Mem. No. 1441, October 1931, London, 1932, pp. 6, diags., tabs.
- JENNINGS, W. G. Some possible causes of discrepancy in the performances of aircraft of the same type.
Aer. Res. Comm., Rep. Mem. No. 1423, August 1931, London, 1932, pp. 5, diags.
- JENNINGS, W. G. Tests of various lateral controls fitted to a Siskin aircraft.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 556-565, ills., diags.
- JERNIGIN, J. D. (DUKE) The prospects for greater air transport growth.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 10, port.
- JET. *See* Itô Kyôzi: On hollow spindle-shaped liquid jet.
- JET propulsion. *See* Jacobs, Eastman Nixon, and James M. Shoemaker: Tests on thrust augmentors for jet propulsion.
- JEWELL. *See* Sprague, E. Stuart: Copyright-radio and the Jewell-La Salle case.
- JIGS. *See* Handasyde, G. H.; Jigs for aircraft construction. A survey of current practice with some suggestions for improvement and wider application.
- JOHANSEN, F. C. *See* Bateman, H., and F. C. Johansen: Pressure and force measurements on airscrew-body combinations.
- *See* Lock, C. N. H., F. C. Johansen, and H. L. Nixon: Thrust integrating tubes: Wind tunnel experiments.
- *See* Ower, E., and F. C. Johansen: On the determination of the pitot-static tube factor at low Reynolds numbers, with reference to the measurement of low air speeds.
- JOHNS, WILLIAM EARL. Fighting planes and aces.
London, J. Hamilton, 1932, pp. 90, ills.
- *See* Schofield, Harry Methuen, and W. E. Johns: The pictorial flying course.
- JOHNSON, ERNEST. *See* Gough, Melvin N., and Ernest Johnson: Methods of visually determining the air flow around airplanes.
- JOHNSON, J. G. The second U. S. Navy Panama-San Diego cruise.
U. S. Air Services, Vol. 17, No. 7, (July 1932), Washington, D. C., pp. 16-18.
- JOHNSON, P. G. Why air transportation is forging ahead.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., p. 6, port.

- JOHNSTON, S. PAUL. Concentrating maintenance for efficiency.
Aviation, Vol. 31, No. 9 (Sept. 1932), New York, pp. 378-380, ills.
- Decentralized overhaul for coast-to-coast service.
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 332-335, ill.
- Drydocks for airliners.
Aviation, Vol. 31, No. 6 (June 1932), New York, pp. 254-256.
- Transport servicing for private flyers.
Aviation, Vol. 31, No. 12 (Dec. 1932), New York, pp. 476-478, ill.
- JONES, BRADLEY. Urns and urnautics or art in aircraft design.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 16-18, ills.
- A week in Detroit.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 9-12, ill.
- JONES, CASEY. See Newton, Byron R.: Casey Jones talks about airports.
- JONES, D. A. The R. A. E. automatic observer Mark 1A.
Aer. Res. Comm., Rep. Mem. No. 1405 (Ae. 523), January 1931, London, 1931, pp. 6, ills.
- See Alston, R. P., D. A. Jones, and E. T. Jones: A flight path recorder suitable for performance testing.
- JONES, ERNEST. Record and trend of the industry.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., p. 55.
- JONES, E. T. Effect of sideslip on the performance of a multi-engined aircraft.
Aer. Res. Comm., Rep. Mem. No. 1455 January 1932, London, 1932, pp. 6, diagrs., tabs.
- A full scale comparison of the drag and heat dissipation of three radiator systems.
Aeronautics. Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 370-383, ills., diagrs., tabs.
- JONES, E. T., and R. P. ALSTON. Quantitative measurements of the longitudinal control and stability of the Bristol Fighter when stalled, with reference to stalled landings.
Aeronautics. Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 508-515, diagrs.
- See Alston, R. P., D. A. Jones, and E. T. Jones: A flight path recorder suitable for performance testing.
- JONES, E. V. W. There is a long airway ahead.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 23-25.
- JONES, GLENN I. The flight surgeon.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 31, 94-95, port.
- JONES, Miss I. M. W. See Bryant, L. W., and Miss I. M. W. Jones: Notes on recovery from a spin.
- JONES, R., and A. H. BELL. Experiments on models of a compressed air wind tunnel.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 653-674, ills., diagrs.
Reports and Memoranda, No. 1355, (Ae. 486).
- Experiments on a model of the airship R. 101 with applications to determine the steady motion of the airship.
Aer. Res. Comm., Rep. Mem. No. 1400 (Ae. 521), May 1931, London, 1932, pp. 31, ills., tabs.
- Tests on biplane fins on a model of the R. 101 hull.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 874-886, ill., diagr., tabs.
Reports and Memoranda No. 1379. (Ae. 504).

- JORDANOFF, ASSEN. Flying and how to do it! . . . with a foreword by Frank Hawks; drawings by Larry Whittington.
New York, Grosset & Dunlap, 1932, pp. 113, ills.
- JOSCAT, RENÉ. Sirene d'escadrille.
Paris, Berger-Levrault, 1932.
- JOUETT, JOHN H. The importance of Air Corps Reserve flying.
Nat. Aer. Mag., Vol. 10, No. 4 (April 1932), Washington, p. 5.
- Progress of air transport during the depression period.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 9, port.
- JOUKOWSKY. See Schrenk, O.: III. Versuchsergebnisse. 2. Untersuchung weiterer Joukowsky-Profile.
- See Schrenk, O.: III. Versuchsergebnisse. 3. Untersuchung einiger verallgemeinerter Joukowsky-Profile. (Verallgemeinerung nach Betz).
- JOUKOWSKY, N. E. Il laboratorio aerodinamico N. E. Joukowsky di Mosca.
L'Aerotecnica, Vol. 12, N. 10 (Ott. 1932), Roma, pp. 1361-1376, ills., tabl.
- Works of Prof. N. E. Joukowsky. Volume II, issue 5. 1. On the reaction of outflowing and of inflowing liquid. Article 1. 2. On the reaction of outflowing and of inflowing liquid. Article 2. 3. On the theory of vessels propelled by the reaction of outflowing liquid. 3. On the wave. 5. On the shape of ship's hulls.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 112, Moscow, 1932, pp. 43, ills.
- JOURNÉES TECHNIQUES INTERNATIONALES DE L'AÉRONAUTIQUE. Journées techniques internationales de l'aéronautiques, 28 novembre—2 décembre 1932. Préface de M. Paul Painlevé.
Paris, En vente chez Blondel La Rougery [Imprimerie du Palais, 1932], pp. viii, 278, ills., diagrs.
- JUDGE, ARTHUR WILLIAM. Automobile engines in theory, design, construction, operation, testing and maintenance.
London, Chapman and Hall, Ltd., 1931, pp. 220. Motor manuals: a series for all motor owners and users, Vol. 1. Second and revised edition.
- The testing of high speed internal combustion engines, with special reference to automobile and aircraft types and to the testing of automobiles.
London, Chapman & Hall, Ltd., 1932, pp. ix-xvi, 459, ills., diagrs. 2nd and enlarged edition.
- JUGOSLAVIA. Verkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 44 (29. Okt. 1932), Berlin, p. 300.
- See Mikie, Sava: Histoire de l'aéronautique yougoslave.
- JUNKERS. Grossverkehrsflugzeug Junkers G 38 in neuer ausführung.
Die Luftwacht, Heft 6, Juni 1932, Berlin, pp. 235-236, ills.
- Junkers ju 52 als dreimotorige luftjacht.
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 193-195, ills.
- The new Junkers G. 38 "D. 2500."
Flight, Vol. 24, No. 27 (1227) (July 1, 1932), London, p. 607, ill.
- Das verkehrflugzeug Junkers Ju 52-3 m (BMW Hornet).
Die Luftwacht, Heft 7, Juli 1932, Berlin, p. 277, ill.
- See Kirschner, A.: Kritische betrachtungen. Junkersinsolvenz.
- JUNKERS G 38. See Deutsche Luft Hansa: Grossraumflugzeuge für die Deutsche Luft Hansa.
- JURETIGH DJALMA. L'offesa aerea e la difesa nella guerra moderna.
Udine, Arti graf. coop. Friulane, 1932, p. 52.

K

- KADEL, B. C.** Airport weather station. Do you know how to equip one for your port?
Airports, Vol. 4, April 1930, Washington, N. J., pp. 50-51, ills.
- KAHN, LOUIS.** The aerodynamic safety of airplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 684, Sept. 15, 1932, Washington, September 1932, pp. 17, diags.
- KALINOWSKI, LUDWIG B.** The development of the Great Lakes steam power plant.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 31, 46.
- General aviation's "Antares". New flying boat for U. S. Coast Guard embodies many new features of design.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 10-12, ills.
- KANSAS CITY.** Kansas City air corps reserve opens training season.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 6-7, 14, 11.
- KARLSBAD.** See Preston, R. C.: By air to Karlsbad.
- KÁRMÁN, THEODOR VON, und C. WIESELSBERGER.** Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 11: Zur Frage der schräg angeblasenen Propeller, von Fr. Misztal. Aerodynamische Theorie und Entwurf von Luftschrauben, von Th. Troller.
Berlin, pp. 73, ills.
- Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 12: Windkanalversuche an einem Zeppelin-Luftschiff-Modell, von Wolfgang Klemperer.
Berlin, 1932, pp. 56, ills.
- KÁRMÁN, THEODOR VON, ERNEST E. SECHLER, and L. H. DONNELL.** The strength of thin plates in compression.
California Institute of Technology, Guggenheim Aeronautics Laboratory, Publication No. 13, Pasadena.
- KARMAN, THEODOR VON.** Quelques problèmes actuels de l'aérodynamique.
Paris, 1932, pp. 26, diags. At head of title: Chambre syndicale des industries aéronautiques. Journées techniques internationales de l'aéronautique du 28 nov. au 2 dec. 1932.
- KARTVELI, ALEXANDER.** Stress analysis of flying boat hulls.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 9-13, diags.
- KASTER, HOWARD B.** Interesting new navigation instrument. [Spherant].
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 47.
- KATZMAYR.** See Lafay, A.: Aérodynamique.—Sur la prévision de l'action d'un vent rapidement variable application à l'effet Katzmayr et à l'effet.
- KEHLER, RICHARD VON.** Wahrsagen in der Luftfahrt.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 189-190, ills.
- KELLY, GERALD.** Creating a profitable market for aerial photographs.
Southern Aviation, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., pp. 7-8, ills.
- KELSEY, E. N.** Planes wanted—apply the air lines.
Western Flying, Vol. 12, No. 4 (Oct. 1932), Los Angeles, pp. 20-22.
- KENNEDY, THOMAS H.** Common carriers.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 18.
- KENNEDY, WALTER B.** Radio and the commerce clause.
Air Law Review, Vol. 3, No. 1 (Jan. 1932), New York, pp. 16-26.

- KERMARREC, R. See Izard, L., J. des Cilleuls, et R. Kermarrec: La guerre aéro-chimique et les populations civiles; étude historique, clinique, thérapeutique et préventive.
- KERMODE, ALFRED COTTERILL. Mechanics of flight.
London, Sir I. Pitman & Sons, Ltd., 1932, pp. xv, 207, ills., diags.
- KESTREL. See Great Britain. Air Ministry: Kestrel aero-engines . . . Air Ministry, Feb. 1932 . . .
- KETTERING, CHARLES FRANKLIN. The new necessity; the culmination of a century of progress in transportation.
Baltimore, 1932, pp. 124.
- KILNER, WALTER C. Randolph Field, a "Flying City."
Nat. Aer. Mag., Vol. 10, No. 2 (Feb. 1932), Washington, pp. 6-12, ills.
- KING, R. O., and H. Moss. Detonation, mineral lubricating oils and blended fuels.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 753-763, diags. Reports and Memoranda No. 1362, (E. 44).
- KING'S CUP. The King's Cup, 1932.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, pp. 49-50.
- King's cup race, 1932.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, pp. 625-628, ills., tabl., maps.
- King's cup race, 1932.
Flight, Vol. 24, No. 29 (1229) (July 15, 1932), London, pp. 644-658, 676, ills., tabl.
- KINNER. Kinner R-5 engine.
Aero Digest, Vol. 20, No. 6 (June 1932), New York, p. 54, ill.
- New Kinner low-wing monoplane.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 44, ill.
- 160 H. P. type R-5 Kinner engine.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, p. 58.
- KIRCHNER, V. Das schwanzlose Segelflugzeug "Futurum."
Luftschau, 5. Jahrg., Nr. 10 (24. Mai 1932), Berlin, p. 156, ill.
- KIRK, HARRIS E., JR. Flying for sport.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., p. 12.
- KIRSCHNER, A. Abrüstung. Deutschlands Recht auf allgemeine Abrüstung.
Luftschau, 5. Jahrg., Nr. 1 (10. Jan. 1932), Berlin, pp. 5-14.
- Abrüstungskonferenz.
Die Luftwacht, Heft 3-9, 11-12, März-Sept., Nov.-Dez. 1932, pp. 83-94, 123-127, 161-169, 203-206, 245-255, 300-306, 347-353, 439-443, 502-508.
- Internationalisierung der Zivilluftfahrt.
Luftschau, 5. Jahrg., Nr. 7 (10. April 1932), Berlin, pp. 99-100.
- Kritische betrachtungen. Amerikanischer luftverkehr in der Türkei.
Die Luftwacht, Heft 4, April 1932, Berlin, p. 122.
- Kritische betrachtungen. Auflösung des französischen luftministeriums. Deutsche luftrüstungen—in französischer einbildung.
Die Luftwacht, Heft 3, März 1932, Berlin, pp. 81-82.
- Kritische betrachtungen. Junkersinsolvenz.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 121-122.
- KIRSTE, LÉON. Étude sur les gouvernails compensés.
Paris, F. L. Vivien, 1932, pp. viii, 27, ills.
- Flexion et torsion des ailes cantilever.
Aéro Club de France, Travaux du Cercle d'Etudes d'Aérotechniques, No. 6, Paris.

- KIRSTE, LÉON.** Flexion et torsion des ailes cantilever.
Paris, Le Centre de Documentation Aéronautique Internationale de l'Aéro-Club de France, 1932, pp. 14, ills. Aéro-Club de France. Travaux du Cercle d'Études Aéronautiques. fasc. vi.
- KITAMURA, KITUO.** See Nakanishi, Fujio, Masaharu Itô and Kikuo Kitamura:
A new speed indicator for internal combustion engines.
- KLEFFEL, WALTHER.** 5000 worte Europa-Flug. Eine reportage in wort und bild.
Die Luftreise, Heft 2, 1. Sept. 1932, Berlin, pp. 31-35, ills.
- Noch schnell ein wort von unseren kunstfliegern.
Die Luftreise, Heft 5, Dez. 1932, Berlin, pp. 106-107, ills.
- KLEIN, GERALD.** Das "FF" der Akaflieg Berlin.
Luftschau, 5. Jahrg., Nr. 3 (10. Feb. 1932), Berlin, pp. 37-38, ills.
- Volksflugzeug Mayer-Aachen "MM1."
Luftschau, 5. Jahrg., Nr. 4 (24. Feb. 1932), Berlin, pp. 55-56, ills.
- KLEMIN, ALEXANDER.** Engineering details of the new Stinson airliner.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 47-49, ills.
- Reports from the Langley Field Conference.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 19-21, 31, ills.
- Vortex theory and the tapered wing. Article 3. Elliptical lift distribution. Induced velocity and drag. Minimum induced-drag. Importance of elliptical lift distribution.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 31-32, 49, ills.
- KLEMM.** For a quick take-off.
Flight, Vol. 24, No. 5 (1205) (Jan. 29, 1933), London, pp. 90, 102, ills.
- Klemm KL 32.
Die Luftwacht, Heft 8, Aug. 1932, Berlin, pp. 293-296, ills.
- KLEMPERER, WOLFGANG.** Windkanalversuche an einem Zeppelin-luftschiffmodell.
Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen, Heft 12, Berlin, Julius Springer, 1932, pp. 56, ills.
- See Kármán, Theodor von, und C. Wieselsberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 12: Windkanalversuche an einem Zeppelin-Luftschiff-Modell.
- KLIKOFF, W. A.** See Upson, Ralph H., and W. A. Klikoff: Application of practical hydrodynamics to airship design.
- KLINE, SHERMAN J.** Development and operation of the Safeway System.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., pp. 13-17, ills.
- An 8,000-mile all-air trip.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., pp. 8-9, ills.
- Methods of maintenance and overhaul in the Spartan Service shops.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., pp. 12-14, ills.
- New instrument warns fliers of fog and ice.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., p. 40, ills.
- Practical sales suggestions for airplane salesmen.
Southern Aviation, Vol. 4, No. 1 (Sept. 1932), Atlanta, Ga., pp. 8-10, ill.
- Safeguarding the Safeway planes.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., pp. 18-20, 22, 24, ills.

- KLINE, SHERMAN J.** This business of selling planes. Fine points of salesmanship as perfected by successful Oklahoma distributor.
Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 13-15, 34, ill.
- Tulsa inventor patents wing ice eliminator.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., p. 43, ill.
- KNAUTH, ARNOLD W.** Limitation of aircraft owners' liability.
Air Law Review, Vol. 3, No. 2 (April 1932), New York, pp. 135-141.
- KNERR, H. J.** Freeing the air forces of their ground fetters. Engineering opportunities presented in cargo transport planes.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 15-18, ill.
- KNIGHT, MONTGOMERY.** The Guggenheim School of Aeronautics at the Georgia School of Technology.
Southern Aviation, Vol. 2, No. 7 (March 1931), Atlanta, Ga., pp. 15-17, ill., ports.
- KNOETZSCH, HANS-DIETRICH.** Untersuchung der Trudeleigenschaften des Musters Focke-Wulf A 32 "Buzzard."
Zeitschr. Flugt. Motorluftsch., 23. Jahrg. Nr. 12 (24 Juni 1932), München und Berlin pp. 356-357, ill., diags.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VIII 35-36, ill., diag.
- KNOTT, E. M.** Airport radio transmitter.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 22-23, ill.
- KOBAYASHI, AKIRA.** Thermodynamical study of internal combustion engines.
Journ. Soc. Mech. Eng. Japan, Vol. 35, No. 188 (Dec. 1932), Tôkyô, pp. 1157-1169, diags., tabs.
In Japanese.
- KOBAYASI, ATUSI.** See Nukiyama, Daizô, and Atusi Kobayasi: On the transmissibility of the visible light through a cloud of particles. (Part I.)
- KÖHL, HERMANN.** Bremsklötze weg! Ein lebensbuch eines deutschen fliegers.
Berlin, Sieben-stäbe-verlag, 1932, pp. 227, ill.
- See P., A.: L'ala volante.
- KOLHÖRSTER, WERNER.** Die Wissenschaftliche Bedeutung der Freiballon-Höhenfahrten.
Luftschau, 5. Jahrg., Nr. 14 (24. Juli 1932), Berlin, p. 216.
- KÖNIG VON UND ZU WARTHAUSEN, FREDERICH KARL.** Mit 20 PS und leuchtptis-tole; abenteuer des Hindenburgfliegers.
Stuttgart, etc., Deutsche Verlags-Anstalt, [1932], pp. 217, ill., maps.
- KOOLHOVEN.** Un projet d'hydravion géant Koolhoven.
L'Aérophile, 40e Année, No. 8 (août 1932), Paris, p. 245.
- KORT, L.** Raketen mit Strahlapparat.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 16 (27. Aug. 1932), München und Berlin, pp. 483-486, ill., diags., tabs.
- KOSTYLEW, G.** See Kroenig, W., and G. Kostylew: Corrosion of magnesium alloys. Part 1. Protection of magnesium alloys by means of oxide films.
- KOUZMIN, G. I., and D. V. CHALEZOW.** Effect of profile shape and blade thickness on airscrew characteristic.
U. S. S. R. Supreme All-union Association of the Aircraft Industry. Transactions of the Central-Hydrodynamical Institute, No. 129, Moscow, 1932, pp. 24, ill., diags., tabs.
- KOZANECKI, STEFAN.** Badanie swierka z Wisly. (Recherches sur le sapin prove-nant de Wisla.)
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10 (Nr. 49), Wars-zawa, 1932, pp. 15-25, ill., diags.

- KOZELUH.** Le moteur Kozeluh D. F. Tr. L. 5, 46 CV. (Tchecoslovaquie).
L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 23, ills.
- KRAEMER, OTTO.** See Brenner, Paul, und Otto Kraemer: Holzvergütung durch, Tränken und Aufteilen in dünne Einzellagen.
- See Hertel, Heinrich: Die Schubmoduln von Furnier und Sperrholz, von Heinr. Hertel. Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen, von Paul Brenner und Otto Kraemer.
- KRAMER, MAX.** Increase in the maximum lift of an airplane wing due to a sudden increase in its effective angle of attack resulting from a gust.
National Advisory Committee for Aeronautics, Technical Memorandums No. 678, Aug. 4, 1932, Washington, July 1932, pp. 9, ills., diagrs.
- Die Zunahme des Maximalauftriebes von Tragflügeln bei plötzlicher Anstellwinkelvergrößerung (Böeneffekt).
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 7 (14. April 1932), München und Berlin, pp. 185-189, ills., diagrs.
- KRASCHENINNIKOW, F. N.** See Baoulin, K. K., S. T. Astabatian, and F. N. Krascheninnikow: Investigation of open jet-wind tunnels.
- KRASSILSCHIKOFF, P. P.** Influence of the length of slats and flaps on the slotted wing work.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 133, Moscow, 1932, pp. 56, ills., diagrs., tabs.
- KRATZ, W. W.** Advantages and possibilities of the light plane.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 3-4, port.
- Training a pursuit flyer.
Southern Aviation, Vol. 2, No. 9, 11 (May, July 1931), Atlanta, Ga., pp. 17-19, 15-18, ills.
- KREUGNER, H.** Motores para aviones de altura.
Icaro, Núm. 5, Mayo 1928, Madrid, pp. 159-160.
- KRISAM, F.** Speed and pressure recording in three-dimensional flow.
National Advisory Committee for Aeronautics, Technical Memorandums No. 688, Oct. 13, 1932, Washington, October 1932, pp. 13, ills., diagrs.
- Über die Messung von Geschwindigkeit und Druck in einer dreidimensionalen Strömung.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 13 (14 Juli 1932), München und Berlin, pp. 369-373, ills., diagrs.
- KROENIG, W., and G. KOSTYLEW.** Corrosion of magnesium alloys. Part 1. Protection of magnesium alloys by means of oxide films.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 128, Moscow, Lenin-grad, 1932, pp. 39, ills., diagrs., tabs.
- KROENIG, W. O.** See Akimow, G. W., and W. O. Kroenig: An investigation of alclad.
- KRONFELD, ROBERT.** Kronfeld on gliding and soaring.
London, John Hamilton, Ltd., pp. 379, ills.
- See Haanen, Karl Theodor: Ein segelflieger: Robert Kronfeld.
- KRÜGER, KURT.** Die drahtlose Nachrichtenübermittlung in den Polargebieten.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. VII 13-24, ills.
- KRÜGER, KURT, and H. PLENDL.** Untersuchungen über Polarisationsfadings.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. VII 25-30, ills.
- KRÜGER, KURT.** See Fassbender, H.: Hochfrequenztechnik in Luftfahrt.

- KUBO, KEI. *See* Sezawa, Katsutada, and Kei Kubo: Measurements of the solid viscosities of metals through the flexural vibrations of a bar.
- *See* Sezawa, Katsutada, and Kei Kubo: Stresses in a plate with a flanged circular hole.
- KUBO, KEIITI. *See* Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama: On the acoustical properties of parabolic reflectors.
- KUDNER, ARTHUR H. The business of flying for business.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, pp. 16-17.
- KÜHN, FRITZ. Das Verhalten verschiedener Brandschott-Ausführungen bei Einwirkung von Stichflammen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. V 39-42, ills.
- KUHN, PAUL. Working charts for the determination of the lift distribution between biplane wings.
National Advisory Committee for Aeronautics, Report No. 445, Nov. 28, 1932, Washington, U. S. Government Printing Office, 1932, pp. 17, diags., tabs.
- KUMLER, JOHN T. *See* Corliss, C. P., and John T. Kumler: All eyes up!
- KURLBAUM, G. *See* Fassbender, H.: Hochfrequenztechnik in Luftfahrt.
- KURTZ, OSKAR. Konstruktionserfahrung beim Bau von Luftfahrzeugmotoren.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 23, 24 (14. Dez. 1932), München und Berlin, pp. 691-701, 721-730, ills.
- Der Luftfahrzeugmotorenbau der Gegenwart und seine Beziehungen zum Kraftfahrzeugmotorenbau.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. IV 23-38, ills., diags., tabl.
- Die Motoren des Europa-Rundflugs 1932.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 19 (14. Okt. 1932), München und Berlin, pp. 577-581, ills., tabl.
- KÜSSNER, HANS GEORG, und KARL THALAU. Entwicklung der Festigkeitsvorschriften für Flugzeuge.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 11 (14. Juni 1932), München und Berlin, pp. 313-318, diags.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. III 37-42, diags.
- Die Entwicklung der Festigkeitsvorschriften für Flugzeuge von den Anfängen der Flugtechnik bis zur Gegenwart.
Luftfahrtforschung, Bd. 10, Heft 1, 1932, pp. 54, ills.
Bericht d. Deutsch. Versuchsanstalt für Luftfahrt e. V., Berlin, Adlershof, Statische Abteilung.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 18 (28. Sept. 1932), München und Berlin, p. 550.
- KÜSSNER, HANS GEORG. Stresses produced in airplane wings by gusts.
National Advisory Committee for Aeronautics, Technical Memorandum No. 654, Jan. 14, 1932, Washington, January 1932, pp. 38, ills., diags., tabs.
- KUZMIN, G. I. Airscrew design by vortex theory.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 132, Moscow, Leningrad, 1932, pp. 63, diags.

L

- LABOR. Airlines and pilots.
Aviation, Vol. 31, No. 5 (May 1932), New York, pp. 211-213.
- LABORATORIES. See Betz., A.: I. Neue Versuchseinrichtungen. 1. Das Luftschrauben-Laboratorium.
— See Joukowski, N. E.: Il laboratorio aerodinamico N. E. Joukowski di Mosca.
- LACHMANN, G. V. Control beyond the stall.
Journ. Roy. Aer. Soc., Vol. 36, No. 256 (April 1932), London, pp. 276-338, ills., diags.
— Slots and the wings of birds.
Journ. Roy. Aer. Soc., Vol. 36, No. 256 (April 1932), London, pp. 374-379, diagr.
- LACKNER. Luftkriegs-studien. 1. Angriffstaktik neuzeitlicher lufttreitkräfte.
Die Luftwacht, Heft 11, Nov. 1932, Berlin, pp. 448-450, map.
- LACMANN, OTTO. Einfaches Verfahren zur photogrammetrischen Festlegung von Flugbahnen aus erdfesten Stationen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 8 (28. April 1932), München und Berlin, pp. 232-234, ills.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VI 30-31, ills., diags.
— Die Photogrammetrie, insbesondere die Luftbildmessung, ihre Entwicklung und ihre Ziele.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, pp. VI 1-12, ills., diagr.
- LADD, WILLIAM F., and RICHARD F. TAYLOR. Two views on aviation in the national guard . . . Additional observation squadrons, by William F. Ladd. Develop air force units, by Richard F. Taylor.
Nat. Aer. Mag., Vol. 10, No. 3 (March 1932), Washington, pp. 5, 32.
- LADEMANN, ROBERT W. E. Development of tailless and all-wing gliders and airplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 666, April 14, 1932, Washington, April 1932, pp. 11, ills.
- LAFAY, A. Aérodynamique. Sur la prévision de l'action d'un vent rapidement variable application à l'effet Katzmayer et à l'effet.
C. R. Acad. Sci., T. 195, No. 5 (1er août 1932), Paris, pp. 358-361.
- LAHM, FRANK S. Frank S. Lahm.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, p. 11.
- LAHS. Luftsport und Luftfahrt-Industrie.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, p. 193.
- LAINÉ, ANDRÉ. Dictionnaire de l'aviation; préface de m. Paul Painlevé. 2d edition.
Paris, Charles-Lavauzelle & Cie., 1932, pp. xxvii, 330, ills., diags.
— Manuel pratique de pilotage d'aérodynamique, le vol normal, le vol acrobatique, le voyage.
Paris, F. L. Vivien, 1932, pp. 127, ills., diags.
- LAIRD, CODY. New rating for transport pilots.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., p. 9.
— The practical uses of two-way radio on Southern transport lines.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 9-10, 27, ills.
- LALLIER, ROGER. L'invite au départ.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, p. 5.
— Promenons-nous par les airs; illustrations de Marcel Jeanjean.
Paris, Chez l'auteur, 1932, pp. 65, ills.

- LAMARCHE, PAUL E. Couzinet type 33 trimotor.
Aero Digest, Vol. 20, No. 6 (June 1932), New York, p. 52, ill.
- Dyle-Bacalan D. B. 70.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, p. 59, ill.
- LAMBRECHT, WOLFGANG. Transoceanic dirigible service. Part one. Its past and future.
Western Flying, Vol. 12, No. 12 (6) (Dec. 1932), Los Angeles, pp. 8-10.
- LAMINAR flow. See Fage, A., and V. M. Falkner: On the relation between heat transfer and surface friction for laminar flow.
- LAMINATED wood. See Plywood.
- LAMPLUGH, A. G. Accidents in civil aviation.
Journ. Roy. Aer. Soc., Vol. 36, No. 254 (Feb. 1932), London, pp. 93-110.
- LAMPS. See Haythorne: Haythorne inspection lamp.
- LANCE, O. B. Two-year operations record of the Interstate Airlines.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 15-16.
- LANCHESTER, FREDERICK WILLIAM. See Daniel Guggenheim Medal Fund
The Daniel Guggenheim Medal for achievement in aeronautics. Biographies of Orville Wright, medalist for 1929; Ludwig Prandtl, medalist for 1930; Frederick William Lanchester, medalist for 1931; Juan de la Cievra, medalist for 1932.
- LANDAU, FREDERIC MOSES. See Davies, Herbert Barrs Farthing, and F. M. Landau: The rights and duties of transport undertakings.
- LANDI, GIORGIO. L'aeronautica in guerra.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 477-515.
- La difesa aerea.
Rivista Aeronautica, Anno 8, N. 10 (ott. 1932), Roma.
- La guerra di domani.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 235-269.
- Incomprensione.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 445-484.
- LANDING. Flying boat lands on snow.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 290.
- See Janik, Franciszek: Obliczenie drogi dobiegu lądującego samolotu z uwzględnieniem hamowania kół.
- See Janik, Franciszek: Wpływ masy kół na równowagę lądującego samolotu.
- See Lighting: Nuovo dispositivo per facilitare le manovre di partenza e di atterraggio nel volo notturno.
- See Marriott, Joseph S.: How to avoid trouble with landings, normal and forced.
- See Rolinson, D.: Measurement of take-off and landing runs.
- See Rolinson, D.: Take-off and landing of aircraft.
- See Taub, Josef: Die auf die Stoss stelle der einseitigen Landung reduzierte Masse der Flugzeuge.
- See Weick, Fred E.: Preliminary investigation of modifications to conventional airplanes to give nonstalling and short landing characteristics.

- LANDING fields. *See* United States Department of Commerce. Aeronautics Branch: Description of airports and landing fields in the United States, Sept. 1, 1932.
- LANDING gear. *See* Casiraghi, G.: Progetto e calcolo del carrello d'atterraggio secondo la pratica Nord-Americana.
- *See* Cosci, G. A. Domenico: Freni alle ruote degli aeroplani.
- *See* Epstein, Albert: Analysis of landing gear fittings.
- *See* Janik, Franciszek: O obciążeniu i stateczności podwozia.
- *See* Janik, Franciszek: Obliczanie podwozi statycznie niewyznaczalnych.
- *See* Michael, Franz: Zur Frage der Abmessungen von Luftreifen für Flugzeuglaufräder.
- *See* Peck, William Cecil, and A. P. Beard: Drop and flight tests on NY-2 landing gears including measurements of vertical velocities at landing.
- *See* Scott-Hall, S.: Wheel brakes and undercarriages.
- LANDING speeds. *See* Windler, Ray: The effect of propellers and nacelles on the landing speeds of tractor monoplanes.
- LANDIS, WM. B. The National Aircraft Show.
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 5, 7.
- LANGER, P., and W. THOMÉ. Dynamic testing of airplane shock-absorbing struts.
National Advisory Committee for Aeronautics, Technical Memorandums No. 656, Jan. 28, 1932, Washington, January 1932, pp. 4, ills., diagrs.
- LANGER, R. III. Versuchergebnisse. 1. Neuere Profiluntersuchungen.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 30-66, diagrs., tabs.
- III. Versuchergebnisse. 5. Untersuchung von zwei Flugzeugmodellen.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 77-84, ills., diagrs., tabs.
- III. Versuchergebnisse. 21. Bremswirkung von Windschutzgittern.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 138-141, ills., diagrs., tabs.
- LANGLEY, M. Metal aircraft construction . . . a review for aeronautical engineers of the modern international practice in metal construction of aircraft.
London, Gale & Polden, Ltd., 1932, pp. vii, 240, ills., diagrs.
- LANGLEY, R. The model aeroplane manual.
London, Percival Marshall & Co., 1932, pp. 159, ills.
- LANGLEY FIELD. *See* Levinson, David: The development of Langley Field.
- LANGLEY FIELD CONFERENCE. *See* Klemin, Alexander: Reports from the Langley Field Conference.
- LANGSDORFF, WERNER VON. Jahrbuch der Luftfahrt. Jahrbuch 1931-1932.
München, Verlag J. F. Lehmann. 3 Teilbände. Militärluftfahrt, pp. 183, ills. Handels- und Verkehrsluftfahrt, pp. 227, ills.
Sportluftfahrt, pp. 171, ills.
- LANGUAGE. *See* Caspari, W.: Internationale sprachliche Verständigung in der Luftfahrt.
- LANIER. The Lanier vacuplane.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 54, ills.
- *See* Vacuplane: Le "Vacuplane" Lanier.

- LANPHER, T. G. Let's remove those barriers to increased private flying.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., pp. 9-10.
- LANSBORFF. Los aviones sin motor o con motores de poca potencia, ¿son propios para su empleo como aviones de escuela?
Icaro, Núm. 3, marzo, 1928, Madrid, pp. 72-76, ills.
- LARGE, Mrs. LAURA ANTOINETTE (STEVENS). Air travelers, from early beginnings to recent achievements.
Boston, Lothrop, Lee & Shepard Co., 1932, pp. 277, ills.
- LARSON, A. E. Autogiro development. Improvement in performance obtained through the use of streamlined cabin type fuselages.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., p. 15, ills.
- LA SALLE. See Sprague, E. Stuart: Copyright—radio and the Jewell-La Salle case.
- LASHA, S. S. Comments on stress analysis and design.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., p. 33.
- LATÉCOÈRE. L'idrosilurante "Latécoère 44."
Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 323-325, ills.
- L'idrovolante trimotore Latécoère 501.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 590-592, ills.
- The Latécoère Lat. 300.
Flight, Vol. 24, No. 1 (1201) (Jan. 1, 1932), London, pp. 11-13, ills.
- The Latécoère 501 commercial seaplane (French). A three-engine metal sesquiplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 170, Sept. 26, 1932, Washington, September 1932, pp. 4, ills.
- LATERAL control. See Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings.
- See Weick, Fred E., and Joseph A. Shortal: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. V—Spoilers and ailerons on rectangular wings.
- LATHES. Two new capstan lathes. Messrs. Alfred Herbert introduce a lathe with a wide range of speeds.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, p. 150, ills.
- LATIMER-NEEDHAM, Cecil Hugh. The 1932 B. G. A. open soaring competition.
Flight, Vol. 24, No. 38 (1238) (Sept. 16, 1932), London, pp. 876-877.
- See Needham, Cecil Hugh Latimer.
- LATIN AMERICA. See Harding, Gardner L.: Our air mail service with Latin America.
- LATVIA. Zollaufsicht.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, p. 164.
- See Ritenbergs, N.: Izlūku aviācijas darbība kaŗā.
- LAUNCHING. Catapult for launching airplanes.
Engineering, Vol. 133, Nos. 3457, 3458 (April 15, 22, 1932), London, pp. 447-449, 479-480, ills.
- See Massenot, Pierre: Le vol remorqué et le lancement par treuil.
- LAURENCE, N. F. The development of naval air work.
The Aeroplane, Vol. 42, No. 12 (March 23, 1932), London, pp. 510-511.

- LAUTIÉ, R. See Godchot, M., et Mlle. G. Cauquil. E. Carrière et R. Lautié. M. Schmitt: Étude sur les constituants des essences. (1) Contribution à l'étude physico-chimique des carbures cyclaniques, par M. Godchot et Mlle. G. Cauquil. (2) Recherches des constituants des essences d'aviation par mesures de densités ou d'indices de réfraction ou de viscosités, par E. Carrière et R. Lautié. (3) Études comparatives des colonnes à distiller en vue de la séparation des carbures d'hydrogène, par M. Schmitt.
- LAUW, AUGUST. See Madelung: Zur Verleihung des Hindenburg-Pokals an August Lauw.
- LA VAULX, HENRY DE. Il y a trente ans.
L'Aérophile, 40e année, No. 1 (Jan. 1932), Paris, p. 6.
- LAW, GEORGE. New Mexico's sky trails.
Nat. Aer. Mag., Vol. 10, No. 4 (April 1932), Washington, pp. 19-24, ills.
- LAWRENCE. The Lawrence fledgeling.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 122, 124, 126, ills.
- LAWRENCE, ARTHUR L. The future of gliding by auto tow.
Nat. Aer. Mag., Vol. 10, No. 12 (Sept. 1932), Washington, pp. 16-17, ills.
- LAWRENCE, CHARLES LANIER. Industry cooperates increasingly with N. A. C. A.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., p. 37.
- Our national aviation program, from a series of articles.
New York, Aeronautical Chamber of Commerce of America, inc., 1932, pp. xii, 208, ills., diags.
- LAWRENCE, CHARLES W. What of the private flyer?
Nat. Aer. Mag., Vol. 10, No. 3 (March 1932), Washington, pp. 13-15, ills.
- LAWRENTIEW, M. A. Über die konstruktion einer strömung die einen bogen von vorgegebener form umfließt.
UdSSR Die Hauptverwaltung der Flugzeugindustrie. Werke des Zentralen Aero-Hydrodynamischen Instituts, Lieferung 118, Moskau, 1932, pp. 66, diags.
- LAWs and regulations. Aviation law.
Aviation, Vol. 31, No. 3 (March 1932), New York, p. 115, maps.
- Reglamento de vuelos aprobado por la asamblea general.
Icaro, Año 5, Núm. 53 (mayo 1932), Madrid, p. 7.
- I. Responsabilità Civile—Danni arrecati da aeromobile militare—Responsabilità dell'Amministrazione militare (legge 20 agosto 1923 N. 2207, art. 40).
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 45-61.
- II. Responsabilità civile—Danni arrecati da aeromobile militare—Responsabilità del proprietario—Responsabilità dell'Amministrazione Militare: inammissibilità dell'azione per danni. (Leggi 27 novembrs 1919 n. 2365, art. 8; L. 20 agosto 1923, n. 2207, art. 40).
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 62-73.
- III. Responsabilità civile—Danni arrecati da aeromobili militari—Discrezionalità—Improponibilità dell'azione.
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 73-74.
- See Allied and associated powers: Protocol amending articles 3, 5, 7, 15, 34, 37, 41, 42 and the final clauses of the Convention for the Regulation of Aerial Navigation of October 13, 1919. Paris, June 15, 1929. Irish ratification deposited on April 9, 1930.

- LAWs and regulations.** *See* Allied and associated powers: Protocol relating to amendments to articles 34 and 40 of the Aerial Navigation Convention of October 13, 1919. Signed at Paris, December 11, 1929. Canadian ratification deposited September 19, 1930.
- *See* Ambrosini, Antonio: Liability for damages caused by aircraft on the ground. A proposed international code.
 - *See* Ambrosini, Antonio: Per un sistema del diritto aeronautico.
 - *See* Ambrosini, Antonio: Sulla figura giuridica dell' esercente di aeromobile.
 - *See* Ambrosini, Antonio: L'universalità del diritto aeronautico e le sue esigenze in rapporto al diritto interno.
 - *See* American Academy of Air Law: Annual report, 1931-1932.
 - *See* Babinski, Leon: L'aspect juridique de la notion du Commandant de l'Aéronef.
 - *See* Bessière, P.-L.: Le droit aérien.
 - *See* Brown, Harold Lincoln: Aircraft and the law.
 - *See* Cantoni, Alberto: Ancora sulla questione se il motore sia parte costitutiva essenziale dell'aeromobile.
 - *See* Cogliolo, Pietro: Il concetto unitario della colpa e il diritto aeronautico.
 - *See* Constantinoff, Jean: Le droit aérien français et étranger; droit interne et droit international.
 - *See* Doering, Hermann: Die Neugestaltung des Lufthebelörderungsvertrages in europäischen Luftverkehr.
 - *See* Donati, Benvenuto: Sulla autonomia del diritto aeronautico.
 - *See* Eubank, John A.: Airspace is not the property of surface owners.
 - *See* Eubank, John A.: Who owns the air?
 - *See* Ewing, Hampton Denman: The right of flight.
 - *See* Ferrara, Francesco, jr.: Il concetto di parte costitutiva, in relazione ai motori degli aeromobili.
 - *See* Ferrara, Francesco jr.: L'Ipoteca mobiliare ed insieme un contributo alla teoria della pubblicità.
 - *See* Ferrero, Ferruccio: Sulla responsabilità della P. A. per danni arrecati da aeromobili militari.
 - *See* Florida: New laws regulating Florida airways.
 - *See* Florida: Proposed aviation laws in Florida.
 - *See* Fragali, Michele: Autonomia e singolarità nel diritto aeronautico.
 - *See* Fragali, Michele: L'elemento psicologico nei reati aeronautici.
 - *See* Garner, James W.: International regulation of air warfare.
 - *See* Germany: Convenio general de navegación aérea con Alemania.
 - *See* Germany: Uebersicht über die deutsche Luftfahrt nach dem Stande Ende 1931.
 - *See* Giannini, Amedeo: I primi tentativi di regolamento della guerra aerea.
 - *See* Giannini, Amedeo: Saggi di diritto aeronautico.
 - *See* Gisart, Heinz: Funkrecht im luftverkehr.

- LAWs and regulations. *See* Gisci, Giovanni: La legittimazione dell'aeromobile alla navigazione aerea; prefazione del Prof. Antonio Ambrosini; presentazione di Guido Mattioli.
- *See* Giuliano, Enriques: Lo spazio atmosferico nel diritto internazionale.
- *See* Great Britain—Air Ministry: Air Ministry official notices. Instructions to aircraft owners and ground engineers regarding essential modifications.
- *See* Great Britain. Air Ministry: Notices to aircraft owners and ground engineers. 1920–1931 . . . Air Ministry . . . April 1932.
- *See* Great Britain: Air ministry restrictions.
- *See* Great Britain. Foreign Office: Exchange of notes between His Majesty's governments in the United Kingdom, Canada, the Commonwealth of Australia, New Zealand, and the Union of South Africa and the Italian government respecting documents of identification for aircraft personnel. London, April 13, 1931.
- *See* Hoffman, Willy: The Danish law of March 31, 1931, dealing with, protective measures against disturbances of radio broadcast reception.
- *See* Idaho. Department of Public Works. Aeronautics division: Idaho aeronautic law, air navigation facilities, air marking, licensing and regulation, miscellaneous information. Aeronautics bulletins Nos. 1 and 2, revised to June 1, 1931.
- *See* Illinois. Aeronautics Commission: Air school and aeronautic instruction regulations of the state of Illinois prescribed by the Illinois Aeronautics Commission and effective May 5, 1932.
- *See* International Air Regulation: The need of new code of international air regulation.
- *See* Iocco, Enrico: Il traffico aereo in Italia per le linee civili, con prefazione del ch. mo prof. avv. Vincenzo Sinagra della R. Università di Napoli.
- *See* Italy. Ministero dell'Aeronautica: Accordo fra il regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932.
- *See* Kennedy, Walter B.: Radio and the commerce clause.
- *See* Knauth, Arnold W.: Limitation of aircraft owners' liability.
- *See* Lechêne, A.: A propos du congédiement d'un moniteur.
- *See* Lupton, George W., jr.: Progress of aviation law.
- *See* MacKenzie, Norman: Legislative control over aviation in Canada.
- *See* McNair, Arnold Duncan: The law of the air (the Tagore law lectures of 1931).
- *See* Mandl, [Vladimir?]: Das weltraumrecht.
- *See* Marino, Salvatore: La responsabilità extracontrattuale aeronautica nella giurisprudenza italiana.

- LAWS and regulations. *See* Massachusetts: Legislation, rules and regulations relating to motor vehicles and aircraft. October, 1932.
- *See* Mattioli, Guido: L'internazionale dell'aria . . . Prefazione di G. Filippucci Giustiniani.
- *See* Melita, S. Cacopardo: Protezione giuridica delle popolazioni civili contro i pericoli della guerra aerochimica.
- *See* Melton, Charles L.: Radio.
- *See* Meyer, Alex: Gibt es gewerbsmässige Freiflüge?
- *See* Meyer, Alex: Rechtliche Glossen zum Falle Nobile.
- *See* New York: Laws affecting aviation of the State of New York 1932.
- *See* 1932: L'état de quelques questions, au 1er janvier 1932. (Projets de lois.)
- *See* O'Ryan, John F.: Limitation of aircraft liability.
- *See* Pennsylvania. State Aeronautical Commission: General rules and regulations governing aeronautics adopted by the State Aeronautical Commission. Revised, adopted and approved March 30, 1932. Effective April 1, 1932.
- *See* Pholien: Le droit aeronautique.
- *See* Poland: Zollverordnung.
- *See* Pond, Oscar Lewis: A treatise on the law of public utilities, including motor vehicle transportation, airports and radio service.
- *See* Reppy, Alison: American Academy of Air Law—Annual report.
- *See* Riccobono, Salvatore: Il diritto sullo spazio aereo secondo il diritto Romano.
- *See* Riese, Otto: Exposé sur l'avant-projet de convention relatif à la saisie conservatoire des aéronefs.
- *See* Russia: Le code de l'air de l'U. R. S. S.
- *See* Sandiford, Roberto: Legislazione e giurisdizione in materia penale nella navigazione aerea.
- *See* Sandiford, Roberto: Sulla repressione dei reati commessi a bordo di aeromobili.
- *See* Schäfer, Hans Ulrich: Die Fluginsel. Eine völkerrechtliche studie über probleme der künstlichen flugstützpunkte auf offener see.
- *See* Schenk, Ewalt: Der flughafen.
- *See* Slotemaker, Lambertus Hendrik: Freedom of passage for international air service.
- *See* Soaring flight: Proyecto de reglamento de Club de Aviación sin motor.
- *See* Somerhough, Anthony George: A guide to air force law procedure, from minor offences to court-martial.
- *See* Spaight, J. M.: An international air force.
- *See* Spain: Lineas Aéreas Postales Españolas. Decreto de la "Gaceta."
- *See* Spain: Sección oficial.
- *See* Sprague, E. Stuart: Copyright-radio and the Jewell-La Salle case.

- LAWs** and regulations. *See* Tauber, Ernst: Schadenersatzanspruch bei Betriebsunfall.
- *See* United States Department of Commerce. Aeronautics Branch: Airworthiness requirements for aircraft components and accessories. Effective March 1, 1933.
- *See* United States Department of State: International technical committee of aerial legal experts. Message from the President of the United States.
- *See* Vivent, Jacques: Exposé sur "les dispositions concernant les garanties à fournir par l'exploitant" introduites dans l'avant-projet relatif à la responsabilité pour dommages causés aux tiers à la surface.
- *See* Warner, Edward P.: The International Convention for Air Navigation: And the Pan American Convention for Air Navigation: A comparative and critical analysis.
- *See* Wilson, Gill Robb: How New Jersey regulates aeronautical activities.
- *See* Wisconsin: Aviation laws of Wisconsin.
- *See* Wüstendörfer, Hans: Principii ed organizzazione del traffico aereo sui mari.
- *See* Zollmann, Carl Frederick Gustav: Cases on air law, covering aviation and radio.
- LAYTE, RALPH R.** Increased safety through gas filtration.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 41-43, ills.
- LEA, F. C., and C. F. PARKER.** The effects of temperature on some of the physical properties of metals.
Engineering, Vol. 133, Nos. 3442, 3443 (Jan. 1, 8, 1932), London, pp. 23-26.
- LEAGUE OF NATIONS.** *See* Melita, S. Cacopardo: Le questioni aeronautiche alla Società delle Nazioni.
- *See* Pittard, Edmond: L'aéronautique et la Société des Nations.
- LEANDER.** Der technische Wettbewerb des dritten Internationalen Rundfluges 1932.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 19 (14. Okt. 1932), München und Berlin, pp. 582-588, diagrs., tabs.
- LE BOUCHER, JOSÉ.** Le destin de Joseph-Marie Le Brix; préface d'Antoine de Saint-Exupéry.
Paris, Nouvelle librairie française, 1932, pp. 236, ills.
- LE BRIX, JOSEPH-MARIE.** *See* Le Boucher, José: Le destin de Joseph-Marie Le Brix; préface d'Antoine de Saint-Exupéry.
- LE BROCCQ, L. F.** *See* Sutton, H., and L. F. Le Broccq: The protection of magnesium alloys against corrosion.
- LECHÊNE, A.** A propos du congédiement d'un moniteur.
L'Aérophile, 40e Année, No. 10 (oct. 1932), Paris, p. 315.
- LEDERER, JEROME.** Fire extinguishers.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 18-23, ills.
- A maintenance inspection manual.
- LEDoux, CHARLES.** Étude de la déformation des hélices.
Paris, E. Blondel La Rougery, 1932, pp. 103, ills., diagrs.
Publications scientifiques et techniques de Ministère de l'Air. Service des recherches de l'aéronautique. No. 15.

- LEE, DANA WILLIE. The effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays.
National Advisory Committee for Aeronautics, Report No. 425, Aug. 3, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, ills., diags.
- Experiments on the distribution of fuel in fuel sprays.
National Advisory Committee for Aeronautics, Technical Notes No. 410, March 18, 1932 (mimeographed), Washington, March 1932, pp. 14, ills., diagr.
- Experiments on the distribution of fuel in fuel sprays.
National Advisory Committee for Aeronautics, Report No. 438, Oct. 19, 1932, Washington, U. S. Government Printing Office, 1932, pp. 17, ills., diags.
- LEE, DANA WILLIE, and ROBERT C, SPENCER. Preliminary photomicrographic studies of fuel sprays.
National Advisory Committee for Aeronautics, Technical Notes No. 424, July 22, 1932, Washington, July 1932, pp. 7, ills.
- LEE, DANA WILLIE. See Rothrock, A. M., and D. W. Lee: Effect of the reservoir volume on the discharge pressures in the injection system of the N. A. C. A. spray photography equipment.
- LEE, JAMES. Four and a half centuries after.
Nat. Aer. Mag., Vol. 10, No. 2 (Feb. 1932), Washington, pp. 19-25, ills.
- LEE, JOHN G. Aeroplane maintenance as the designer sees it.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, pp. 128-129.
- LEE, T., jr. and ALAN F. BONNALIE. Knowledge from books.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 30-32.
- LEE, T., jr. Training the air-mail pilot.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., pp. 11, 14, Ill., port.
- LEES, ROBERT E. Week-end autogiroists.
Nat. Aer. Mag., Vol. 10, No. 2 (Feb. 1932), Washington, pp. 13-15, ills.
- LEES, WALTER. See Records: How Lees and Brossy established a new endurance record at Jacksonville.
- LÉGLISE, PIERRE. The Breguet 410 and 411 military airplanes (French). Multiplace sesquiplane fighters.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 163, June 3, 1932, Washington, May 1932, pp. 9, ills.
- LEHR, G. Remarques sur l'équilibrage des forces d'inertie dans les moteurs en étoile.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 228.
- LEIBER, FERDINAND. Ein neues Umkehrverfahren für Luftbildzwecke.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VI 44-50.
- Photographie unsichtbarer Farben.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VI 51-60, ills., diags.
- LEIMKUGEL, ERICH. Funkortung im Freiballon.
Luftschau, 5. Jahrg., Nr. 7 (10. April 1932), Berlin, p. 105.
- LEMKE, HANS. Ratgeber für deutsche Sportflieger bei Auslandsflügen. Eine Zusammenstellung der Luftverkehrsvorschriften der europäischen Länder unter besonderer Berücksichtigung der Flugbestimmungen, Einflugzonen und Sperrgebiete. Herausgegeben vom Deutschen Luftfahrt-Verband e.V.
Berlin, Verlag Gebr. Radetzki, pp. 168, ills.
- LESTONNAT, RAYMOND. L'Art, la Mer et l'Air.
L'Aérophile, 40e Année, No. 6 (juin 1932), Paris, pp. 163-164, ill.

- LESTONNAT, RAYMOND.** Le croiseur d'aviation "Commandant-Teste."
L'Aérophile, 40e Année, No. 8 (août 1932), Paris, pp. 230-232, ills.
- LETOV.** Letov S. 32.
Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, pp. 36-37, ills.
- LEVI-CASES, ARMANDO.** Una tabella dei rendimenti teorici dei motori ad iniezione diretta, e la sua significazione pel raffronto dei cicli dei motori aeronautici ad olio pesante.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 298-326, diags., tabl.
- LEVINSON, DAVID.** The development of Langley Field.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., pp. 11-12, ills.
- The part played by Greensboro in air transport development.
Southern Aviation, Vol. 4, No. 3 (Nov. 1932), Atlanta, Ga., pp. 13-14, ills.
- LEVY, H. H.** Latest developments in blind flying.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 7-9, ills.
- LEWIS, H. LATANE, II.** The Curtiss marine trophy race.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 20-21.
- Flying lifeboats of the Coast Guard.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 38-40.
- The military value of the autogiro.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 36-37.
- LEWIS, H. S.** The metallurgist and aviation.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., pp. 25-27.
- LEWIS-DALE, HENRY ANGLE.** Aviation and the aerodrome.
New York, J. B. Lippincott Company, 1932, pp. 168, ills.
- Aviation and the aerodrome. A treatise on the problems of aviation in relation to the design and construction of aerodromes.
London, C. Griffin & Co., Ltd., 1932, pp. xi, 168, ills.
Griffin's aeronautical series.
- LEXINGTON.** See United States Navy: Eight lives saved in Pacific by Navy flotation gear.
- LEY, WILLY.** Grundriss einer Geschichte der Kakete.
Leipzig, Hachmeister & Thal, 1932, pp. 16, ills.
- LEYAT, MARCEL.** Les dernières machines volantes de Marcel Leyat.
L'Aérophile, 40e Année, No. 11 (nov. 1932), Paris, pp. 331-332, ills.
- Un nouvel appareil l'Hélicat Marcel Leyat.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, p. 40, ills.
- LIABILITY.** See Knauth, Arnold W.: Limitation of aircraft owners' liability.
- See O'Ryan, John F.: Limitation of aircraft liability.
- LIBEL.** See Melton, Charles L.: Radio.
- LIBERT, M.** Le problème des réserves de l'air.
L'Aérophile, 40e Année, No. 10 (oct. 1932), Paris, pp. 289, 315.
- LIBRARIES.** See Courteilles, E. P. de: L'effort du centre de documentation aéronautique internationale (1927-1932).
- LIEBERS, Fritz.** Propeller tip flutter.
National Advisory Committee for Aeronautics, Technical Memorandums No. 683, Sept. 9, 1932, Washington, September 1932, pp. 17, ills., diags.
- Resonance vibrations of aircraft propellers.
National Advisory Committee for Aeronautics, Technical Memorandums No. 657, Feb. 8, 1932, Washington, February 1932, pp. 44, diags.

- LIEBERS, FRITZ.** Versuche über Luftschraubenschwingungen.
 Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin (1932), pp. II 20-28, ills., diags.
 Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 9 (14. Mai 1932), München und Berlin, pp. 251-259, diags.
- LIFT.** In search of high lift.
 Flight, Vol. 24, No. 45 (1245) (Nov. 3, 1932), London, p. 1024, ills.
- See Kramer, Max: Die Zunahme des Maximalauftriebes von Tragflügeln bei plötzlicher Anstellwinkelvergrößerung (Böeneffekt).
- See Kuhn, Paul: Working charts for the determination of the lift distribution between biplane wings.
- LIFT and drag.** See Bradfield, F. B., and J. Cohen: Lift and drag measured in a velocity gradient.
- LIGHT.** See Nukiyama, Daizô, and Atuzi Kobayasi: On the transmissibility of the visible light through a cloud of particles. (Part I)
- LIGHT planes.** Typical of recent developments in light planes are the models shown below.
 Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., p. 5, ills.
- See Galloway, R. B.: Manufacturing light planes.
- See Kratz, W. W.: Advantages and possibilities of the light plane.
- LIGHT projectors.** See Savage: The Savage projector.
- LIGHTING.** El alumbrado para la navegación aérea nocturna.
 Icaro, Año 5, Núm. 59 (nov. 1932), Madrid, pp. 5-6.
- Flare illumination. The Driggs-Faber system introduced in Great Britain.
 Flight, Vol. 24, No. 37 (1237) (Sept. 9, 1932), London, pp. 852-853, ills.
- Nuovo dispositivo per facilitare le monovre di partenza e di atterraggio nel volo notturno.
 Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 612-613, ills.
- See Beacon system: Completing the beacon system on the Southern Transcontinental Route.
- See Born, F.: Die Empfehlungen den Internationalen Beleuchtungskommission und ihr Einfluss auf das Befeuerungswesen im Luftverkehr.
- See Eredia, Filippo: Disposizioni per i sondaggi notturni con palloni piloti.
- See Flint, H. K.: Floodlighting the Detroit airport.
- See Germany: Lighting German airports.
- See Mioche, R., et R. Monteil: Le matériel électrique utilisé au sol dans l'aéronautique.
- See Pter: Fin fyr för flygare.
- See Watson, George H.: Lighting the Birmingham airport.
- LILIENTHAL, OTTO.** Otto Lilienthal.
 Die Ludtreise, Heft 2, 1. Sept. 1932, Berlin, pp. 40-41, ills.
- LILJEBERG, KARL BERNHARD.** See Lindner, K. G.: Fallna på sina poster.
- LINCKE, JACK.** Developing more and better publicity for the aviation industry.
 Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 18-18, 27.

- LINCKE, JACK.** Inspection and maintenance of steel propellers.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., pp. 7-8, ills.
- Instrument maintenance.
Southern Aviation, Vol. 4, No. 3 (Nov. 1932), Atlanta, Ga., pp. 5-7, ills.
- Servicing the Navy's airplanes.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 12-14, ill.
- LINCOLN, NEBRASKA.** *See* Green, Roy M.: Construction of runways, Union Airport.
- LINDBERGH, CHARLES AUGUSTUS.** Lindbergh inaugurates new Pan American route.
Southern Aviation, Vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., p. 19.
- LINDNER, FRED V.** Der segelflug.
Prag, Im eigenen verlage des vereines; Reichenberg, Vertriebsstelle: Verlagsbuchhandlung gebrüder Stiepel ges. m.b.h. 1932, pp. 40, ills.
- LINDNER, K. G.** Fallna på sina poster.
Flygning, Årg. 10, N:R 9 (Sept. 1932), Stockholm, pp. 151, 160, ports.
Karl Bernhard Liljeberg and Nils Uttergård.
- LINDSAY, K. S.** Roosevelt field's twenty-fourth anniversary.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 42, 44.
- LINEAS AÉREAS POSTALES ESPAÑOLAS.** Constitución de una entidad mercantil de Líneas Aéreas Postales Españolas.
Icaro, Año 5, Núm. 54 (junio 1932), Madrid, pp. 5-6, ill.
- LINTON, GRANT.** Ring cowling.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, p. 63.
- LINTON-HOPE.** *See* Wigley, W. C. S.: Mathematical investigation of strength of wooden seaplane hulls of the Linton-Hope type of construction.
- LIORÉ, OLIVIER.** L'hydravion de surveillance Lioré Olivier LeO H.23.2 650 CV. (France).
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, p. 145, ills.
- LIORÉ & OLIVER.** A LeO autogiro.
Flight, Vol. 24, No. 45 (1245) (Nov. 3, 1932), London, p. 1132, ill.
- LIPPIAT, H. C.** It's the motor.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, pp. 21, 60.
- LIPPISCH, A.** Das Problem des schwanzlosen Flugzeuges und seine Weiterentwicklung zum Nurflügelflugzeug.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., No. 22 (23. Nov. 1932), München und Berlin, pp. 653-658, ills., diags.
- The tailless aeroplane.
Flight, Vol. 24, No. 50 (1250) (Dec. 8, 1932), London, p. 1168, ills.
- LITCHFIELD, P. W.** Establishing an airship building industry.
U. S. Air Service, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 24-26.
- LLOYD, ARTHUR G.** Inspection gauges used in aircraft engine production.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 25-26, ills.
- LOAD.** Circular ring with concentrated loads.
Air Corps Information Circular, Vol. 7, Mo. 673 (June 30, 1932), Washington, pp. 3, ills.
Air Corps Technical Report No. 3522.
- Load factors on airplanes.
Aviation, Vol. 31, No. 5 (May 1932), New York, pp. 219-222, diagr.

- LOAD.** A system of load determination. A further step towards the development of a purely rational design process.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, pp. 73-75, ills.
- Two charts. Wing loading, power loading, and high speed.
Aviation, Vol. 31, No. 6 (June 1932), New York, p. 260, diags.
- See Diehl, Walter S.: The estimation of maximum load capacity of sea-planes and flying boats.
- See Förstner, Gustav: Vereinfachtes Verfahren zur Berechnung der Flugleistungen von Landflugzeugen.
- See Pack, Mendel N., and Howard Z. Bogert: Comparison of the structural design requirements for airplanes with the loads obtained in full scale pressure distribution tests.
- See Rhode, Richard V., and Henry A. Pearson: A method for computing leading-edge loads.
- See Warner, Edward P.: The rational specification of aeroplane load factors.
- LOAD factors.** The determination of load factors. A method developed in America which is theoretically correct while easily applied.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 45-49, diags., tabl.
- LOAD test.** See Yamamoto, Mineo: An improved form of jack for use in the load test of aeroplanes.
- LOCATELLI, DOMENICO.** Considerazioni sulle "Memorie del Barone von Richtigofen."
Rivista Aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 410-415.
- LOCK, C. N. H., and H. BATEMAN.** Airscrews at negative torque.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 305-310, diags., tabs.
- Analysis of experiments on the interference between bodies and tractor and pusher airscrews.
Aer. Res. Comm., Rep. Mem. No. 1445, June 1931, London, 1932, pp. 38, ills., diags., tabs.
- LOCK, C. N. H.** The application of Goldstein's theory to the practical design of airscrews.
Aer. Res. Comm., Rep. Mem. No. 1377 (Ae. 502), November 1930, London, 1932, pp. 24, diags., tabs.
- Theory of airscrew body interference. Application to experiments on a body of fineness ratio 3.0 with tractor airscrew.
Aer. Res. Comm., Rep. Mem. No. 1378, May 1931, London, 1932, pp. 23, ills., diags., tabs.
- LOCK, C. N. H., F. C. JOHANSEN, and H. L. NIXON.** Thrust integrating tubes: Wind tunnel experiments.
Aer. Res. Comm., Rep. Mem. No. 1447, August 1931, London, 1932, pp. 22, ills., diags., tabs.
- LOCKSPUISER, B.** Ventilation of 24-ft. tunnel.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 731-740, ills., diags. Reports and Memoranda No. 1372, (Ae. 499).
- See Clark, K. W., and B. Lockspeiser: Wind tunnel tests on aerofoils at negative incidences.
- LOCKSPUISER, B., and C. CALLEN.** Wind tunnel tests of recommendations for the prevention of wing flutter.
Aer. Res. Comm., Rep. Mem. No. 1464 February 1932, London, 1932, pp. 32, ills., diags., tabs.

- LOCKWOOD, RALPH G. A maintenance yardstick for the designer. Parts 1 and 2.
Aviation, Vol. 31, Nos. 1, 2 (Jan. Feb. 1932), New York, pp. 77-78, tabl.
- LOEDDING, ALFRED C. Future aspects of the soaring plane.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, pp. 49-50.
- LÖHNER, KURT. Die Reibungswiderstände des Flugmotors.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 2 (28 Jan. 1932), München und Berlin, pp. 51-54, diagrs.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof München und Berlin, [1932], pp. IV 1-4, diagrs.
- LOIRE. See Loyer, P.: The Loire 11 colonial military airplane (French). A high-wing semicantilever all-metal monoplane.
- LÖNNEGREN, JOHN. Över Persiska Alperna och Kaspiska Havet. En flygtur Teheran-Baku.
Flygning, Årg. 10, N: R 11 o 12 (Nov., Dec. 1932), Stockholm, pp. 200-201.
- LOS ANGELES. Grand central air terminal, Los Angeles (Glendale) California.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 32-33, ills.
- LOTZ, I. Calculation of potential flow past airship bodies in yaw.
National Advisory Committee for Aeronautics, Technical Memorandums No. 675, July 11, 1932, Washington, July 1932, pp. 27, ills., diagrs.
- LOTZ, J. Theorie von Flügeln mit Ausschnitten.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 410-413, diagrs.
- See Betz, A., and J. Lotz: Reduction of wing lift by the drag.
- See Betz, A., und J. Lotz: Verminderung des Auftriebes von Tragflügeln durch den Widerstand.
- LOUIS, RICHARD. 30 Jahre Zeppelin-luftschiffahrt, bearbeitet im auftrage des Luftschiffbau Zeppelin.
Eilenburg, Sachsen, Druck: C. W. Offenbauer, 1931? pp. 40, ill.
- LOUISIANA. Louisiana planes win major honors at the National Air Races.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., pp. 5-6, ill.
- LOUSINE, N. N. On the Acad Tchaplignin's method of approximate integration of differential equations.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 141, Moscow, Leningrad, 1932, pp. 32, diagrs.
- LOVE FIELD. The unique lighting system at Love Field.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., pp. 10-12, illus.
- LOWE-WYLDE. Mr. Lowe-Wylde's "Babies."
Flight, Vol. 24, No. 49 (1249) (Dec. 1, 1932), London, pp. 1147-1148, ills.
- LOYER, P. The Loire 11 colonial military airplane (French). A high-wing semicantilever all-metal monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 157, March 12, 1932, Washington, March 1932, pp. 8, illus.
- LUBIANA. See P., C.: Ai margini della storia. Gli eroi di Lubiana.
- LUBRICANTS. See Damian, J.: Méthode d'appréciation des lubrifiants.
- See Vaughan, Guy V.: Fuels and lubricants in relation to engine design.
- LUBRICATION. See Brown, E. C.: Lubrication fallacies, fads and fancies.

- LUBRICATION. See King, R. O., and H. Moss: Detonation, mineral lubricating oils and blended fuels.
- See Nücker, Walter: *Über den Schmiervorgang im Gleitlager.*
- LUCÍA, CÉSAR GÓMEZ. *La autonomía económica del tráfico aéreo.*
Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 51-52.
- *La aviación comercial en España.*
Icaro, Año 5, Núm. 51 (marzo 1932), Madrid, pp. 6-8.
- LUCZYŃSKI, ZBIGNIEW. *Badania doświadczalne nad współpracą dźwigarów w skrzydłach wolnonośnych. (Études expérimentales sur la coopération des longerons dans les ailes en porte à faux).*
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8, (Nr. 40), Warszawa, 1932, pp. 83-129, ills., diags., tabs.
- LÜRENBAUM, KARL. *Praktische Drehschwingungs-Untersuchung von Luftfahrzeug-Triebwerken.*
Zeitschr. Flug. Motorluftsch., 23. Jahrg., Nr. 4 (29. Feb. 1932), pp. 105-113, ills., diags., tabl.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. IV 13-21, ills., diags., tabl.
- *Torsional vibration of aircraft engines.*
National Advisory Committee for Aeronautics, Technical Memorandums No. 672, June 2, 1932, Washington, May 1932, pp. 16, ills., diags., tabs.
- LUFFLOTEN. *El vuelo a vela.*
Icaro, Núm. 11, nov. 1928, Madrid, pp. 323-329, ills.
- LUFTHANSA. *Construcción de aeropuertos.*
Icaro, Núm. 12, dic. 1928, Madrid, pp. 352-353.
- LUNDQUIST, EUGENE E. *The compressive strength of duralumin columns of equal angle section.*
National Advisory Committee for Aeronautics, Technical Notes No. 413, March 31, 1932, Washington, March 1932, pp. 12, ills., diags.
- *Strength tests on thin-walled duralumin cylinders in torsion.*
National Advisory Committee for Aeronautics, Technical Notes No. 427, Aug. 12, 1932, Washington, August 1932, pp. 8, ills., diags., tabl.
- LUNKEN. *Lunken airport dedication September 26-27.*
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., p. 27, ill.
- LUNTZ, MICHEL. *Hydrodynamique expérimentale.—Sur le profils virtuels de moindre résistance.*
C. R. Acad. Sci., T. 194, No. 5 (1er fév. 1932), Paris, pp. 439-440, ill.
- LUPTON, GEORGE W., JR. *Progress of aviation law.*
Aviation, Vol. 31, No. 12 (Dec. 1932), New York, pp. 463-465.
- LUSK, HILTON F. *A general text on aeronautics; fundamentals and their application.*
New York, The Ronald Press Company, 1932, pp. xii, 420, ills., diags.
- *And thus it flies.*
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 27-30.
- LYCOMING. *Lycoming model R-608-BA engine.*
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 62-63, ill., diagr.
- LYMAN, JOSEPH. *Ultra-short-wave radio tests.*
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 24, 79, ills.

LYTHGOE, R. J., DOROTHY E. CORKILL and E. S. PEARSON. X. The measurement of visual acuity.

Privy Council, Medical Research Council, Reports of the Committee upon the physiology of vision, Special Report Series No. 173, London, published by His Majesty's Stationery Office, 1932, pp. 85, ills., diagrs., tabs.

M

MG7. MG7, the new light alloy.

The Aeroplane, Vol. 42, No. 2 (Jan. 13, 1932), London, pp. 78-80, tabs.

MAAS, M. J. This magnificent age.

U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 21-22.

McADOO, WILLIAM GIBBS. See Newton, Byron R.: McAdoo, genius of transportation, prefers the airplane. Has tried everything from mules to motor cars.

McALERY, C. M. High speed flying.

The Aeroplane, Vol. 42, No. 13 (March 30, 1932), London, pp. 548-550.

— The Royal Air Force in 1931.

The Aeroplane, Vol. 42, No. 1 (Jan. 6, 1932), London, pp. 14-16.

— The thirteenth R. A. F. display.

The Aeroplane, Vol. 42, No. 26 (June 29, 1932), London, pp. 1192, 1194, 1196-1198, 1202-1206, ills.

McAVOY, WILLIAM H., OSCAR W. SCHEY and ALFRED W. YOUNG. The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines.

National Advisory Committee for Aeronautics, Report No. 414, April 13, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, ills., diagrs., tabs.

McCaw, G. T. See Gruber, O. von: Photogrammetry. Collected lectures and essays. Translated by G. T. McCaw and F. A. Cazalet.

McCLURE, IVOR. Ni skall bli nöjd.

Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, pp. 745-747, ills.

McCUSTION, A. L. Sound airport administration.

Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 11-12, 14, port.

McDANIEL, RUEL. Equalizing taxes with aerial surveys.

Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., pp. 3-4, ill.

— A newplane delivery service.

Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 13, 18, ill.

McDERMOND, C. C. See Alaska: A trip on scheduled airlines from the Tropics to Alaska.

McDONALD, H. STEWART. From federal funds.

Western Flying, Vol. 12, No. 2 (Aug. 1932), Los Angeles, pp. 16-17.

McKEE, JAMES H. Hollow steel propellers.

Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, p. 45.

MACKENZIE, NORMAN. Legislative control over aviation in Canada.

Air Law Review, Vol. 3, No. 4 (Oct. 1932), New York, pp. 407-416.

McKINLEY, ASHLEY C. Mapping the Antarctic from the air. The aerial camera earns its place as the eyes and memory of the explorer.

National Geographic Magazine, Vol. 62, No. 4 (Oct. 1932), Washington, D. C., pp. 470-485, ills.

MACLEAN, JOHN KENNEDY, and CHELSEA FRASER. Heroes of the farthest North and farthest South.

New York, Thomas Y. Crowel Company, 1932, pp. xiv, 472, ills.

- McMULLEN, A. B. *See* Abbott, Bill: McMullen sells airplanes by analyzing the problems of each prospect.
- McNAIR, ARNOLD DUNCAN. The law of the air (the Tagore law lectures of 1931). London, Toronto, Butterworth & Co., Ltd., 1932, pp. xv, 249.
- MACON. America's giant airship nearly ready. *Flight*, Vol. 24, No. 53 (1253) (Dec. 29, 1932), London, p. 1228, ill.
- MACON. The U. S. S. "Macon." Construction of new American airship well advanced. *Flight*, Vol. 24, No. 21 (1221) (May 20, 1932), London, p. 444, ill.
- McPHAIL, C. B. Over-night to the West Coast. *Southern Aviation*, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., pp. 3-4, ills.
- MADELUNG. Zur Verleihung des Hindenburg-Pokals an August Lauw. *Luftschau*, 5. Jahrg., Nr. 10 (24. Mai 1932), Berlin, pp. 153-154.
- MAGALDI, GIULIO. Considerazioni sull'idrovolante gigante "Do" X. *L'Aerotecnica*, Vol. 12, N. 5 (Mag. 1932), Roma, pp. 647-662, 788, ills.
- Il raggio d'azione dell'idrovolante odierno. *Rivista Aeronautica*, Anno. 8, N. 11 (Nov. 1932), Roma, pp. 232-252.
- MAGNAN, ANTOINE, and A. SAINTE-LAGUË. Étude des trajectoires et des qualités aéro-dynamiques d'un avion par l'emploi d'un appareil cinématographique de bord. *Publ. Scient. Techn. Min. Air Serv. Rech. Aér.*, No. 9, Paris, 1932.
- MAGNAN, ANTOINE. Methods of recording rapid wind changes. National Advisory Committee for Aeronautics, Technical Memorandums No. 692, Nov. 10, 1932, Washington, November 1932, pp. 13, ills., diags., tabl.
- Le vol des oiseaux et le vol des avions. *Service Technique de l'Aéronautique. Bull. Tech.*, No. 74, June 1931.
- MAGNAN, ANTOINE, et A. SAINTE-LAGUË. Sur la distribution des vitesses aéro-dynamiques autour d'un avion en vol. Paris, E. Blondel La Rougery, 1932, pp. 55, ills., diags., tabls. Publications scientifiques et techniques du Ministère de l'Air. Service des recherches de l'aéronautique, No. 12.
- MAGNESIUM alloys. *See* Kroenig, W., and G. Kostylew: Corrosion of magnesium alloys. Part 1. Protection of magnesium alloys by means of oxide films.
- *See* Sutton, H., and L. F. Le Brocq: The protection of magnesium alloys against corrosion.
- MAGNETS. *See* Blind landings: Blind landings by magnets.
- MAGNET steel. *See* Steel: Acciai per magneti.
- MAGNETOS. *See* Ignition: Un nuevo encendido alemán por magneto para motores de aviación.
- *See* Thompson, James G.: Servicing a magneto.
- MAGYAR, ALEXANDER. Aerial navigation in practice. *Nat. Aer. Mag.*, Vol. 10, No. 6 (June 1932), Washington, pp. 16-18, ill., diags.
- MAHACHEK, ROSS. Airplane pilot's manual. New York, London, G. P. Putnam's Sons, 1932, pp. xiv, 383, ills., diags.
- MAIL. Air mail. *Aviation*, Vol. 31, No. 3 (March 1932), New York, pp. 106-108, diags., tabls.
- The new air mail rates. *Flight*, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, p. 756.
- *See* Baldwin, N. C.: The air mails of British Africa, 1925-1932.

- MAIL.** See Doe, Thomas B.: The air mail campaign.
- See Fechet, James E.: Air mail and national defense.
- See Findley, Roger S.: Read these figures and use air mail. How our 8-cent stamp is spent.
- See Germany: Entwicklungsmöglichkeiten des deutschen luftpostverkehrs.
- See Glover, W. Irving: The air mail.
- See Glover, W. Irving; Costs of air mail operations.
- See Grey, Charles Grey: On this air mail business.
- See Harding, Gardner L.: Our mail service with Latin America.
- See Lee, T. jr.: Training the air mail pilot.
- See Pirozzi, Alfonso: Attività di organi internazionali per lo sviluppo della posta aerea.
- See Schultz, Edward A.: The log of the 668-M.
- See South Africa: The air mail to South Africa.
- See Spain: Discusión en las Cortes Constituyentes referente a las líneas aéreas postales Españolas.
- See Spain: Lineas Aéreas Postales Españolas. Decreto de la "Gaceta."
- See United States Congress. House. Committee on the Post Office and Post Roads: Air mail. Hearing before the Committee on the Post Office and Post Roads, House of Representatives, Seventy-second Congress, first session, on H. R. 8390 and 9841. March 1, 2, 3, 4, 23, 1932.
- See United States Post Office Department: Air mail contracts. Letter from the Postmaster General transmitting in response to Senate Resolution No. 53 certain information relative to air mail contracts . . .
- MAINTENANCE.** Checking Caribbean cruisers.
Aviation, Vol. 31, No. 7 (July 1932), New York, pp. 297-298.
- Controlling costs by planning.
Aviation, Vol. 31, No. 10 (Oct. 1932), New York, pp. 408-410, ill.
- Maintaining aircraft in the Southwest.
Aviation, Vol. 31, No. 11 (Nov. 1932), New York, pp. 444-446, ill.
- Maintenance from two points of view.
Aviation, Vol. 31, No. 6 (June 1932), New York, pp. 267-269, tabs.
- Thompson, James G.: Engine service and maintenance.
- See Benton, Burt: Amphibion maintenance.
- See Bredouw, H. L.: Problems of maintenance and overhaul on aircraft and engines.
- See Burt, R. M.: Building airplane service on a profitable basis.
- See Dwerlkotte, L. H.: Tracking down maintenance expenses.
- See Force, Kenneth: Maintenance of an airline.
- See Johnston, S. Paul: Concentrating maintenance for efficiency.
- See Johnston, S. Paul: Decentralized overhaul for coast-to-coast service.
- See Johnston, S. Paul: Drydocks for airliners.
- See Johnston, S. Paul: Transport servicing for private flyers.

- MAINTENANCE.** See Lee, John G.: Aeroplane maintenance as the designer sees it.
- See Lockwood, Ralph G.: A maintenance yardstick for the designer.
- See Marriott, Joseph S.: How to inspect a plane.
- See Nagel, C. F., jr., and G. O. Hoglund: How to take care of dural.
- See Thompson, James G.: Engine service and maintenance.
- See Thompson, James G.: Servicing a magneto.
- MAITLAND, C. E., and J. H. C. WAKE.** Comparative handling tests of three Bristol Fighter aircraft with different types of slots.
Aeronautics. Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 529-536, ills.
- MAKHONINE.** The Makhonine way.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, pp. 417-418, ills.
- MAKHONINE, M.** El avion de superficie variable del ingeniero Makhonine.
Icaro, Año 5, Núm. 54 (Junio 1932), Madrid, pp. 10-11, ills.
- MALAVARD, L.** Aérodynamique.—Sur le problème fondamental concernant l'aile d'envergure finie.
C. R. Acad. Sci., T. 195, No. 18 (2 nov. 1932), Paris, pp. 733-736, diagrs.
- MALINA, J. B.** Luftfahrt voran.
Berlin, Newfeld & Henius, 1932, pp. 300, ills.
- MALUQUER, JUAN J.** La enseñanza elemental en las agrupaciones de V. S. M.
Icaro, Año 5, Núm. 56 (Agosto 1932), Madrid, pp. 12-13.
- Sobre el accidente de Jaca.
Icaro, Año 5, Núm. 54 (Junio 1932), Madrid, pp. 12-13, ills.
- Sobre la agrupación de asociaciones de vuelo sin motor.
Icaro, Año 5, Núm. 53 (Mayo 1932), Madrid, pp. 4-5.
- MANCHURIA.** See Japan: Die Japanischen luftstreitkräfte in Mandschurischen kriege.
- MANDL, [VLADIMIR?]** Das weltraumrecht.
Mannheim, Verlag Banschelmer, 1932, pp. 48.
- MANOMETER.** See Betz, A.: I. Neue Versuchseinrichtungen. 3. Ein neues Mikromanometer.
- See Small, James: Simple tilting manometer for rapid reading.
- MAPPING.** See Georgia: Aerial photography for Georgia highway department.
Contract let for mapping Georgia-Louisiana tract.
- See Surveying.
- MAPS.** Maps for flying.
Flight, Vol. 24, No. 32 (1232) (Aug. 5, 1932), London, p. 739, ills.
- See Aéro-Club de France: La carte normale aéronautique de l'Aéro-Club de France, au 200.000°.
- See Africa: The latest African air survey.
- See Canada. Department of the Interior. Surveys Branch: The use of aerial photographs for mapping.
- See Coltharp, Robert: Air mapping as a business.
- See Coppellotti, Celestino: Aviazione per l'esercito e topografia.
- See Eliel, L. T.: Aerial mapping.
- See Gardner, Irvine C.: The optical requirements of airplane mapping.

- MAPS. *See* Salt, J. S. A.: Air survey.
- *See* Texas: Aerial maps of Texas county effect great savings.
- MARBEN, ROLF. Zeppelin adventures.
London, John Ham Iton, Ltd., 1932, pp. 232, ills.
- MARCONI-ADCOCK. *See* Wireless: Wireless and night flying. The Marconi-Adcock direction finder.
- MARCUSE, ADOLFO. Informe sobre una orientación astronómica en el aire, mediante medios gráficos, sin cálculo.
Icaro, Núm. 12, Dic. 1928, Madrid, pp. 361-362.
- MARDLES, E. Report on the oxidation characteristics of fuel vapours with regard to engine detonation.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 764-789, ills., diagrs.
Reports and Memoranda No. 1374, (E. 46).
- MARGERIT, AD. La exploración de la estratosfera. Datos y resultados publicados por el Professor Piccard.
Ibérica, Año 19, Núm. 940 (3 sept. 1932), Barcelona, pp. 97, 106-109, ill.
- La exploración de la estratosfera. Diario de a bordo del Profesor Piccard.
Ibérica, Año 19, Núm. 932 (11 junio 1932), Barcelona, pp. 369, 376-381, ills.
- MARIN, N. J. Classification of mechanical properties of rigid bodies and their numerical determination.
USSR People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 139, Moscow, Leningrad, 1932, pp. 20, diagr.
- MARINES. *See* Geiger, Roy S.: The Marines take wing.
- MARINO, SALVATORE. La responsabilità extracontrattuale aeronautica nella giurisprudenza italiana.
Riv. Dir. Aer., N. 1, Gen. 1932-X, Roma, pp. 74-90.
- MARK 1A. *See* Jones, D. A.: The R. A. E. automatic observer Mark 1A.
- MARK, FREDERICK A. Agricultural aviation.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, p. 17.
- MARKINGS. *See* Blondel la Rougery, Ed.: Pour les terrains d'aviation privés.
- *See* Ingalls, David S.: Universal air marking
- MARMONNIER. La réalisation du stabilisateur Marmonnier.
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, p. 146, ill.
- MARMONIER, L. Avion-hélicoptère à hélices orientables.
Lyon, Bosc Frères, M. & L. Riou, 1932, pp. 15, ills.
- Stabilisateur automatique pour aéroplanes à actionnement pneumatique.
Lyon, Impr. Gautier & Laforet, 1932, pp. 35, ills.
- MARQUIS, RAOUL. Graffigny, H. de [pseud]. L'exploration de la haute atmosphère et de l'espace interplanétaire.
1932, ills.
- Irons-nous dans la lune? . . . Avec une préface de l'abbé Th. Moreux . . .
Illustré de gravures explicatives, dessinées par l'auteur.
Paris, Éditions spes., 1932, pp. 188, ills.
- MARRIOTT, JOSEPH S. How to avoid stalls and spins.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 16-18.
- How to avoid trouble on the take-off.
Western Flying, Vol. 11, No. 6 (June, 1932), Los Angeles, pp. 10-12.

- MARRIOTT, JOSEPH S. How to avoid trouble with landings, normal and forced.
Western Flying, Vol. 12, No. 12 (6) (Dec. 1932), Los Angeles, pp. 18-21.
- How to inspect a plane.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, pp. 14-17.
- MARSH, E. C. J., and E. MILLS. Oil quenching of steel. An analysis of the properties of various oils showing their relative suitability.
Aircraft Engineering, Vol. 4, No. 44 (Oct. 1932), London, pp. 255-258, diags., tabs.
- Temporary rust preventers. The short-period protection of metals, with special reference to grease and oils.
Aircraft Engineer, Vol. 4, No. 37 (March 1932), London, pp. 57-62, ills.
- MARSH, EDRÉD THOMAS. See Gellales, Achille George, and E. T. Marsh: Rates for fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines.
- MARSHALL, A. H. Installation of radial air-cooled engines.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 14-16, 43, ills.
- MARSHALL, DOROTHY. See Stanton, T. E., and Dorothy Marshall: On the eddy system in the wake of flat circular plates in three dimensional flow.
- MARTIN, BRIAN. Monospar aeroplane production. A description of the methods used in the construction and erection of this interesting monoplane.
Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, pp. 177-179, ills.
- MARTIN, HARALD. England-Australien på rekordtid med Världens minsta standardflygplan.
Flygning, Årg. N:R 1 (Jan. 1932), Stockholm, pp. 4-5, 15, ills.
- Hutchinsons familjeflygning. Till skada eller gagn för flygpropagandan?
Flygning, Årg. 10, N:R 9 (Sept. 1932), Stockholm, p. 157, ill.
- MARTLESHAM. See Scott-Hall, S.: Aeroplane performance testing. Theoretical and practical aspects of methods employed at Martlesham with civil aircraft.
- MARVIN, CHARLES F. Weather service in aid of air navigation.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, p. 5.
- MASON, GEORGE. Observing the solar eclipse from 16,500 feet.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 39-40.
- MASON, L. G. Airport promotion of private flying.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., pp. 13-14, ill.
- Mason's systematic methods of inspection and records.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 13-14, ills.
- MASSACHUSETTS. Legislation, rules and regulations relating to motor vehicles and aircraft. October, 1932.
Boston, 1932, pp. 183, ills., tabs.
- MASSENET, PIERRE. Le concours de la Rhoen de 1932.
L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, pp. 271-274, ills.
- Les terrains de vol à voile.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, p. 110, ills.
- Le vol sans moteur et les pilotes.
L'Aérophile, 40e année, No. 5 (mai 1932), Paris, p. 141.
- Le vol remorqué et le lancement par treuil.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, pp. 80-81, ills.
- MAST. See Akron: Mobile mast for mooring the Akron. The Resilient structure of the Akron.

- MATCHESI, A. A. VITTORIO.** Come si giunse, alla società delle nazioni, alla redazione del progetto di convenzione per la riduzione e limitazione degli armamenti.
Rivista Aeronautica, Anno 8, N. 2 (Feb. 1932), Roma, pp. 173-221, tabs.
- MATERIALS.** See Gough, H. J., and H. L. Cox: The mode of deformation of a single crystal of silver.
- See Newell, Joseph S.: Data on the strength of aircraft materials.
- See Vázquez-Garriga, J.: Nuevos métodos de análisis aplicables a los materiales empleados en la aviación.
- MATERIALS of construction.** See Brenner, Paul: Baustofffragen bei der Konstruktion von Flugzeugen.
- See Brenner, Paul: Problems involved in the choice and use of materials in airplane construction.
- See Schraivogel, Karl, and Erich K. O. Schmidt: Untersuchung von Duralplattblechen. Mechanisch-technologische versuche, von K. Schraivogel. Korrosionversuche, von Erich K. O. Schmidt.
- See Stedman, E. W.: An engineer's conception of matter and its application to materials of construction
- MATHIAS, GOTTHOLD.** Querruderform und Querruderwirkung.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, 1932, pp. VIII 32-34, diags.
- Die Seitenstabilität des ungesteuerten Normalfluges und ihre technischen Vorbedingungen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 7, 8 (14. 28. April 1932), München und Berlin, pp. 193-199, 224-232, tabl.
Jahrb. 1932 Deutschen. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, 1932, pp. VIII 17-31, tabl.
- See Blenk, Herman, and Gotthold Mathias: Zur Vereinheitlichung der Formelzeichen der Flugmechanik im deutschen Schrifttum.
- MATTEI, PIETRO.** Aeronautica veloce.
Rivista Aeronautica, Anno 8, N. 3 (Marzo 1932), Roma, 416-419.
- MATTER.** See Stedman, E. W.: An engineer's conception of matter and its application to materials of construction.
- MATTHAES, KURT.** Röntgenuntersuchung von Flugzeugbauteilen bei der DVL.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. V 59-64, ills.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 15 (12. Aug. 1932), München und Berlin, pp. 459-464, ills.
- MATTHIAS, HEINZ.** Mit den Fliegern aus aller Welt in Rom.
Luftschau, 5. Jahrg., Nr. 11 (10 Juni 1932), Berlin, pp. 171-172.
- MATTHIAS, JOACHIM.** Hervorragende Segelflugachtleistungen.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 184-185, ill.
- MATTIOLI, GUIDO.** La coppa Schneider.
Roma, 1932?
- L'internazionale dell'aria. . . Prefazione di G. Filippucci Giustiniani.
Roma, "Editrice l'Aviazione", 1932, pp. 68, ills.
- Transvolatori di oceani e le comunicazioni aeree intercontinentali e transoceaniche.
Roma, Editrice "L'Aviazione", 1932, pp. 79, ills., maps.

- MATTIOLI, GUIDO.** *See* Bartocci, Enzo, e Guido Mattioli: *L'ala silenziosa*. Prefazione di Guido Mattioli.
- MAUBOUSSIN.** The Mauboussin M. 11 monoplane.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, pp. 48-49, ills.
- MAXWELL FIELD.** *See* Beatty, William H.: The U. S. Air Corps tactical school at Maxwell Field, Montgomery.
- MAXWELL, LUCIA RAMSEY.** Air forces of the red army.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 20-20, 77, ill.
- MAYER, HERBERT C.** "So you fly an autogiro!"
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 33-35.
- MAYER-AACHEN.** *See* Klein, Gerald: Volksflugzeug Mayer-Aachen "MM1".
- MAZET, HORACE S.** Naval aviation for the sticks. The inside story on the Navy's cooperation with the movies.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 34-35, ill.
- *See* Cautley, R. V., and H. S. Mazet: Aero-engine development. A review of the basic trends in design during the past thirty years.
- MEADOWS, C. C.** The old OX roars on.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 22-23.
- MECHANICS.** *See* Vocational training: Vocational training for aviation mechanics. Suggestions relative to the organization and operation of training courses.
- MECHANICS of flight.** *See* Neumark, Stefan: Metoda analityczna w mechanice lotu.
- MEDICINE.** La aviación en servicios sanitarios.
Icaro, Núm. 1, Enero 1928, Madrid, pp. 14-20, ills.
- *See* Jones, Glenn I.: The fight surgeon.
- *See* Rawlinson, E. Goodwin: Preventive medicine in its relation to aviation.
- *See* Sieur, Célestine: Conférence du médecin général inspecteur Sieur.
- *See* Sillevaerts, Ch.: Le médecin et la guerre aéro-chimique.
- *See* Simmons, V. Dudley: Relax- Metaphysics of flying.
- *See* Sinclair, J. A. B.: The medical requirements for fliers as described in an interview with Harold M. Farkas.
- MEDITERRANEAN.** Compte-rendu de la deuxième session [de la] conférence aéronautique méditerranéenne; Roma, 25-31 octobre 1930.
Roma, Istituto poligr. Stato, Libreria edit tip., 1931, pp. 107.
- MELITA, S. CACOPARDO.** Protezione giuridica delle popolazioni civili contro i pericoli della guerra aerochimica.
Riv. Dir. Aer., N. 3, Luglio 1932-X, Roma, pp. 374-381.
- Le questioni aeronautiche alla Società delle Nazioni.
Riv. Dir. Aer., N. 3, Luglio 1932-X, Roma, pp. 381-389.
- MELON, WALT.** New ideas in gliding.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 22-23, ills.
- MELTON, CHARLES L.** Radio.
Air Law Review, Vol. 3, No. 1 (Jan. 1932), New York, pp. 64-67.
- MENASCO.** Overhauling Menasco Pirate B-4.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 40, 42-45, ills.

- MENZIES, H. STUART.** All ways by airways.
London, Issued by Imperial Airways, 1932, pp. 31, ills.
- MEOPHAM.** German and British experts disagree.
Flight, Vol. 24, No. 9 (1209) (Feb. 28, 1932), London, p. 180.
- See *Blenk, Hermann, Heinrich Hertel und Karl Thalau: Die deutsche Untersuchung des Unfalls bei Meopham (England).*
- See *Blenk, Hermann, Heinrich Hertel and Karl Thalau: The German investigation of the accident at Meopham (England).*
- MERKEL, GEO. C.** An airport as a social center.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., p. 29.
- MERZ, HORST.** Mit Do X Zweimal über den Atlantik.
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 190-192, ills.
- MESNY, M.** Las aplicaciones de la radioelectricidad a la aviación.
Icaro, Núm. 6, 7 y 8, Junio-Julio-Agosto 1928, Madrid, pp. 192-194.
- MESSERSCHMIDT.** Messerschmidt M 29.
Die Luftwacht, Heft 8, Aug. 1932, Berlin, pp. 296-297, ills.
- MESSERSCHMIDT.** The Messerschmidt M. 29 touring airplane (German). A two-seat cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 172, Nov. 30, 1932, Washington, November 1932, pp. 8, ills.
- MESSTER.** Toporeriógrafo "Messter" (18 x 24).
Icaro, Núm. 2, Feb. 1928, Madrid, p. 33, ills.
- METAL coatings.** See *Stanton, T. E.: The adhesion and fatigue of thin coatings of white metal deposited on mild steel surfaces.*
- METAL construction.** See *Carr, G. W.: Evolution of metal construction.*
- See *France: A French all-metal fighter. The twin-engined multi-seater Bréguet 410 of mixed steel and duralumin construction.*
- See *France: A French all-metal light plane.*
- See *Handasyde, G. H.: Duralumin and steel construction. Essentially practical methods of production mark the Westland works at Yeovil.*
- See *Langley, M.: Metal aircraft construction*
- See *Savoia-Marchetti: A stainless steel amphibian. An American adaptation of the Savoia-Marchetti S. 31 of all-metal spot-welded construction.*
- See *Watter, Michael: Metal airplane construction. Part 1—The wings.*
- See *Watter, Michael: Metal airplane construction. Part 2—Body and tail groups.*
- METALLURGY.** See *Lewis, H. S.: The metallurgist and aviation.*
- METALS.** Metal parts and their protection.
Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, p. 400.
- See *Bossert, T. W.: Aluminum and its alloys in aircraft.*
- See *Brenner, Paul: Untersuchungen über Spannungs-Korrosionsrisse an Leichtmetallen.*
- See *Dural age-hardening: Cold prevention of dural age-hardening.*
- See *Gallo, G., e D. Corbi: Protezione delle leghe di alluminio con crome elettrolitico.*
- See *Lea, F. C., and C. F. Parker: The effects of temperature on some of the physical properties of metals.*

METALS. See Lundquist, Eugene E.: The compressive strength of duralumin columns of equal angle section.

— See Phillips, S. H.: Steel versus aluminum. Summarization of the possible advantages of stainless steel for airplane structures.

— See Sezawa, Katsutada, and Kei Kubo: Measurements of the solid viscosities of metals through the flexural vibrations of a bar.

METEOR MARK I. See Newman, W. J., and H. J. Fenner: The "Meteor Mark I". A new two-stroke aero engine with many novel features.

METEOROLOGY. The A. A. weather reports.

Flight, Vol. 24, No. 11 (1211) (March 11, 1932), London, p. 222.

— Obtaining the meteorological reports at the airport weather bureaus. Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., pp. 19-20, illus.

— See Alayrac: L'atmosphère standard du service technique.

— See Anacostia: Electric weather maps at Anacostia.

— See Atmosphere: Utilising the upper atmosphere. A scientific examination of "Hyper-Aviation" possibilities.

— See Chapman, M. A.: On a theory of upper atmospheric ozone.

— See Di Maio, R.: I sondaggi della stratosfera col meteorografo barotropico.

— See Douglas, C. K. M.: Smoke and visibility.

— See Eredia, Filippo: Le condizioni anemologiche nella rotta Cagliari-Tunisi.

— See Eredia, Filippo: La riunione della commissione di aerologia della Federazione Aeronautica Internazionale.

— See Geppert, John W.: Questions and answers on aerial navigation.

— See Giblett, M. A.: Structure of wind over level country.

— See Gregg, Willis Ray: Recent advances in weather service in relation to aerial navigation.

— See Heck, Ludwig, and Günther Sudeck: Neue Meteorographen für drahtlose Fernübertragung.

— See Immler: Misuratore del vento e di deriva Immler.

— See International Commission for the Study of Clouds: Atlas international des nuages et des états du ciel.

— See Kadel, B. C.: Airport weather station. Do you know how to equip one for your port?

— See Magnan, Antoine: Methods of recording rapid wind changes.

— See Marvin, Charles F.: Weather service in aid of air navigation.

— See Mirrlees, S. T. A.: The weather on a Greenland air route.

— See Musella, F.: Frequenza dei venti forti e velocità media e massima dei venti a Napoli alle ore 8 e 19.

— See Musella, Francesco: Il norther, la tramontana, il grecale e la loro origine.

— See Musella, F.: Rotte aeree del nord Atlantico.

— See Noth, Hermann: Wetterkunde für Flieger und Freunde der Luftfahrt.

— See Nozdrovsky, S. A.: The thermo-baro-chamber.

- METEOROLOGY.** See Palumbo, Luisa: Le condizioni meteorologiche del "Passo della Cisa."
- See Palumbo, Luisa: L'esplorazione meteorologica dell'alta atmosfera.
- See Reed, Thomas R.: Forecasting winds the aviator will encounter.
- See Reed, Thomas R.: What the Weather Bureau does to make air travel safe.
- See Samuels, L. T.: Meteorological conditions during the formation of ice on aircraft.
- See Scheinert, C. A.: Principles of weather observation.
- See Schonland, B. F. J.: Atmospheric electricity.
- See Shaw, Sir Napier: Manual of meteorology. Vol. 4. Meteorological calculus; pressure and wind.
- MEXICO.** Gesetz.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 32.
- See Grahame, Douglas: The planes of this Mexican air line travel 4,000 miles a day.
- MEXICO CITY.** See Burt, Robert M.: A flight to Mexico City. It's routine matter to Hardgrave, who uses a plane regularly in business.
- MEYER, ALEX.** Gibt es gewerbsmässige Freiflüge?
Luftschau, 5. Jahrg., Nr. 5 (10. März 1932), Berlin, p. 75.
- Rechtliche Glossen zum Falle Nobile.
Archiv für Luftrecht, Nr. 1, 1932.
- MIAMI.** Aviation supplies are a profitable line for this Miami hardware store.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 21, 23, ill.
- See Farkas, H. M.: Miami to stage third annual air meet in January.
- See Farkas, H. M.: 179 planes entered in Miami all American air races.
- See Hoag, Earl S.: Miami's new Army field.
- See Sudlow, E. W.: Airport developments in Miami.
- See United States Congress. House, Committee on Rivers and Harbors: Miami harbor, Florida. Hearing before the Committee on Rivers and Harbors, House of Representatives, Seventy-second Congress, first session, on the subject of improvement of Miami Harbor, with a view of securing a sea-plane channel in Biscayne Bay, leading to Dinner Key, Florida. May 27, 1932.
- MICHAEL, FRANZ.** Zur Frage der Abmessungen von Luftreifen für Flugzeuglaufräder.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 13 (14. Juli 1932), München und Berlin, pp. 377-390, ills., diags.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. III 17-30, ills., diags.
- The problem of tire sizes for airplane wheels.
National Advisory Committee for Aeronautics, Technical Memorandums No. 689, Oct. 20, 1932, Washington, October 1932, pp. 27, ills., diags.
- MICHELIN.** The Michelin cup.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, p. 623, ill.
- MICROMANOMETER.** See Betz, A.: I. Neue Versuchseinrichtungen. 3. Ein neues Mikromanometer.

- MIDWOOD, G. F. See Bradfield, F. B., and G. F. Midwood: Wheels, fairings and mudguards.
- See Bradfield, F. B., G. F. Midwood, and F. R. C. Hounsfield: Wind tunnel tests on aileron loads.
- See Hartshorn, A. S., D. M. Hirst, and G. F. Midwood: Wind tunnel tests on a model of the "Wapiti", including the effect of the slipstream on certain derivatives.
- MIELNIKOWA, BOLESAWA. Benzol lotniczy w mieszkankach alkoholowobenzynowych. (Benzol d'aviation dans les carburants alcool-essence).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 9 (Nr. 45), Warszawa, 1932, pp. 10-23, diags., tabs.
- MIKIE, SAVA. Histoire de l'aeronautique yougoslave.
Belgrade, 1932.
- MILARCHS, E. See Reich, O.: Godesberger Freiballongfahrt. Eine Erinnerung an die erste Freiballongfahrt Professor E. Milarchs.
- MILCH, ERHARD. El desarrollo técnico del tráfico aéreo.
Icaro, Núm. 9, sept. 1928, Madrid, pp. 265-269, ills.
- MILES, F. G. The Miles "Satyr."
Flight, Vol. 24, No. 32 (1232) (Aug. 5, 1932), London, p. 733, ills.
- MILITARY aeronautics. Aeroplano o buque de guerra.
Icaro, Año 5, Núm. 58 (oct. 1932), Madrid, p. 4.
- Betrachtungen zur luftrüstungsfrage.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 31-35.
- Disarmament and the air.
Flight, Vol. 24, No. 5 (1205) (Jan. 29, 1933), London, pp. 91-94.
- Guns and platforms.
The Aeroplane, Vol. 43, No. 5 (Aug. 3, 1932), London, pp. 228, 230.
- Luftrüstungen in der welt.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 1-31, ills.
- Militärluftfahrt. Ausmass und form der luftbedrohung und die art der sich aus ihnen ergebenden schutzmassnahmen.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 129-132.
- Military and naval.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 131-134, diags., tabs.
- Naval aviation and the Air Corps tell all.
Aviation, Vol. 31, No. 6 (June 1932), New York, pp. 261-263.
- Neuere militärflugzeuge.
Die Luftwacht, Heft 5, 7, 8, Mai, Juli, Aug. 1932, Berlin, pp. 170-175, 258-265, 307-311, ills., tabs.
- See Armengaud, Paul François Maurice: L'aviation et la puissance offensive de l'instrument de guerre de demain.
- See Attal, Salvatore: La guerra integrale.
- See Attal, Salvatore: Nuove guerre; nuove armi.
- See Bardella, Pier Luigi: Ali ed artigli (I mezzi aerei ed il loro impiego).
- See Belgium: Stand der luftrüstungen ende 1931.

- MILITARY aeronautics. *See* Buzio, Alessandro: Caratteristiche, armamento e impiego di un apparecchio da combattimento biposto.
- *See* Chemical warfare: La guerra chimica.
- *See* Czechoslovakia: Stand der luftrüstungen ende 1931.
- *See* Disarmament Conference: The Disarmament Conference.
- *See* Douhet, Giulio: Il domino dell'aria. Probabili aspetti della guerra futura. Con prefazione di Italo Balbo.
- *See* Faemi, Franco: Il "Fatto nuovo" della guerra nell'aria in uno dei suoi aspetti politici.
- *See* Fechet, James E.: Air mail and national defense.
- *See* Fechet, James E.: Bombardment aviation.
- *See* Fechet, James E.: Bombardment aviation in our system of national defense.
- *See* Fechet, James E.: Observation and scouting planes of the United States Navy.
- *See* Foulois, Benjamin D.: The Air Corps in 1932.
- *See* Foulois, Benjamin D.: Keeping America first in the air.
- *See* Foulois, Benjamin D.: The military plane.
- *See* France: La aviación militar en Francia, 1928.
- *See* France: Aviazione da bombardamento.
- *See* France. Direction de la sûreté générale: Instruction pratique sur la défense passive contre les attaques aériennes.
- *See* France: Stand der luftrüstungen ende 1931.
- *See* Fucini, Mario: Un argomento che non invecchia.
- *See* Fucini, Mario: Ricorsi . . . storici.
- *See* Fugo: L'impiego dei mezzi aerei nel conflitto di Shanghai.
- *See* Garner, James W.: International regulation of air warfare.
- *See* Giannini, Amedeo: I primi tentativi di regolamento della guerra aerea.
- *See* Giovine, Vittorio: Guerra aerea o guerra terrestre?
- *See* Great Britain: The employment of air forces with the army in the field. 1932.
- *See* Great Britain: Stand der luftrüstungen ende 1931.
- *See* Helders: The war in the air, 1936. Translated from the German by Claud W. Sykes.
- *See* Howard, Chas. H.: The bomber speeds up.
- *See* Italy. Ministero della guerra: Istruzione sull'impiego della nebbia artificiale.
- *See* Italy: Stand der luftrüstungen ende 1931.
- *See* Japan: Stand der luftrüstungen ende 1931.
- *See* Kirschner, A.: Abrüstungskonferenz.
- *See* Kratz, W. W.: Training a pursuit flyer.

- MILITARY aeronautics.** *See* Lackner: Luftkriegs-studien. 1. Angriffstaktik neuzeitlicher luftstreitkräfte.
- *See* Landi, Giorgio: L'aeronautica in guerra.
 - *See* Landi, Giorgio: La difesa aerea.
 - *See* Landi, Giorgio: La guerra di domani.
 - *See* Matchesi, A. A. Vittorio: Come si giunse, alla società delle nazioni, alla redazione del progetto di convenzione per la riduzione e limitazione degli armamenti.
 - *See* Maxwell, Lucia Ramsey: Air forces of the red army.
 - *See* Medicine: La aviación en servicios sanitarios.
 - *See* Morretta, Rocco: La guerra futura vista da quote diverse.
 - *See* Morris, Ralph F.: First line of defense by air.
 - *See* Poland: Stand der luftrüstungen ende 1931.
 - *See* Pricolo, Francesco: La difesa aerea di una grande città.
 - *See* Ritenbergs, N.: Izlūku aviācijas darbība karā.
 - *See* Ritter: Die grundsätze für die verwendung der kampferbände der französischen luftstreitkräfte im jahre 1918.
 - *See* Robertson, F. A. de V.: No. 40 (Bomber) Squadron. The first "Gordon" squadron.
 - *See* Rumania: Stand der luftrüstungen ende 1931.
 - *See* Rumpf, Hans: Brandbomben; ein beitrag zum luftschutzproblem.
 - *See* Russia: Attacco di una colonna di reparti motorizzati da parte dell'aviazione da combattimento.
 - *See* Russia: La partecipazione dell'aviazione alle operazioni di una grande unità motomeccanizzata.
 - *See* Scaroni, Silvio: Profilo di un caccia del periodo di transizione.
 - *See* Spain: Stand der luftrüstungen ende 1931.
 - *See* Stackelberg, S. de: Fléau aérien; la guerre aéro-chimique et la défense anti-aérienne.
 - *See* Stewart, Oliver: Combate aereo. Observaciones bajo el punto de vista alemán sobre el interesante libro: Estrategia y táctica de combate aéreo.
 - *See* Stewart, Oliver: The equipment of air forces.
 - *See* Sweden. Försvarsdepartementet: Luftförsvarsutredningens betänkande. Utredning beträffande hemortens och civilbefolkningens skyddande vid luftanfall mot Sverige.
 - *See* Switzerland: Stand der luftrüstungen ende 1931.
 - *See* Targets: L'entraînement au tir aérien et antiaérien par panneaux remorqués.
 - *See* Thelen, Otto: Les possibilités d'utilisation militaire des autogires.
 - *See* Tulasne, Giuseppe: Eine neue kriegslehre (Douhetsche theorie).

- MILITARY aeronautics. *See* Tulasne, Giuseppe: Una nuova dottrina di guerra (L'opera del generale Douhet).
- *See* United States: Vereinigte Staaten von Nordamerika. Stand der luftrüstungen ende 1931.
- *See* Victor: Guerra aerea e guerra terrestre.
- *See* Warner, Edward P.: The equipment of air forces.
- *See* Werner, Johannes: Boelcke, der mensch, der flieger, der führer der deutschen jagdfliegerei; ein lebens- und heldenbild aus seinen briefen Gestaltet.
- *See* Yugoslavia: Stand der luftrüstungen ende 1931.
- MILLER, EMILY U. Shreveport municipal airport.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, p. 46.
- MILLER, FRANK M. S. Up and after the cosmic ray.
Western Flying, Vol. 12, No. 12 (6) (Dec. 1932), Los Angeles, pp. 24-25.
- MILLER, GUY. Autogiro flight instruction.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 24-25, ills.
- MILLER, H. B. The ballet dancers of the sky.
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 8-10, ills.
- Flight training at Pensacola—"The Mother-in-Law of Naval Aviation."
Southern Aviation, Vol. 2, No. 7 (March 1931), Atlanta, Ga., pp. 9-12, ills.
- Taming the bronchos of the air.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 11-13, 37, ills.
- MILLER, J. W. Highway airways.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 8-9, 28, ills.
- MILLER, JACK B. Speed.
Western Flying, Vol. 12, No. 1 (July, 1932), Los Angeles, pp. 15-16.
- Speed. Constructive selling of scheduled air service.
Western Flying, Vol. 12, No. 2 (Aug. 1932), Los Angeles, pp. 18-19.
- Speed—Its relation to cost in passenger transportation.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., pp. 14-16-39.
- Speed—the solution to the air lines' problems.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 12-13-64.
- MILLER, M. P. *See* Scudder, N. F., and M. P. Miller: The nature of air flow about the tail of an airplane in a spin.
- MILLIKAN, CLARKE B. The boundary layer and skin friction for a figure of revolution.
California Institute of Technology, Guggenheim Aeronautics Laboratory, Publication No. 14, Pasadena.
- MILLIKAN, ROBERT A. What is it all about.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 42.
- MILLS, E. *See* Marsh, E. C. J., and E. Mills: Oil quenching of steel. An analysis of the properties of various oils showing their relative suitability.
- *See* Marsh, E. C. J., and E. Mills: Temporary rust preventers. The short-period protection of metals, with special reference to grease and oils.
- MILLS, P. W. F. Angles on practical flying.
London, Crosby Lockwood and Son.

- MILNER, H. L.** The stress and deflection of uniformly and axially loaded rings.
Aircraft Engineering, suppl. to Flight, Vol. 24, No. 22 (1222) (May 27, 1932), London, pp. 468a-468e, ills.
- MINELLI, CARLO.** Sulle velocità critiche degli alberi.
L'Aerotecnica, Vol. 12, N. 11 (Nov. 1932), Roma, pp. 1441-1472, 1575-1576, diags.
- MINISTÈRE DE L'AIR.** See 1932: L'état de quelques questions, au 1 er janvier 1932 (Organisation du Ministère de l'Air.)
- MIOCHE, R., et R. MONTEIL.** Le matériel électrique utilisé au sol dans l'aéronautique.
Paris, Librairie Aéronautique, 1932, pp. 121, ills.
- MIRRELES, S. T. A.** The weather on a Greenland air route.
The Geographical Journal, Vol. 80, No. 1 (July 1932), London, pp. 15-30.
- MISSISSIPPI river.** How an airplane helps curb "the father of waters."
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 15, 41.
- MISZTAL, FRANZ.** The problem of the propeller in yaw with special reference to airplane stability.
National Advisory Committee for Aeronautics, Technical Memorandums No. 696, Jan. 12, 1933, Washington, January 1933, pp. 33, ills., diags.
- MISZTAL, FRANZ, und TH. TROLLER.** Zur frage der schräg angeblasenen propeller, von Fr. Misztal. &erodynamische theorie and entwurf vom luftschrauben, von Th. Troller.
Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen, Heft 11, Berlin, Julius Springer, 1932, pp. 73, ills.
- MISZTAL, FRANZ.** See Kármán, Theodor v., und C. Wieselsberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 11: Zur Frage der schräg angeblasenen Propeller.
- MITCHEL FIELD.** \$5,000,000 Building program at Mitchel field.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., p. 33.
- MITCHELL, GORDON S.** Making the short haul pay.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., p. 46, ill.
- Wind tunnels.
Western Flying, Vol. 11, No. 6 (June, 1932), Los Angeles, pp. 14-16, ills.
- MITTELHOLZER, WALTER.** Tschadseeflug.
Zurich, Verlag Schweizer Aero-Revue 1932, pp. 224, ills.
- MIYATA, MASANORI.** Some aspects in the production problem of sparking plugs for aircraft engines.
Journal of the Society of Mechanical Engineers Japan, Vol. 35, No. 186 (Oct. 1932), Tōkyō, pp. 1056-1060, ills. (In Japanese.)
- MOCK, W. C., jr., and H. L. DRYDEN.** Improved apparatus for the measurement of fluctuations of air speed in turbulent flow.
National Advisory Committee for Aeronautics, Report No. 448, March 8, 1933, Washington, U. S. Government Printing Office, 1932, pp. 26, ills., diags., tabs.
- MOCKLER, DON.** Changes in tour formula will meet industry's approval.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., p. 29.
- This month's cover. (James H. Doolittle).
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 31-33, port.
- MODEL building.** Modellplanbygge.
Flygning, Årg. 10, N:R 10, (Okt. 1932), Stockholm, pp. 175-176, ills.
- MODELS.** Reichs-Modell-Wettbewerb des D. M. S. V. 1931.
Luftschau, 5. Jahrg., Nr. 2 (24. Jan. 1932), Berlin, p. 25, ill.

- MODELS.** Zweiter Sächsischer Modell-Flugwettbewerb.
Luftschau, 5. Jahrg., Nr. 7 (10. April 1932), Berlin, p. 107.
- See Langley, R.: The model aeroplane manual.
- See Schröder, P.: Towing tests of models as an aid in the design of seaplanes.
- See Wood, R. McKinnon: The use of models in research and design.
- See Zinnecker: Jungfliegertreffen und Modellwettbewerb Pflingsten auf der Wasserkuppe.
- MOFFETT, WILLIAM A.** How our Army and Navy air forces coordinate their work.
Nat. Aer. Mag., Vol. 10, No. 6 (June 1932), Washington, pp. 6-12, ills.
- Moffet pleads for bill to build Navy to treaty limits.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., p. 11.
- Naval aviation.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 15.
- Rigid airship development and the U. S. S. Akron.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, pp. 6-12, ills.
- MOISANT.** See Newton, Byron R.: The meteoric Moisant and his all-star troupe.
- MORZYCKI, GUSTAVE ANDRÉ.** Aviation.—Equilibrage longitudinal des avions.
C. R. Acad. Sci., T. 195, No. 17 (24 oct. 1932), Paris, pp. 697—.
- Aviation.—Relation entre rayon d'action et la vitesse au départ.
C. R. Acad. Sci., T. 194, No. 26 (27 juin 1932), Paris, pp. 2286-2289, diags.
- MOLFESE, MANLIO.** Considerazioni sull'economia dei trasporti aerei.
Riv. Dir. Aer., N. 2, Aprile 1932-X, Roma, pp. 174-176.
- MOLLISON.** England—Cape Town in 4½ days. Mollison realises his ambition.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, pp. 278-279, ill., map.
- MOLLISON, JAMES ALLAN.** Death cometh soon or late . . . foreword by Amy Johnson (Mrs. Mollison).
London, Hutchinson & Co., Ltd., 1932, pp. 283, ill., map.
- Mollison's Atlantic flight.
Flight, Vol. 24, No. 35 (1235) (Aug. 26, 1932), London, pp. 795-797, 798, ills., port.
- Mollison and a mad midsummer miscellany.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., p. 14.
- Mr. Mollison's Puss Moth. Some technical aspects of the latest Transatlantic flight.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 226, ills.
- MOLLISON, MRS. JAMES ALLAN.** A long-range light aeroplane. Mrs. Mollison's remarkable feat of endurance described with notes on the aeroplane.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, p. 302, ills.
- Mrs. J. A. Mollison's great flight. To the Cape and back in record time.
Flight, Vol. 24, No. 52 (1252) (Dec. 22, 1932), London, pp. 1207-1208, 1224, ills.
- MONISH, B. H.** See Dryden, Hugh L., and B. H. Monish: The effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages.
- MONK, F. V., and H. T. WINTER.** Great exploits in the air.
London and Glasgow, Blackie & Son, Ltd., 1932, pp. 224, ills., diags., maps.
- MONOPLANE.** See Biplane: Biplane or Monoplane?
- MONOSPAR.** An unconventional monoplane. A low-wing four-seater with Mono-spar wings and fuselage and two Pobjoy engines.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 111, ills.

- MONOSPAR.** See Guglielmetti, Aldo: Considerazioni sulle strutture alari mono-plane a sbalzo e in particolare su quella denominata "Mono-Spar."
- See Martin, Brian: Monospar aeroplane production. A description of the methods used in the construction and erection of this monoplane.
- See Redshaw, S. C.: A method for stressing monospar pyramid bracing.
- See Steiger: The Steiger mono-spar. Single spar construction tends to reduce torsional loads due to aerodynamic forces.
- See Stieger, H. J.: The Monospar supplement.
- See Sutton, Frank W.: Mono-spar.
- MONTAGNES, JAMES.** Canada's government-sponsored flying clubs.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., p. 17.
- MONTEIL, R.** See Mioche, R., et R. Monteil: Le matériel électrique utilisé au sol dans l'aéronautique.
- MONTEITH, CHARLES NORTON.** Simple aerodynamics and the airplane, by C. C. Carter . . . 4th revised edition of the original work by Charles N. Monteith.
New York, The Ronald Press Company, 1932, pp. xvii, 594, ills., diags.
- MONTELUCCI, GIULIANO.** Le saldature al cadmio.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 299-313, diags., tabl.
- MONTI, EDOARDO, e VITTORIO GIOVINE.** Guerra aerea o guerra terrestre? (Polemica aeronautica).
Roma, Istituto poligr. dello Stato, Libreria edit. tip., 1932, pp. 48.
- MOON,** See Marquis, Raoul: Irons-nous dans la lune? . . . Avec une préface de l'abbé Th. Moreux . . . Illustré de gravures explicatives, dessinées par l'auteur.
- MOORE, ALVIN EDWARD.** The dawn of flight.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 35-39.
- MOORE, BILL.** See Burt, R. M.: Aviation needs men like Bill Moore.
- MOORE, DUDLEY W.** The air-minded Murrays use "Plane" business sense.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 5-6.
- MOORE, C. S.** See Spanogle, J. A., and C. S. Moore: Consideration of air flow in combustion chambers of high-speed compression-ignition engines.
- MOORE, C. S., and J. H. COLLINS, jr.** The effect of clearance distribution on the performance of a compression-ignition engine with a precombustion chamber.
National Advisory Committee for Aeronautics, Technical Notes No. 435, Nov. 22, 1932, Washington, November 1932, pp. 14, ills., diags.
- The effect of connecting-passage diameter on the performance of a compression-ignition engine with a precombustion chamber.
National Advisory Committee for Aeronautics, Technical Notes No. 436, Dec. 15, 1932, Washington, November 1932, pp. 14, ills., diags., tabl.
- MOORING mast.** Mât d'amarrage pour dirigeables à Sunnyvale (California).
L'Aérophile, 40e Année, No. 12 (déc. 1932), Paris, p. 367, ill.
- A mooring mast on wheels.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., p. 29.
- MOORS, CLARENCE JOHN.** Aircraft engine mechanics' manual.
New York, The Ronald Press Company, 1932, pp. xvi, 511, ills., diags.

- MORAND, PAUL. *Air Indien*.
Paris, Editions Bernard Grasset, 1932, pp. 268.
- *Flèche d'Orient*.
Paris, Nouvelle Revue Française, 1932.
- MORANE-SAULNIER. *Le biplace de grand tourisme Morane-Salnier 260, 105 CV*.
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 212, ill.
- MORET, G. *La aviación mercante en España*.
Iberica, Año 19, Núm. 952 (16 nov. 1932), Barcelona, p. 290.
- MORGANS, W. R. *A memorandum giving a summary of present knowledge on the relation between ground contours, atmospheric turbulence, wind speed and direction*.
Aer. Res. Comm., Rep. Mem. No. 1456 December 1931, London, 1932, pp. 39, ill., diagrs.
- MORITA, SAKAE. *See* Obata, Jûichi, Sakae Morita and Yahei Yosida: *Studies on the sounds emitted by revolving airscrews. Part 1*.
- *See* Obata, Jûichi, Yahei Yosida, and Sakae Morita: *Studies on the sounds emitted by revolving airscrews. Part I*.
- MORLEY, A. W. *See* Brown, C. Anderton, and A. W. Morley: *Estimation of wing surface area for evaporative cooling*.
- *See* Swan, J., and A. W. Morley: *Radial engine tested at reduced mixture strength and with variable ignition timing*.
- MOROCCO. *See* Renaudon: *Historique de l'aérostation au Maroc en 1925-26*.
- MORRETTA, ROCCO. *La guerra futura vista da quote diverse*.
Rivista Aeronautica, Anno 8, N. 11 (ott. 1932), Roma, pp. 212-231.
- MORRIS, J. *A note on Miss Chitty and Prof. Southwell's R. 38 memorial prize essay for 1931*.
Journ. Roy. Aer. Soc., Vol. 36, No. 253 (Jan. 1932), London, pp. 59-61.
- *A note on the solution of difference equations in certain vibration problems*.
Journ. Roy. Aer. Soc., Vol. 36, No. 257 (May 1932), London, pp. 447-449, ill.
- *The two bladed airscrew. A discussion on mathematical lines of certain peculiarities and disadvantages*.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, p. 34, diagrs.
- MORRIS, RALPH F. *First line of defense by air*.
Nat. Aer. Mag., Vol. 10, No. 7 (July 1932), Washington, pp. 6-12, ill.
- MORTANE, JACQUES. *Les Ailes de la mort (1914-1918-19??)* . . .
Paris, Editions du siècle, 1932, pp. 252.
- MOSCHENROSS M. *Radio for the private flyer*.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 26-27, ill.
- MOSCOW. *See* Joukowsky, N. E.: *Il laboratorio aerodinamico N. E. Joukowsky di Mosca*.
- *See* Uschakov, K. A.: *Beitrag zur Prüfung des Normalflügels des ZAHL*.
- MOSS, H. *See* King, R. O., and H. Moss: *Detonation, mineral lubricating oils and blended fuels*.
- MUCKLOW, G. F. *Experiments with a supercharged single-cylinder unit*.
Aer. Res. Comm., Rep. Mem. No. 1460, November 1931, London, 1932, pp. 57, ill., diagrs., tabs.
- MUDGUARDS. *See* Bradfield, F. B., and G. F. Midwood: *Wheels, fairings and mudguards*.

- MÜLLER, WILHELM. Einführung in die theorie der zähen flüssigkeiten.
Leipzig, 1932.
(Mathematische und ihre anwendungen in Monographien und Lehrbüchern, Bd. 10.)
- MÜLLER-BRESLAU. See Seydel, Edgar: Müller-Breslaus "Elastizitätstheorie des starren Luftschiffs."
- MUFFLERS. See Price, R. P.: Engineering developments in noise elimination.
- MULLER, CHARLES G. Aviation's most promising partner.
Nat. Aer. Mag., Vol. 10, No. 2 (Feb. 1932), Washington, pp. 16-18, ills.
- MUNK, MAX MICHAEL. General wing section theory.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, p. 42.
- Parasite drag. The twentieth of a series of articles on the principles of aerodynamics.
Aero Digest, [Vol. 20, No. 2] (Feb. 1932), New York, pp. 34, 94.
- MURNAGHAN, FRANCIS D. See Dryden, Hugh L., Francis D. Murnaghan and H. Bateman: Report of the Committee on Hydrodynamics, Division of Physical Sciences National Research Council.
- MURPHY, S. J. See Field, R. H., and S. J. Murphy: Aircraft instruments.
- MURRAY, KENNETH MALCOLM. Wings over Poland; the story of the 7th (Kosciuszko) squadron of the Polish air services, 1919, 1920, 1921.
New York, London, D. Appleton and Company, 1932, pp. ix, 362, ills.
- MUSELLA, F. Frequenza dei venti forti e velocità media e massima dei venti a Napoli alle ore 8 e 19.
L'Aerotecnica, Vol. 12, N. 10 (ott. 1932), Roma, pp. 1330-1360, 1437, diagrs., tabls.
- Il norther, la tramontana, il grecale e la loro origine.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 116-126, maps.
- Rotte aeree del nord Atlantico.
L'Aerotecnica, Vol. 12, No. 7-8 (luglio-agosto 1932), Roma, pp. 1024-1037, maps.
- MUSEO CAPRONI. See Boffito, Giuseppe: Spedienti e strumenti aeronautici nella storia del volo. Estratto dal volume: Timina Caproni Guasti e Achille Bertarelli, Francesco Zambeccari aeronauta.
- MUTTRAY, H. I. Neue Versuchseinrichtungen. 4. Ein photographisches Profil-Aufnahmegerät für Modell-Luftschrauben.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 14-17, ills., diagr.
- III. Versuchsergebnisse. 6. Neuere Messungen an Flügeln mit Ausschnitten.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 85-87, ills., diagrs.
- III. Versuchsergebnisse. 7. Messungn an einem Flügel mit versetztem Mittelteil.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, p. 88, ills., diagrs.
- III. Versuchsergebnisse. 8. Versuche über die Ausbildung der Flügelwurzel von Tiefdeckern.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 89-93, ills., diagrs.
- III. Versuchsergebnisse. 9. Der Einfluss des Flügelumrisses auf die Polare eines Tiefdeckers.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 93-94, ills., diagr.

- MUTTRAY, H. III. Versuchesergebnisse. 10. Untersuchung eines Tiefdeckers bei verschiedenem Abstände des Flügels von der Rumpfspitze.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 95-96, ill., diagr.
- MYERS, FRANKLIN D. *See* Putnam, Lawson L., and Franklin D. Myers: Accounting for air carriers.

N

- NACELLE. *See* Perring, W. G. A., and C. Callen: Drag and interference of a nacelle when installed on the upper surface of a wing.
- *See* Windler, Ray: The effect of propellers and nacelles on the landing speeds of tractor monoplanes.
- NAGEL, C. F., jr., and G. O. HOGLUND. How to take care of dural. Part 1 Inspection of aluminum. Part 2 Repair of dural structures.
Western Flying, Vol. 11, No. 6, Vol. 12, No. 1 (June, July, 1932), Los Angeles, pp. 18-19, 18-20, ill.
- NAKANISHI, FUJIO, MASAHARU ITÔ, and KIKUO KITAMURA. A new high speed indicator for internal combustion engines.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 87 (Vol. 7, 6), September 1932, Tôkyô, pp. 161-177, ill., diagr.
- NAKANISHI, FUJIO. On the balancing of two-stroke 12-cylinder engines.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 86 (Vol. 7, 5), September 1932, Tôkyô, pp. 151-159, ill.
- The secondary vibrations of revolving shafts.
Journ. Soc. Mech. Eng. Japan, Vol. 35, No. 188 (Dec. 1932), Tôkyô, pp. 1170-1171, diagr. In Japanese.
- Yield points of round bars of mild steel under combined torsion and bending.
Journ. Soc. Mech. Eng. Japan, Vol. 35, No. 188 (Dec. 1932), Tôkyô, pp. 1172-1173, diagrs. In Japanese.
- NANCE, H. H. Wire communication aids air transportation.
Electrical Engineering, Vol. 51, No. 7 (July 1932), New York, pp. 492-496, ill., diagrs., map.
- NAPIER. The Napier E. 97 aero engine.
Flight, Vol. 24, No. 26 (1226) (June 24, 1932), London, pp. 576-578, ill., diagr.
- Napier "Lions" for motor-boats.
Flight, Vol. 24, No. 27 (1227) (July 1, 1932), London, p. 612, ill.
- A new light-aeroplane engine. Messrs. Napier inaugurate a new policy with a six-cylinder air-cooled type.
Aircraft Engineering, Vol. 4, No. 42 (Aug. 1932), London, pp. 210-212, ill., diagr.
- NAPLES. *See* Musella, F.: Frequenza dei venti forti e velocità media e massima dei venti a Napoli alle ore 8 e 19.
- NARDI-BERNARDI, E. La Transvolata atlantico di S. E. il gen. Italo Balbo, Italia-Brasile.
Firenze, arti graf. Ammannati, 1931, pp. 99, ill.
- NASZOGEN. El aparato de respiración á grandes alturas "Naszogen."
Icaro, Año 5, Núm. 53 (oct. 1932), Madrid, pp. 3-4, ill.
- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Aeronautics. Eighteenth annual report of the National Advisory Committee for Aeronautics 1932. Administrative report without technical reports.
Washington, United States Government Printing Office, 1932, pp. 61.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. L'attività del "Comitato Nazionale Consultivo per l'Aeronautica" (N. A. C. A.) degli Stati Uniti nel 1931 (dal 17° rapporto annuale).

L'Aerotecnica, Vol. 12, N. 7-8 (luglio-agosto 1932), Roma, pp. 1033-1051, ills.

- Full scale research. (Full scale wind tunnel.)
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 273, ill.
- The National Advisory Committee for Aeronautics.
Aviation, Vol. 31, No. 3 (March 1932), New York, p. 111, diagr., tabs.
- Nuevas instalaciones del "National Advisory Committee for Aeronautics" en Langley Field.
Ibérica, Año 19, Núm. 909 (2 enero 1932), Barcelona, pp. 1, 4-5, ills.
- Nuevas instalaciones para investigaciones aerodinámicas.
Ibérica, Año 19, Núm. 909 (2 enero 1932), Barcelona, pp. 1, 4, ills.
- Previewing tomorrow's flying.
Nat. Aer. Mag., Vol. 10, No. 7 (July 1932), Washington, pp. 20-24, ills.
- Pilgrimage to Langley.
Aviation, Vol. 31, No. 7 (July 1932), New York, pp. 301-303.
- Research in the U. S. A. A review of the work done during the past year by the N. A. C. A.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, pp. 102-104, ills.
- Aeronautics. Seventeenth annual report of the National Advisory Committee for Aeronautics 1931, including Technical Reports Nos. 365-400. Technical Reports No. 365. Aerodynamic characteristics of circular-arc airfoils at high speeds, by L. J. Briggs and H. L. Dryden, pp. 67-78. No. 366. Dynamic and flight tests on rubber-cord and oleo-rubber-disk landing gears for an F6C-4 airplane, by William C. Peck, pp. 79-95. No. 367. Pressure distribution over a thick, tapered and twisted monoplane wing model—N. A. C. A. 81-J, by Carl J. Wenzinger, pp. 97-110. No. 368. A new chart for estimating the absolute ceiling of an airplane, by Walter S. Diehl, pp. 111-115. No. 369. Maneuverability investigation of the F6C-3 airplane with special flight instruments, by C. H. Dearborn and H. W. Kirschbaum, pp. 117-135. No. 370. Effect of variation of chord and span of ailerons on hinge moments at several angles of pitch, by B. H. Monish, pp. 137-151. No. 371. Present status of aircraft instruments, by Subcommittee on Instruments, pp. 153-174. No. 372. The gaseous explosive reaction—The effect of pressure on the rate of propagation of the reaction zone and upon the rate of molecular transformation, by F. W. Stevens, pp. 175-191. No. 373. Coefficients of discharge of fuel-injection nozzles for compressive-ignition engines, by A. G. Gelalles, pp. 193-209. No. 374. The automotive ignition coil, by T. H. Darnell, pp. 211-236. No. 375. Full-scale tests of metal propellers at high tip speeds, by Donald H. Wood, pp. 237-256. No. 376. Some approximate equations for the standard atmosphere, by Walter S. Diehl, pp. 257-266. No. 377. A method of flight measurement of spins, by Hartley A. Soule and Nathan F. Scudder, pp. 267-282. No. 378. Comparison of full-scale propellers having R. A. F.-6 and Clark Y airfoil sections, by Hugh B. Freeman, pp. 283-300. No. 379. Rolling moments due to rolling and yaw for four-wing models in rotation, by Montgomery Knight and Carl J. Wenzinger, pp. 301-325. No. 380. Pressure distribution over the fuselage of a PW-9 pursuit airplane in flight, by Richard V. Rhode and Eugene E. Lundquist, pp. 327-353. No. 381. Static, drop, and flight tests on Musselman type airwheels, by William C. Peck and Albert P. Beard, pp. 355-372. No. 382. Elastic instability of members having sections common in aircraft construction, by George W.

Traver and H. W. March, pp. 373-410. No. 383. On the theory of wing sections with particular reference to the lift distribution, by Theodore Theodorsen, pp. 411-423. No. 384. The comparative performance of superchargers, by Oscar W. Schey, pp. 425-437. No. 385. Wind tunnel tests on airfoil boundary layer control using a backward-opening slot, by Millard J. Bamber, pp. 439-474. No. 386. Maneuverability investigation of an F6C-4 fighting airplane, by C. H. Dearborn and H. W. Kirschbaum, pp. 475-497. No. 387. The vertical wind tunnel of the National Advisory Committee for Aeronautics, by Carl J. Wenzinger and Thomas A. Harris, pp. 499-506. No. 388. Investigation of the diaphragm-type pressure cell, by Theodore Theodorsen, pp. 507-522. No. 389. The effect of small angles of yaw and pitch on the characteristics of airplane propellers, by Hugh B. Freeman, pp. 523-531. No. 390. The effect of valve timing upon the performance of a supercharged engine at altitude and an unsupercharged engine at sea level, by Oscar W. Schey and Arnold E. Biermann, pp. 533-543. No. 391. The aerodynamic characteristics of eight very thick airfoils from tests in the variable-density wind tunnel, by Eastman N. Jacobs, pp. 545-556. No. 392. Reduction of turbulence in wind tunnels, by Hugh L. Dryden, pp. 557-565. No. 393. Span-load distribution as a factor in stability in roll, by Montgomery Knight and Richard W. Noyes, 567-581. No. 394. Airship model tests in the variable-density wind tunnel, by Ira H. Abbott, pp. 583-604. No. 395. A new principle of sound-frequency analysis, by Theodore Theodorsen, pp. 605-619. No. 396. Hydraulics of fuel injection pumps for compression-ignition engines, by A. M. Rothrock, pp. 621-664. No. 397. The drag characteristics of several airships determined by deceleration tests, by F. L. Thompson and H. W. Kirschbaum, pp. 665-677. No. 398. Investigation of damping liquids for aircraft instruments—II, by M. R. Houseman and G. H. Keulegan, pp. 679-695. No. 399. Flame movement and pressure development in an engine cylinder, by Charles F. Marvin, jr., and Robert D. Best, pp. 697-706. No. 400. The aerodynamic characteristics of a slotted Clark Y wing as affected by the auxiliary airfoil position, by Carl J. Wenzinger and Joseph A. Shortal, pp. 707-722. Washington, United States Government Printing Office, 1932, pp. 722, ills., diags., tabs.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Aircraft Circulars No. 154 (Supplement). Supplement to the Supermarine S. 6. B. racing seaplane (British). A low-wing twin-float monoplane.

National Advisory Committee for Aeronautics, Feb. 5, 1932 (mimeographed), Washington, February 1932, pp. 6, ills.

— Aircraft Circulars No. 155. The Dornier Do K commercial airplane (German). A high-wing cantilever monoplane.

National Advisory Committee for Aeronautics, Jan. 29, 1932 (mimeographed), Washington, January 1932, pp. 5, ills.

— Aircraft Circulars No. 156. The Armstrong Whitworth A. W. XVI Military airplane (British). A single-seat biplane.

National Advisory Committee for Aeronautics, Feb. 3, 1932 (mimeographed), Washington, January 1932, pp. 5, ills.

— Aircraft Circulars No. 157. The Loire 11 colonial military airplane (French). A high-wing semicantilever all-metal monoplane, by P. Loyer.

National Advisory Committee for Aeronautics, March 12, 1932 (mimeographed), Washington, March 1932, pp. 8, ills.

— Aircraft Circulars No. 158. The C. A. M. S. 80 amphibian (French). An observation monoplane.

National Advisory Committee for Aeronautics, March 21, 1932 (mimeographed), Washington, March 1932, pp. 6, ills.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Aircraft Circulars No. 159. The Dreieck I tailless airplane (German). A low-wing cantilever monoplane.
National Advisory Committee for Aeronautics, March 26, 1932 (mimeographed), Washington March 1932, pp. 3, ills.
- Aircraft Circulars No. 160. The S. A. B. C. A. "S. XI" commercial airplane (Belgian). A high-wing semicantilever monoplane.
National Advisory Committee for Aeronautics, May 4, 1932 (mimeographed), Washington, April 1932, pp. 4, ills.
- Aircraft Circulars No. 161. The Avro 631 training airplane (British). A two-seat light biplane.
National Advisory Committee for Aeronautics, May 18, 1932 (mimeographed), Washington, May 1932, pp. 6, ills.
- Aircraft Circulars No. 162. The D. H. 83 "Fox Moth" commercial airplane (British). A three-passenger light cabin biplane.
National Advisory Committee for Aeronautics, May 24, 1932 (mimeographed), Washington, May 1932, pp. 5, ills.
- Aircraft Circulars No. 163. The Breguet 410 and 411 military airplanes (French). Multiplace sesquiplane fighters, by Pierre L glise.
National Advisory Committee for Aeronautics, June 3, 1932 (mimeographed), Washington, May 1932, pp. 9, ills.
- Aircraft Circulars No. 164. The Stieger St. 4 light airplane (British). A twin-engine four-seat low-wing cabin monoplane.
National Advisory Committee for Aeronautics, June 7, 1932 (mimeographed), Washington, May 1932, pp. 7, ills.
- Aircraft Circulars No. 165. The Farman night bombers 211 and 212 (French). Four-engine high-wing monoplanes.
National Advisory Committee for Aeronautics, July 12, 1932 (mimeographed), Washington, July 1932, pp. 6, ills.
- Aircraft Circulars No. 166. The Breda 32 commercial airplane (Italian). A three-engine all-metal low-wing monoplane.
National Advisory Committee for Aeronautics, Aug. 5, 1932 (mimeographed), Washington, August 1932, pp. 7, ills.
- Aircraft Circulars No. 167. Armstrong-Whitworth A. W. XV "Atalanta" airplane (British). A commercial multiplace cantilever monoplane.
National Advisory Committee for Aeronautics, Aug. 12, 1932 (mimeographed), Washington, August 1932, pp. 10, ills.
- Aircraft Circulars No. 168. Spartan "Cruiser" commercial airplane (British). A six-seat low-wing cantilever monoplane.
National Advisory Committee for Aeronautics, Aug. 19, 1932 (mimeographed), Washington, August 1932, pp. 5, ills.
- Aircraft Circulars No. 169. The Bl riot 137 military airplane (French). A twin-engine multiplace monoplane.
National Advisory Committee for Aeronautics, Sept. 2, 1932 (mimeographed), Washington, August 1932, pp. 5, ills.
- Aircraft Circulars No. 170. The Lat co re 501 commercial seaplane (French). A three-engine metal sesquiplane.
National Advisory Committee for Aeronautics, Sept. 26, 1932 (mimeographed), Washington, September 1932, pp. 4, ills.
- Aircraft Circulars No. 171. The S. P. C. A. 30 M. 4 military airplane (French). A multiplace low-wing monoplane.
National Advisory Committee for Aeronautics, Sept. 30, 1932 (mimeographed), Washington, September 1932, pp. 4, ills.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Aircraft Circulars No. 172. The Messerschmidt M. 29 touring airplane (German). A two-seat cantilever monoplane.
National Advisory Committee for Aeronautics, Nov. 30, 1932 (mimeographed), Washington, November 1932, pp. 8, ills.
- Aircraft Circulars No. 173. Nieuport-Delage 590 military airplane (French). A two-place high-wing cantilever monoplane.
National Advisory Committee for Aeronautics, Dec. 6, 1932 (mimeographed), Washington, November 1932, pp. 6, ills.
- N. A. C. A. research conference held at Langley Field.
Southern Aviation, Vol. 2, No. 11 (July 1932), Atlanta, Ga., p. 33, ill.
- Report No. 405. Application of practical hydrodynamics to airship design, by Ralph H. Upson and W. A. Klikoff.
National Advisory Committee for Aeronautics, April 8, 1932, Washington, U. S. Government Printing Office, 1931, pp. 20, diagrs.
- Report No. 406. Drop and flight tests on NY-2 landing gears including measurements of vertical velocities at landing, by W. C. Peck and A. P. Beard.
National Advisory Committee for Aeronautics, March 16, 1932, Washington, U. S. Government Printing Office, 1931, pp. 15, ills., diagrs., tabs.
- Report No. 407. The characteristics of Clark Y wing model equipped with several forms of low-drag fixed slots, by Fred E. Weick and Carl J. Wenzinger.
National Advisory Committee for Aeronautics, March 19, 1932, Washington, U. S. Government Printing Office, 1932, pp. 9, ills., diagr., tabs.
- Report No. 408. General formulas and charts for the calculation of airplane performance, by W. Bailey Oswald.
National Advisory Committee for Aeronautics, April 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 50, diagrs., tabs.
- Report No. 409. The elimination of fire hazard due to back fires, by Theodore Theodorsen and Ira M. Freeman.
National Advisory Committee for Aeronautics, March 28, 1932, Washington, U. S. Government Printing Office, 1931, pp. 9, ills., diagrs.
- Report No. 410. The theory of wind-tunnel wall interference, by Theodore Theodorsen.
National Advisory Committee for Aeronautics, March 24, 1932, Washington, U. S. Government Printing Office, 1931, pp. 11, diagrs.
- Report No. 411. Theory of wing sections of arbitrary shape, by Theodore Theodorsen.
National Advisory Committee for Aeronautics, April 20, 1932, Washington, U. S. Government Printing Office, 1931, pp. 13, diagrs., tabs.
- Report No. 412. The 7 by 10 foot wind tunnel of the National Advisory Committee for Aeronautics, by Thomas A. Harris.
National Advisory Committee for Aeronautics, March 31, 1932, Washington, U. S. Government Printing Office, 1931, pp. 9, ills., diagrs.
- Report No. 413. A method for computing leading-edge loads, by Richard V. Rhode and Henry A. Pearson.
National Advisory Committee for Aeronautics, March 31, 1932, Washington, U. S. Government Printing Office, 1931, pp. 12, ills., diagrs., tabs.
- Report No. 414. The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines, by William H. McAvoy, Oscar W. Schey, and Alfred W. Young.
National Advisory Committee for Aeronautics, April 13, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, ills., diagrs., tabs.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Report No. 415. Tests of nacelle-propeller combinations in various positions with reference to wings. Part I. Thick wing—N. A. C. A. cowled nacelle—tractor propeller, by Donald H. Wood.

National Advisory Committee for Aeronautics, June 15, 1932, Washington, U. S. Government Printing Office, 1932, pp. 30, ills., diags., tabs.

— Report No. 416. The N. A. C. A. variable-density wind tunnel, by Eastman N. Jacobs and Ira H. Abbott.

National Advisory Committee for Aeronautics, Aug. 31, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diags.

— Report No. 417. Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability, by Richard W. Noyes.

National Advisory Committee for Aeronautics, May 25, 1932, Washington, U. S. Government Printing Office, 1932, pp. 29, ills., diags., tabs.

— Report No. 418. Preliminary investigation of modifications to conventional airplanes to give nonstalling and short-landing characteristics, by Fred E. Weick.

National Advisory Committee for Aeronautics, April 30, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., diags., tabs.

— Report No. 419. Wind tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings, by Fred E. Weick and Carl J. Wenzinger.

National Advisory Committee for Aeronautics, May 20, 1932, Washington, U. S. Government Printing Office, 1932, pp. 26, diags., tabs.

— Report No. 420. Aircraft speed instruments, by K. Hilding Beij.

National Advisory Committee for Aeronautics, July 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 59, ills., diags., tabs.

— Report No. 421. Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers, by George W. Stickle.

National Advisory Committee for Aeronautics, Sept. 7, 1932, Washington, U. S. Government Printing Office, 1932, pp. 22, ills., diags., tabs.

— Report No. 422. Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. II—Slotted ailerons and Frise ailerons, by Fred E. Weick and Richard W. Noyes.

National Advisory Committee for Aeronautics, July 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., tabs.

— Report No. 423. Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. III—Ordinary ailerons rigged up 10° when neutral, by Fred E. Weick and Carl J. Wenzinger.

National Advisory Committee for Aeronautics, July 11, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diags., tabs.

— Report No. 424. Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. IV—Floating-tip ailerons on rectangular wings, by Fred E. Weick and Thomas A. Harris.

National Advisory Committee for Aeronautics, Aug. 17, 1932, Washington, U. S. Government Printing Office, 1932, pp. 25, ills., diags., tabs.

— Report No. 425. The effect of nozzle design and operating conditions on the atomization and distribution of fuel sprays, by Dana W. Lee.

National Advisory Committee for Aeronautics, Aug. 3, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, ills., diags.

— Report No. 426. The effect of humidity on engine power at altitude, by D. B. Brooks and E. A. Garlock.

National Advisory Committee for Aeronautics, July 20, 1932, Washington, U. S. Government Printing Office, 1932, pp. 9, diags., tabs.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Report No. 427. The effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil, by Fred E. Weick and Joseph A. Shortall.
National Advisory Committee for Aeronautics, Aug. 10, 1932, Washington, U. S. Government Printing Office, 1932, pp. 8, ill., diagrs, tabs.
- Report No. 428. Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions, by Fred E. Weick and Millard J. Bamber.
National Advisory Committee for Aeronautics, Aug. 24, 1932, Washington, U. S. Government Printing Office, 1932, pp. 14, ill., diagrs., tabs.
- Report No. 429. The N. A. C. A. apparatus for studying the formation and combustion of fuel sprays and the results from preliminary tests, by A. M. Rothrock.
National Advisory Committee for Aeronautics, Sept. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, ills., diagrs., tabs.
- Report No. 430. Measurements of flow in the boundary layer of a 1/40-scale model of the U. S. Airship "Akron", by Hugh B. Freeman.
National Advisory Committee for Aeronautics, Sept. 23, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diagrs., tabs.
- Report No. 431. Characteristics of Clark Y airfoils of small aspect ratios, by C. H. Zimmerman.
National Advisory Committee for Aeronautics, Sept. 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagrs., tabs.
- Report No. 432. Force measurements on a 1/40-scale model of the U. S. Airship "Akron", by Hugh B. Freeman.
National Advisory Committee for Aeronautics, Oct. 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diagrs., tabs.
- Report No. 433. Rates of fuel discharge as affected by the design of fuel-injection systems for internal-combustion engines, by A. G. Gelalles and E. T. Marsh.
National Advisory Committee for Aeronautics, Oct. 10, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diagrs.
- Report No. 434. Lift and drag characteristics and gliding performance of an autogiro as determined in flight, by John B. Wheatley.
National Advisory Committee for Aeronautics, Oct. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 10, ills., diagrs., tabs.
- Report No. 435. Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine, by A. M. Rothrock and C. D. Waldron.
National Advisory Committee for Aeronautics, Sept. 19, 1932, Washington, U. S. Government Printing Office, 1932, pp., 25, ills., diagrs., tabs.
- Report No. 436. Tests of nacelle-propeller combinations in various positions with reference to wings. II Thick wing—various radial-engine cowlings—tractor propeller, by Donald H. Wood.
National Advisory Committee for Aeronautics, Nov. 7, 1932, Washington, U. S. Government Printing Office, 1932, pp. 42, ills., diagrs., tabs.
- Report No. 437. The effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages, by Hugh L. Dryden and B. H. Monish.
National Advisory Committee for Aeronautics, Oct. 23, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagrs., tabs.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Report No. 438. Experiments on the distribution of fuel in fuel sprays, by Dana W. Lee.
National Advisory Committee for Aeronautics, Oct. 19, 1932, Washington, U. S. Government Printing Office, 1932, pp. 17, ills., diagrs.
- Report No. 439. Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. V—Spoilers and ailerons on rectangular wings, by Fred E. Weick and Joseph A. Shortal.
National Advisory Committee for Aeronautics, Oct. 24, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diagrs., tabs.
- Report No. 440. The mechanism of atomization accompanying solid injection, by R. A. Castleman, jr.
National Advisory Committee for Aeronautics, Sept. 30, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagrs.
- Report No. 441. A flight investigation of the spinning of the NY-1 airplane with varied mass distribution and other modifications, and an analysis based on wind-tunnel tests, by Nathan F. Scudder.
National Advisory Committee for Aeronautics, Nov. 2, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diagrs., tabs.
- Report No. 442. A comparison between the theoretical and measured longitudinal stability characteristics of an airplane, by Hartley A. Soulé and John B. Wheatley.
National Advisory Committee for Aeronautics, Dec. 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., diagrs.
- Report No. 443. Pressure-distribution measurements on the hull and fins of a 1/40-scale model of the U. S. Airship "Akron", by Hugh B. Freeman.
National Advisory Committee for Aeronautics, Nov. 21, 1932, Washington, U. S. Government Printing Office, 1932, pp. 15, ills., diagrs., tabs.
- Report No. 444. Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. VI—Skewed ailerons on rectangular wings, by Fred E. Weick and Thomas A. Harris.
National Advisory Committee for Aeronautics, Nov. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 13, ills., tabs.
- Report No. 445. Working charts for the determination of the lift distribution between biplane wings, by Paul Kuhn.
National Advisory Committee for Aeronautics, Nov. 28, 1932, Washington, U. S. Government Printing Office, 1932, pp. 17, diagrs., tabs.
- Report No. 446. Airfoil section characteristics as affected by protuberances, by Eastman N. Jacobs.
National Advisory Committee for Aeronautics, Dec. 12, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, diagrs., tabs.
- Report No. 447. Static thrust of airplane propellers, by Walter S. Diehl.
National Advisory Committee for Aeronautics, Jan. 25, 1933, Washington, U. S. Government Printing Office, 1932, pp. 8, diagrs., tabs.
- Report No. 448. Improved apparatus for the measurement of fluctuations of air speed in turbulent flow, by W. C. Mock, jr., and H. L. Dryden.
National Advisory Committee for Aeronautics, Mar. 8, 1933, Washington, U. S. Government Printing Office, 1932, pp. 26, ills., diagrs., tabs.
- Report No. 450. The calculation of take-off run, by Walter S. Diehl.
National Advisory Committee for Aeronautics, Jan. 31, 1933, Washington, U. S. Government Printing Office, 1932, pp. 10, diagrs., tabs.
- Report No. 451. The drag of two streamline bodies as affected by protuberances and appendages, by Ira H. Abbott.
National Advisory Committee for Aeronautics, Jan. 18, 1933, Washington, U. S. Government Printing Office, 1932, pp. 8, ills., diagrs., tabs.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Report No. 453. The estimation of maximum load capacity of seaplanes and flying boats, by Walter S. Diehl.
National Advisory Committee for Aeronautics, Feb. 11, 1933, Washington, U. S. Government Printing Office, 1932, pp. 5, diagrs., tabs.
- Technical Memorandums No. 653. Turbulance and mechanism of resistance on spheres and cylinders, by Fr. Ahlborn.
National Advisory Committee for Aeronautics, Jan. 7, 1932 (mimeographed), Washington, January 1932, pp. 19, ills. *Zeitschrift für Technische Physik*, Vol. 12, No. 10, 1931.
- Technical Memorandums No. 654. Stresses produced in airplane wings by gusts, by Hans Georg Küssner.
National Advisory Committee for Aeronautics, Jan. 14, 1932 (mimeographed), Washington, January 1932, pp. 38, ills., diagrs., tabs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 22, Nos. 19 and 20, Oct. 14 and 23, 1931, München und Berlin.
- Technical Memorandums No. 655. Experiments with intubed propellers, by L. Stipa.
National Advisory Committee for Aeronautics, Jan. 25, 1932 (mimeographed), Washington, January 1932, pp. 11, ills., diagrs., tabs. *L'Aerotechnica*, August 1931.
- Technical Memorandums No. 656. Dynamic testing of airplane shock-absorbing struts, by P. Langer and W. Thomé.
National Advisory Committee for Aeronautics, Jan. 28, 1932 (mimeographed), Washington, January 1932, pp. 4, ills., diagrs. *Zeitschrift des Vereines Deutscher Ingenieure*, Vol. 75, No. 45, Nov. 7, 1931.
- Technical Memorandums No. 657. Resonance vibrations of aircraft propellers, by Fritz Ljebers.
National Advisory Committee for Aeronautics, Feb. 8, 1932 (mimeographed), Washington, February 1932, pp. 44, diagrs. *Luftfahrtforschung*, Vol. VII, No. 3, May 16, 1930, München und Berlin.
- Technical Memorandums No. 658. Problems involved in the choice and use of materials in airplane construction, by Paul Brenner.
National Advisory Committee for Aeronautics, Feb. 18, 1932 (mimeographed), Washington, February 1932, pp. 25, ills., diagrs., tabs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 22, No. 21, Nov. 14, 1931, München und Berlin.
- Technical Memorandums No. 659. Disintegration of a liquid jet, by A. Haenlein.
National Advisory Committee for Aeronautics, Feb. 20, 1932 (mimeographed), Washington, February 1932, pp. 19, ills., diagrs., tabs. *Forschung auf dem Gebiete des Ingenieurwesens*, Vol. II, No. 4, April 1931.
- Technical Memorandums No. 660. Airplane flight in the stratosphere, by Ugo de Caria.
National Advisory Committee for Aeronautics, Feb. 29, 1932 (mimeographed), Washington, February 1932, pp. 13, diagrs. *Aeronautica*, Vol. V, No. 12, Dec. 1931.
- Technical Memorandums No. 661. Experiments with planing surfaces, by W. Sottorf.
National Advisory Committee for Aeronautics, Mar. 5, 1932 (mimeographed), Washington, March 1932, pp. 20, ills., diagrs., tabs. *Wert-Reederei-Hafen*, November 7, 1932.
- Technical Memorandums No. 662. Accurate calculation of multispar cantilever and semicantilever wings with parallel webs under direct and indirect loading, by Eugen Sänger.
National Advisory Committee for Aeronautics, Mar. 22, 1932 (mimeographed), Washington, March, 1932, pp. 18, ills., tabs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 22, No. 20, Oct. 28, 1931, München und Berlin.
- Technical Memorandums No. 663. Problems concerning the stability and maneuverability of airplanes, by Jean Biche.
National Advisory Committee for Aeronautics, Mar. 26, 1932 (mimeographed), Washington, March 1932, pp. 13, ills., diagrs. *Revue de la Société Générale Aéronautique*, January 1932.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Memorandums No. 664. German aircraft accident statistics, 1930, by Ludwig Weitzmann.

National Advisory Committee for Aeronautics, Mar. 30, 1932 (mimeographed), Washington, March 1932, pp. 25, diags., tabs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 1, Jan. 15, 1932, München und Berlin.

— Technical Memorandums No. 665. The mutual action of airplane body and power plant, by Martin Schrenk.

National Advisory Committee for Aeronautics, Apr. 7, 1932 (mimeographed), Washington, April 1932, pp. 35, diags. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 22, Nos. 23 and 24, Dec. 14 and 28, 1931, München und Berlin.

— Technical Memorandums No. 666. Development of tailless and all-wing gliders and airplanes, by Robert W. E. Lademann.

National Advisory Committee for Aeronautics, Apr. 14, 1932 (mimeographed), Washington, April 1932, pp. 12, ills., tabs. Die Luftwacht, February 1932.

— Technical Memorandums No. 667. Application of the theory of free jets, by A. Betz and E. Petersohn.

National Advisory Committee for Aeronautics, Apr. 21, 1932 (mimeographed), Washington, April 1932, pp. 25, ills., diags. Ingenieur-Archiv, May 1931.

— Technical Memorandums No. 668. Combustion velocity of benzine-benzol-air mixtures in high-speed internal-combustion engines, by Kurt Schnauffer.

National Advisory Committee for Aeronautics, Apr. 29, 1932 (mimeographed), Washington, April 1932, pp. 17, ills., diags. VDI-Verlag G. m. b. H., Berlin 1931.

— Technical Memorandums No. 669. The German investigation of the accident at Meopham (England), by Hermann Blenk, Heinrich Hertel and Karl Thalau.

National Advisory Committee for Aeronautics, May 6, 1932 (mimeographed), Washington, April 1932, pp. 30, ills., diags. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 3, Feb. 1932, München und Berlin.

— Technical Memorandums No. 670. Determination of stresses and deformations of aircraft propellers, by Friedrich Seewald.

National Advisory Committee for Aeronautics, May 12, 1932 (mimeographed), Washington, May 1932, pp. 24, ills., diags. Berichte und Abhandlungen der W. G. L., No. 14, Dec. 1926. Supplement to Zeitschrift für Flugtechnik und Motorluftschiffahrt.

— Technical Memorandums No. 671. Twelfth Rhön soaring contest, 1931, by Walter Georgii.

National Advisory Committee for Aeronautics, May 21, 1932 (mimeographed), Washington, May 1932, pp. 15, maps, diags., tabs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 4 and 5, Feb. 29, and March 14, 1932, München und Berlin.

— Technical Memorandums No. 672. Torsional vibration of aircraft engines, by Karl Lürenbaum.

National Advisory Committee for Aeronautics, June 2, 1932 (mimeographed), Washington, May 1932, pp. 16, ills., diags., tabl. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 4, Feb. 29, 1932, München und Berlin.

— Technical Memorandums No. 673. Vertical descent of the autogiro, by J. A. J. Bennett.

National Advisory Committee for Aeronautics, June 14, 1932 (mimeographed), Washington, June 1932, pp. 11, diags., tabs.

— Technical Memorandums No. 674. Effect of the ground on an airplane flying close to it, by E. Tönnies.

National Advisory Committee for Aeronautics, June 23, 1932 (mimeographed), Washington, June 1932, pp. 16, ills., diags., tabs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 6, March 29, 1932, München und Berlin.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Memorandums No. 675. Calculation of potential flow past airship bodies in yaw, by I. Lotz.
National Advisory Committee for Aeronautics, July 11, 1932 (mimeographed), Washington, July 1932, pp. 27, ills., diagrs. Ingenieur-Archiv, Vol. II, 1931.
- Technical Memorandums No. 676. Towing tests of models as an aid in the design of seaplanes, by P. Schröder.
National Advisory Committee for Aeronautics, July 18, 1932 (mimeographed), Washington, July 1932, pp. 18, diagrs., Werft-Reederei-Hafen, Vol. II, No. 16, Aug. 22, 1930.
- Technical Memorandums No. 677. Stresses developed in seaplanes while taking off and landing, by Rudolfo Verduzio.
National Advisory Committee for Aeronautics, July 29, 1932 (mimeographed), Washington, July 1932, pp. 47, diagrs., ills. L'Aerotechnica, Vol. XI, No. 11, Nov. 1931.
- Technical Memorandums No. 678. Increase in the maximum lift of an airplane wing due to a sudden increase in its effective angle of attack resulting from a gust, by Max Kramer.
National Advisory Committee for Aeronautics, Aug. 4, 1932 (mimeographed), Washington, July 1932, pp. 9, ills., diagrs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 7, April 14, 1932, München und Berlin.
- Technical Memorandums No. 679. Experimental determination of the thickness of the boundary layer along a wing section, by Otto Cuno.
National Advisory Committee for Aeronautics, Aug. 11, 1932 (mimeographed), Washington, August 1932, pp. 7, ill., diagrs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 7, April 14, 1932, München und Berlin.
- Technical Memorandums No. 680. Approximate calculation of multi-spar cantilever and semicantilever wings with parallel ribs under direct and indirect loading, by Eugen Sängler.
National Advisory Committee for Aeronautics, Aug. 22, 1932 (mimeographed), Washington, August 1932, pp. 14, ills. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 9, May 14, 1932, München und Berlin.
- Technical Memorandums No. 681. Reduction of wing lift by the drag, by A. Betz and J. Lotz.
National Advisory Committee for Aeronautics, Aug. 26, 1932 (mimeographed), Washington, August 1932, pp. 5, ills., diagrs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 10, May 28, 1932, München und Berlin.
- Technical Memorandums No. 682. Airplane stability in taxiing, by E. Anderlik.
National Advisory Committee for Aeronautics, Sept. 1, 1932 (mimeographed), Washington, Sept. 1932, pp. 12, ills., diagrs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 10, May 28, 1932, München und Berlin.
- Technical Memorandums No. 683. Propeller tip flutter, by Fritz Liebers.
National Advisory Committee for Aeronautics, Sept. 9, 1932 (mimeographed), Washington, September 1932, pp. 17, ills., diagrs. Zeitschrift für Flugtechnik und Motorluftschiffahrt, Vol. 23, No. 9, May 14, 1932, München und Berlin.
- Technical Memorandums No. 684. The aerodynamic safety of airplanes, by Louis Kahn.
National Advisory Committee for Aeronautics, Sept. 15, 1932 (mimeographed), Washington, September 1932, pp. 17, diagrs. Bulletin Technique du Bureau Veritas, February 1932.
- Technical Memorandums No. 685. The controls at low hinge moments, by M. Pris.
National Advisory Committee for Aeronautics, Sept. 23, 1932 (mimeographed), Washington, September 1932, pp. 17, ills., diagrs. Bulletin de la Chambre Syndicale des Industries Aéronautiques, Vol. IX, No. 6, Nov.-Dec. 1931.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Memorandums No. 686. Further flight tests on the effectiveness of Handley-Page automatic control slots, by Wilhelm Pleines.

National Advisory Committee for Aeronautics, Sept. 29, 1932 (mimeographed), Washington, September 1932, pp. 13, ills., diagrs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 23, No. 10, May 23, 1932, München und Berlin.

— Technical Memorandums No. 687. Methods for facilitating the blind landing of airplanes, by M. Heinrich Gloeckner.

National Advisory Committee for Aeronautics, Oct. 6, 1932 (mimeographed), Washington, October 1932, pp. 23, ills., diagrs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 23, No. 12, June 24, 1932, München und Berlin.

— Technical Memorandums No. 688. Speed and pressure recording in three-dimensional flow, by Dr. F. Krisam.

National Advisory Committee for Aeronautics, Oct. 13, 1932 (mimeographed), Washington, October 1932, pp. 13, ills., diagrs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 23, No. 13, July 14, 1932, München und Berlin.

— Technical Memorandums No. 689. The problem of tire sizes for airplane wheels, by Franz Michael.

National Advisory Committee for Aeronautics, Oct. 20, 1932 (mimeographed), Washington, October 1932, pp. 27, ills., diagrs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 23, No. 13, July 14, 1932, München und Berlin.

— Technical Memorandums No. 690. Transmission of heat from a flat plate to a fluid flowing at high velocity, by Luigi Crocco.

National Advisory Committee for Aeronautics, Oct. 27, 1932 (mimeographed), Washington, October 1932, pp. 15, diagrs. *L'Aerotechnica*, Vol. XII, No. 2, February 1932.

— Technical Memorandums No. 691. Some ideas on racing seaplanes, by Giovanni Pegna.

National Advisory Committee for Aeronautics, Nov. 3, 1932 (mimeographed), Washington, November 1932, pp. 24, ills., diagrs. *Rivista Aeronautica*, Vol. VIII, No. 6, June 1932.

— Technical Memorandums No. 692. Methods of recording rapid wind changes, by A. Magnan.

National Advisory Committee for Aeronautics, Nov. 10, 1932 (mimeographed), Washington, November 1932, pp. 13, ills., diagrs., tabl. *Jahrbuch No. 4 (1929) des Forschungs-Institutes der Rhön-Rossitten Gesellschaft*.

— Technical Memorandums No. 693. The testing of airplane fabrics, by Karl Schraivogel.

National Advisory Committee for Aeronautics, Nov. 19, 1932 (mimeographed), Washington, November 1932, pp. 27, ills., tabs. *Zeitschrift für Flugtechnik und Motorluftschiffahrt*, Vol. 23, Nos. 16 and 17, Aug. 27 and Sept. 14, 1932, München und Berlin.

— Technical Memorandums No. 694. Combustion of gaseous mixtures, by R. Duchene.

National Advisory Committee for Aeronautics, Nov. 28, 1932 (mimeographed), Washington, November 1932, pp. 20, ills., diagrs., tabs. *Publications Scientifiques et Techniques du Ministère de l'Air*.

— Technical Memorandums No. 695. Automatic stability of airplanes, by Fr. Haus.

National Advisory Committee for Aeronautics, Dec. 16, 1932 (mimeographed), Washington, December 1932, pp. 58, ills., diagrs. *L'Aéronautique*, Nos. 156-159, May, June, July, and August 1932.

— Technical Memorandums No. 696. The problem of the propeller in yaw with special reference to airplane stability, by Franz Misztal.

National Advisory Committee for Aeronautics, Jan. 12, 1933 (mimeographed), Washington, January 1933, pp. 33, ills., diagrs. *Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen*, No. 11, 1932.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Memorandum No. 697. The D. V. L. gliding-angle control (W. Hübner design), by Walter Hübner and Wilhelm Pleines.
National Advisory Committee for Aeronautics, Jan. 19, 1933 (mimeographed), Washington, January 1932, pp. 9, ills., diagsr.
- Technical Notes No. 404. Tests of N. A. C. A. airfoils in the variable-density wind tunnel, series 24, by Eastman N. Jacobs and Kenneth E. Ward.
National Advisory Committee for Aeronautics, Jan. 30, 1932 (mimeographed), Washington, January 1932, pp. 19, diagsr., tabs.
- Technical Notes No. 405. Valve timing of engines having intake pressures higher than exhaust, by Edward S. Taylor.
National Advisory Committee for Aeronautics, Feb. 11, 1932 (mimeographed), Washington, February 1932, pp. 7, ill., diagsr.
- Technical Notes No. 406. The use of large valve overlap in scavenging a supercharged spark-ignition engine using fuel injection, by Oscar W. Schey and Alfred W. Young.
National Advisory Committee for Aeronautics, April 5, 1932 (mimeographed), Washington, April 1932, pp. 10, ills., diagsr.
- Technical Notes No. 407. Effect of the reservoir volume on the discharge pressures in the injection system of the N. A. C. A. spray photography equipment, by A. M. Rothrock and D. W. Lee.
National Advisory Committee for Aeronautics, Feb. 17, 1932 (mimeographed), Washington, February 1932, pp. 9, ills., diagsr.
- Technical Notes No. 408. Preliminary tests on the vaporization of fuel sprays, by A. M. Rothrock.
National Advisory Committee for Aeronautics, Feb. 23, 1932 (mimeographed), Washington, February 1932, pp. 4, ills., diagr.
- Technical Notes No. 409. Effect of aging on but rubber diaphragms, by D. H. Strother and H. B. Hendrickson.
National Advisory Committee for Aeronautics, Feb. 29, 1932 (mimeographed), Washington, February 1932, pp. 7, ill., diagsr., tabs.
- Technical Notes No. 410. Experiments on the distribution of fuel in fuel sprays, by Dana W. Lee.
National Advisory Committee for Aeronautics, March 18, 1932 (mimeographed), Washington, March 1932, pp. 14, ills., diagr.
- Technical Notes No. 411. Rapid chemical test for the identification of chromium-molybdenum steel aircraft tubing, by John C. Redmond.
National Advisory Committee for Aeronautics, March 22, 1932 (mimeographed), Washington, March 1932, pp. 3.
- Technical Notes No. 412. The aerodynamic characteristics of airfoils at negative angles of attack, by Raymond F. Anderson.
National Advisory Committee for Aeronautics, March 25, 1932 (mimeographed), Washington, March 1932, pp. 11, diagsr., tabl.
- Technical Notes No. 413. The compressive strength of duralumin columns of equal angle section, by Eugene E. Lundquist.
National Advisory Committee for Aeronautics, March 31, 1932 (mimeographed), Washington, March 1932, pp. 12, ills., diagsr.
- Technical Notes No. 414. Consideration of air flow in combustion chambers of high-speed compression-ignition engines, by J. A. Spanogle and C. S. Moore.
National Advisory Committee for Aeronautics, April 15, 1932 (mimeographed), Washington, April 1932, pp. 10, ills., diagsr.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Notes No. 415. Preliminary investigation of rolling moments obtained with spoilers on both slotted and plain wings, by Fred E. Weick and Carl J. Wenzinger. National Advisory Committee for Aeronautics, April 23, 1932 (mimeographed), Washington, April 1932, pp. 11, diags.
- Technical Notes No. 416. Characteristics of two sharp-nosed airfoils having reduced spinning tendencies, by Eastman N. Jacobs. National Advisory Committee for Aeronautics, April 26, 1932 (mimeographed), Washington, April 1932, pp. 5, diags.
- Technical Notes No. 417. Wind-tunnel tests of a Hall high-lift wing, by Fred E. Weick and Robert Sanders. National Advisory Committee for Aeronautics, June 22, 1932 (mimeographed), Washington, May 1932, pp. 4, ills., diags.
- Technical Notes No. 418. Compression-ignition engine tests of several fuels, by J. A. Spanogle. National Advisory Committee for Aeronautics, May 16, 1932 (mimeographed), Washington, May 1932, pp. 10, diags.
- Technical Notes No. 419. Wind-tunnel tests of the Fowler variable-area wing, by Fred E. Weick and Robert C. Platt. National Advisory Committee for Aeronautics, June 30, 1932 (mimeographed), Washington, May 1932, pp. 6, ills., diags., tabl.
- Technical Notes No. 420. The effect of propellers and nacelles on the landing speeds of tractor monoplanes, by Ray Windler. National Advisory Committee for Aeronautics, June 15, 1932 (mimeographed), Washington, May 1932, pp. 12, ills., diags., tabs.
- Technical Notes No. 421. The nature of air flow about the tail of an airplane in a spin, by N. F. Scudder and M. P. Miller. National Advisory Committee for Aeronautics, July 5, 1932 (mimeographed), Washington, May 1932, pp. 6, ills.
- Technical Notes No. 422. The aerodynamic characteristics of a model wing having a split flap deflected downward and moved to the rear, by Fred E. Weick and Thomas A. Harris. National Advisory Committee for Aeronautics, June 8, 1932 (mimeographed), Washington, May 1932, pp. 7, ills., diags., tabl.
- Technical Notes No. 423. Effect of length of Handley-Page tip slots on the lateral-stability factor, damping in roll, by Fred E. Weick and Carl J. Wenzinger. National Advisory Committee for Aeronautics, July 12, 1932 (mimeographed), Washington, July 1932, pp. 6, diags., tabs.
- Technical Notes No. 424. Preliminary photomicrographic studies of fuel sprays, by Dana W. Lee and Robert C. Spencer. National Advisory Committee for Aeronautics, July 22, 1932 (mimeographed), Washington, July 1932, pp. 7, ills.
- Technical Notes No. 425. Methods of visually determining the air flow around airplanes, by Melvin N. Gough and Ernest Johnson. National Advisory Committee for Aeronautics, July 26, 1932 (mimeographed), Washington, July 1932, pp. 8, ills.
- Technical Notes No. 426. Comparative performance of powerplus vane-type supercharger and an N. A. C. A. Roots-type supercharger, by Oscar W. Schey and Herman H. Ellerbrock, jr. National Advisory Committee for Aeronautics, Aug. 2, 1932 (mimeographed), Washington, July 1932, pp. 14, ills., diags., tabl.

- NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.** Technical Notes No. 427. Strength tests on thin-walled duralumin cylinders in torsion, by Eugene E. Lundquist.
National Advisory Committee for Aeronautics, Aug. 12, 1932 (mimeographed), Washington, August 1932, pp. 8, ills., diags., tabl.
- Technical Notes No. 428. Characteristics of an airfoil as affected by fabric sag, by Kenneth E. Ward.
National Advisory Committee for Aeronautics, Aug. 19, 1932 (mimeographed), Washington, August 1932, pp. 5, ills., diags.
- Technical Notes No. 429. Heat dissipation from a finned cylinder at different fin-plane air-stream angles, by Oscar W. Schey and Arnold W. Biermann.
National Advisory Committee for Aeronautics, Aug. 25, 1932 (mimeographed), Washington, August 1932, pp. 11, ills., diags., tabl.
- Technical Notes No. 430. Effect of engine-operating conditions on the vaporization of safety fuels, by A. M. Rothrock and C. D. Waldron.
National Advisory Committee for Aeronautics, Aug. 30, 1932 (mimeographed), Washington, August 1932, pp. 8, ills., diags.
- Technical Notes No. 431. Tests on thrust augmentors for jet propulsion, by Eastman N. Jacobs, and James M. Shoemaker.
National Advisory Committee for Aeronautics, Sept. 20, 1932 (mimeographed), Washington, September 1932, pp. 5, ills., diagr.
- Technical Notes No. 432. Drag tests of 4/9-scale model engine nacelles with various cowlings, by Ray Windler.
National Advisory Committee for Aeronautics, Oct. 15, 1932 (mimeographed), Washington, October 1932, pp. 11, ills., diags., tabs.
- Technical Notes No. 433. The pressure distribution over a standard and a modified Navy elliptical wing tip on a biplane in flight, by Richard V. Rhode.
National Advisory Committee for Aeronautics, Oct. 31, 1932 (mimeographed), Washington, October 1932, pp. 29, ill., diags., tabs.
- Technical Notes No. 434. Influence of several factors on ignition lag in a compression-ignition engine, by Harold C. Gerrish and Fred Voss.
National Advisory Committee for Aeronautics, Nov. 8, 1932 (mimeographed), Washington, November 1932, pp. 8, ills., diags.
- Technical Notes No. 435. The effect of clearance distribution on the performance of a compression-ignition engine with a precombustion chamber, by C. S. Moore and J. H. Collins, jr.
National Advisory Committee for Aeronautics, Nov. 22, 1932 (mimeographed), Washington, November 1932, pp. 14, ills., diags.
- Technical Notes No. 436. The effect of connecting-passage diameter on the performance of a compression-ignition engine with a precombustion chamber, by C. S. Moore and J. H. Collins, jr.
National Advisory Committee for Aeronautics, Dec. 15, 1932 (mimeographed), Washington, November 1932, pp. 14, ills., diags., tabl.
- Technical Notes No. 437. The pressure distribution over a long elliptical wing tip on a biplane in flight, by Richard V. Rhode.
National Advisory Committee for Aeronautics, Dec. 17, 1932 (mimeographed), Washington, December 1932, pp. 8, diags., tabs.
- Technical Notes No. 438. The gaseous explosive reaction at constant pressure—further data on the effect of inert gases, by F. W. Stevens.
National Advisory Committee for Aeronautics, Dec. 20, 1932 (mimeographed), Washington, December 1932, pp. 16, ill., diagr., tabs.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS. Technical Notes No. 439. Meteorological conditions during the formation of ice on aircraft, by L. T. Samuels.

National Advisory Committee for Aeronautics, Dec. 27, 1932 (mimeographed), Washington, December 1932, pp. 20, diags., tabs.

— Technical Notes No. 440. Flight tests to determine the effect of a fixed auxiliary airfoil on the lift and drag of a parasol monoplane, by Hartley A. Soulé.

National Advisory Committee for Aeronautics, Dec. 23, 1932 (mimeographed), Washington, December 1932, pp. 9, ill., diags.

— See Dryden, Hugh L.: Turbulence in wind tunnels. A non-mathematical summary of modern views with results of U. S. A. experiments.

— See Great Britain: A British full-scale wind tunnel.

— See Klemin, Alexander: Reports from the Langley Field Conference.

— See Lawrance, Charles Lanier: Industry cooperates increasingly with N. A. C. A.

— See United States: Luftfahrtforschung in den Vereinigten Staaten von Nordamerika.

— See Welding: The strength of welded joints.

— See Wenzinger, Carl J., and Thomas A. Harris: The U. S. vertical wind tunnel. A full description with details of calibration tests and some preliminary experiments.

NATIONAL AERONAUTIC ASSOCIATION. Eleventh annual N. A. A. Convention. Nat. Aer. Mag., Vol. 10, No. 9 (Sept. 1932), Washington, pp. 17-19, 27.

— See Victory, John F.: Eleventh annual N. A. A. convention.

NATIONAL AIR RACES. Comments on the high-speed planes at the National Air Races.

Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 7-8, ill.

— The national races in retrospect.

Western Flying, Vol. 12, No. 4 (Oct. 1932), Los Angeles, pp. 16-19, diags.

— National Air Races, sanctioned by National Aeronautic Association and conducted under F. A. I. rules. The National Air Races of Cleveland, inc. Cleveland, Ohio, August 27 to September 5.

U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 42, 44, 46, 48.

— National Air Races will be invaluable laboratory for aircraft industry. Ten-day racing classic opens August 27 at Cleveland.

U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 9-11.

— The record of the races.

Aviation, Vol. 31, No. 10 (Oct. 1932), New York, pp. 399-401, tabs.

— World records made at 1932 National Air Races.

U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 9-14, ill.

— See Cleveland, E. W.: On to Cleveland.

— See Louisiana: Louisiana planes win major honors at the National Air Races.

— See Prentice, James: Flying at the races better than ever before.

NATIONAL AIRCRAFT SHOW. Glancing over the Show's new accessories. Interesting products indicate trend in accessories is keeping pace with aircraft progress.

Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 25-27, ill.

- NATIONAL AIRCRAFT SHOW.** The National Aircraft Show, Detroit City Airport, Detroit, Michigan, April 2 to 10, 1932.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 27-29, ill.
- National Aircraft Show will be a fine affair.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 12-13, ill.
- See Detroit: The National Aircraft Show at Detroit.
- See Landis, Wm. B.: The National Aircraft Show.
- See Society of Automotive Engineers: S. A. E. meetings. Excerpts from papers read during sessions at Detroit during the National Aircraft Show.
- NATIONAL RADIO INSTITUTE.** Advanced course in Aircraft Radio.
Washington, D. C., 1932.
- NAVAL OBSERVATORY.** The air almanac for the year 1933.
Washington, United States Naval Observatory, 1932, pp. 212, tabs.
- NAVIGATION.** Air navigation.
Flight, Vol. 24, No. 42 (1242) (Oct. 13, 1932), London, pp. 967-968.
- See Ageton, Arthur Ainsley: Dead reckoning altitude and azimuth table.
- See Aymat, José Maria: Navegación aérea . . . con un prólogo del teniente coronel d. Emilio Herrera.
- See Galante, Nicolò: Circa la possibilità di un piu ampio sviluppo nell'uso della proiezione gnomonica per il tracciamento dell'ortodromia.
- See Gatty: Gatty's navigation instrument.
- See Gatty, Harold: Aerial navigation—methods and equipment.
- See Geppert, John W.: Questions and answers on aerial navigation.
- See Magyar, Alexander: Aerial navigation in practice.
- See Rynin, N.: Sternnavigation, zwischenplaneten-verkehr.
- NAYLER, J. L.** The effect of accelerations on human beings.
Journ. Roy. Aer. Soc., Vol. 36, No. 255 (March 1932), London, pp. 251-254.
- NEBEL, RUDOLF.** Rakettenflug.
Berlin-Reinickendorf, Rakettenflugverlag, 1932, pp. 47, ill.
- NEDERLANDSCHE luchtvaarttijdschriften centrale.** Internationale luchtvaarttijdschriften gids. International guide of aeronautic periodicals . . . Uitgave—Edition 1932. Samengesteld en uitgegeven door de Nederlandsche luchtvaarttijdschriften centrale. Compiled and published by the Dutch central of aeronautic periodicals . . .
Utrecht, 1932, pp. 19.
- NEEDHAM, CECIL HUGH LATIMER.** The conquest of soaring flight.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, pp. 13-16, ill.
- Sailplanes. Their design, construction and pilotage. With a foreword by the master of Semphill.
London, Chapman & Hall, Ltd., 1932, pp. xx, 268, ill.
- NELSON, WILLIAM.** Flying-boat design related to its uses.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 11-15.
- The monocoque fuselage.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 11-15, 47, ill.
- NEO-AEROBIA.** Comment and review.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., pp. 27-28.
- NETHERLANDS.** Amsterdam, flugfunksender.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 19 (7. Mai 1932), Berlin, p. 136.

- NETHERLANDS. Amsterdam, flughafenfunkstelle. Funkdienst. Luftfahrtfeuer.
Twente, Notlandeplatz.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 22-23 (4. Juni 1932), Berlin, pp. 160-161.
- Eindhoven, Flughafen. Geersdijk, Luftfahrtfeuer. Dreischor, Luftfeuer.
Twente, Ansteuerungsfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 41 (8. Okt. 1932), Berlin, p. 273.
- Flugsicherungsdienst.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Nov. 1932), Berlin, p. 320.
- Funkstellen, Dienstzeiten.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 42 (15. Okt. 1932), Berlin, p. 284.
- Luftfahrtfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 35, 43, (27. Aug. 22. Okt. 1932), Berlin, pp. 231-232, 292.
- Noordwijk aan Zee, Funkstelle. Oldebroek, Notlandeplatz. Zierikzee, Luftfahrtfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 40 (1. Okt. 1932), Berlin, p. 267.
- Scheveningen, Ansteuerungsfeuer.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, p. 28.
- Twente, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, p. 196.
- Twente, Flughafenfunkstelle. Standortmeldungen von Luftfahrzeuge.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 51-52 (24. Dez. 1932), Berlin, p. 340.
- Twente, Notlandeplatz. Fallschirmabsprung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, pp. 92-93.
- Verkehrsvorschriften. Luftfahrtfeuer, Nachflugstrecke Amsterdam—
Brüssel. Rotterdam-Waalhaven, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13./20. Aug. 1932), Berlin, pp. 220-221.
- Zollbefreiung. Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 47.
- Zollflughäfen von Curaçao, Niederländisch-Westindien.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 26-27 (2. Juli 1932), Berlin, p. 181.
- NETTLETON, ARTHUR. The Prince of Wales prods England.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 13-14, ill.
- NEUMANN, GERHARD. See Schmeidler, Werner, und Gerhard Neumann: Ein
Versuchsflugzeug mit veränderlicher Tragfläche.
- NEUMARK, STEFAN. Metoda analityczna w mechanicie lotu. (La méthode
analytique dans la mécanique du vol).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8, (Nr. 39), War-
szawa, 1932, pp. 5-82, ill., diags., tabs.
- NEUTRALITY. See Sandiford, Roberto: La neutralité aérienne.
- NEW GUINEA. See Banks, Charles A.: Carrying machinery by air. An inter-
esting experiment in the transport of mining equipment in New Guinea.
- NEW JERSEY. See Wilson, Gill Robb: How New Jersey regulates aeronautical
activities.
- NEW MEXICO. See Law, George: New Mexico's sky trails.
- NEW ORLEANS. See Ogden, Warren C.: Model airport for land- and seaplanes
under construction at New Orleans.
- See Ogden, Warren C.: New Orleans' "Carnival of the air" stages a
thrilling exhibition.

- NEW YORK. Laws affecting aviation of the State of New York 1932.
Albany, The New York State Commission on Aviation, 1932, pp. 23.
- NEWCOMB, ARTHUR. What the ocean flyers are teaching us.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 40-42.
- NEWCOMB, J. ARTHUR. Echoes from the Pacific flight.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 25-26.
- NEWELL, JOSEPH S. Data on the strength of aircraft materials.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 11-14, ills., diagrs., tabs.
- NEWMAN, W. J., and H. J. FENNER. The "Meteor Mark I." A new two-stroke aero engine with many novel features.
Flight, Vol. 24, No. 36 (1236) (Sept. 2, 1932), London, pp. 833, 834, ills., ports.
- NEWTON, BYRON R. Amelia and her chariot—A thrilling fairy story as our grandmothers would have told it.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 10-12, port.
- Casey Jones talks about airports.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 18-20, ill.
- From sail to steam to aircraft in the Coast Guard. And the greatest of these is aircraft, of which more are needed now.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 9-11, ill.
- Grandfather's top.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 15.
- McAdoo, genius of transportation, prefers the airplane. Has tried everything from mules to motor cars.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 14-19, ills., port.
- The meteoric Moisant and his all-star troupe.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 24-28, ills.
- Off to a flying start. Roosevelt adopts airplane as naturally as Jefferson sat his horse.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 17-18.
- Recollections of the days when wings emerged.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 26-30.
- They said it was neither fact nor fiction and promptly turned it down.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 20-24, portrait Wilbur Wright.
- Thoughts while flying.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 24.
- NICHOLAS-BEAZLEY AIRPLANE Co., INC. Aeronautical parts & supplies . . .
Catalogue K.
Marshall, Mo., 1932, pp. 96, ills.
- NIEPOLD, ULLA. Glückliches mädchen fliegt im silbervogel.
Die Luftreise, Heft 5, Dez. 1932, Berlin, pp. 101-105, ills.
- NIEUPORT-DELAGE. Nieuport-Delage 590 military airplane (French). A two-place high-wing cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 173, Dec. 6, 1932, Washington, November 1932, pp. 6, ills.
- NIGHT flying. El desarrollo de la organización terrestre aplicada al tráfico aéreo nocturno.
Icaro, Núm. 4, abril 1928, Madrid, pp. 106-110, maps.
- See Benkendorff, Rudolf: Air transport. The organisation of air routes for night flying.

- NIGHT flying.** See Benkendorff, Rudolf: Night flying in Germany.
- See Benkendorff, Rudolf: The organisation of air routes for night flying.
- See Lighting: Nuovo dispositivo per facilitare le manovre di partenza e di atterraggio nel volo notturno.
- See Wireless: Wireless and night flying. The Marconi-Adcock direction finder.
- NIGHT illumination.** See Eredia, Filippo: Disposizioni per i sondaggi notturni con palloni piloti.
- NIMFÜHR RAIMUND.** Mechanische und technische Grundlagen des Segelfluges. Berlin, Verlag Richard Carl Schmidt & Co., 1932, pp. 146, illus.
1930. A review of aviation progress. The record of 1930 as seen by Colonel Halsey Dunwoody. Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 6, 16, port.
- See Weitzmann, Ludwig: Flugzeug-Unfallstatistik 1930.
1931. Jahresbericht 1931 der Flugübungsstelle Gatow bei Berlin. Luftschau, 5. Jahrg., Nr. 7 (10. April 1932), Berlin, p. 106.
- Luftfahrttechnik 1931. Luftschau, 5. Jahrg., Nr. 3 (10. Feb. 1932), Berlin, pp. 35-36, illus.
- 1931 production and deliveries. Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 34-35, diagrs.
- See Besançon, Georges: L'année aéronautique 1931.
- See Georgii, Walter: Ergebnisse des 12. Rhön-Segelflug-Wettbewerbes 1931.
- See McAleery, C. M.: The Royal Air Force in 1931.
- See Rogers, Leighton: Aviation exports during 1931.
1932. L'état de quelques questions, au 1er janvier 1932. L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, pp. 3-4.
- Vorschau auf den Internationalen Rundflug 1932. Luftschau, 5. Jahrg., Nr. 2 (24. Jan. 1932), Berlin, pp. 21-22.
- See Aeronautical Chamber of Commerce: The aircraft year book for 1932.
- See Deutscher Luftfahrt-Verband: Deutscher Luftfahrt-Kalendar 1932.
1933. See Bingham, Hiram: For 1933, these objectives.
- NISIYAMA, MASAO.** See Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama: On the acoustical properties of parabolic reflectors.
- NIXON, H. L.** See Lock, C. N. H., F. C. Johansen, and H. L. Nixon: Thrust integrating tubes: Wind tunnel experiments.
- NOBILE UMBERTO.** See Dithmer, Elisabeth: Sandheden om Nobile, Bjørnstjerne Bjørnson in memoriam.
- NOISE.** See Constant, H.: Aircraft vibration.
- See Eisner, Franz, H. Rehm und H. Schuchmann: Frequenzanalyse von Flugzeuggeräuschen.
- See Morris, J.: A note on the solution of difference equations in certain vibration problems.
- See Price, R. P.: Engineering developments in noise elimination.
- NOMENCLATURE.** British glossary of aeronautical terms. London, British Standards Institution.

- NOMENCLATURE.** See Caspari, W.: Internationale sprachliche Verständigung in der Luftfahrt.
- See Eskildsen, Martin Peter: Fortegnelse over luftfartstekniske udtryk og betegnelser, udgivet paa foranledning af det Kongelige Danske Aeronautiske Selskab.
- See France: French military aeroplane nomenclature.
- See Lainé, André: Dictionnaire de l'aviation; préface de m. Paul Painlevé.
- NORMAN, NIGEL.** Airport development.
The Aeroplane, Vol. 42, No. 17 (Apr. 27, 1932), London, pp. 754, 756-758, ills.
- NORTH CAROLINA.** See Seagle, Ben F.: Carolinas' "Good Will" air tour.
- NORTH POLE.** Funkverbindungen in den Polargebieten.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, p. 294.
- NORTHERN lights.** See Chapman, F. Spencer: Northern lights.
- NORWAY.** Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Nov. 1932), Berlin, p. 319.
- Innstilling fra Lufttrafikkommisjonen av 1930.
Oslo, Merkantile bok- & akcidenstrykkeri, 1932, pp. 86, map.
- NORWICH.** Methods and means at Norwich.
The Aeroplane, Vol. 42, No. 7 (Feb. 17, 1932), London, pp. 286-288, ill.
- NOSE dive.** See Watter, Michael: Biplane effect in nose dive analysis. Some aerodynamic considerations in nose dive structural calculations.
- NOTH, HERMANN.** Wetterkunde für Flieger und Freunde der Luftfahrt.
Berlin, Verlag Klasing & Co., 1932, pp. 84, ills.
- NOYES RICHARD W.** Pressure distribution tests on a series of Clark Y biplane cellules with special reference to stability.
National Advisory Committee for Aeronautics, Report No. 417, May 25, 1932, Washington, U. S. Government Printing Office, 1932, pp. 29, ills., diagrs., tabs.
- See Weick, Fred E., and Richard W. Noyes: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. II—Slotted ailerons and Frise ailerons.
- NOZDROVSKY, S. A.** The thermo-barochamber.
U. S. S. R. The Main Board of Aero Industry. Transactions of the Central-Hydrodynamical Institute. No. 119, Moscow, 1932, pp. 16, ills.
- NÜCKER, WALTER.** Über den Schmiervorgang im Gleitlager.
Berlin, VDI-Forschungsheft Nr. 352, VDI-Verlag G. m. b. H., 1932, pp. 24, ills.
- NUKIYAMA, DAIZÔ, and ATUSI KOBAYASI.** On the transmissibility of the visible light through a cloud of particles. (Part I.)
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 82 (Vol. 7, 1), August 1932, Tôkyô, pp. 1-18, ills., diagrs.
- NUTT, ARTHUR.** High temperature liquid-cooled aircraft engines.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 36-37, 90, 94-95, ills., diagrs.
- NUTT, A. E. WOODWARD, and A. F. SCROGGS.** Some factors affecting the range of aircraft with special reference to height.
Journ. Roy. Aer. Soc., Vol. 38, No. 260 (Aug. 1932), London, pp. 604-655, ills., diagrs.
- NYBERGS.** Fran flygkonstens barndom. Nybergsminnen i Tekniska Muséet.
Flygning, Årg. 10, N:R 11 o 12 (Nov. Dec. 1932), Stockholm, pp. 194-195, ills.

O

- OBATA, JUICHI, SAKAE MORITA and YAHEI YOSIDA. Studies on the sounds emitted by revolving airscrews. Part 1.
Proceedings of the Physico-Mathematical Society of Japan, 3rd. Ser., Vol. 14, No. 8 (Sept. 1932), Tôkyô, pp. 399-417, ills., diags.
- Studies on the sounds emitted by revolving airscrews. Part I, and II.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 79, 80 (Vol. 6, 13, 14), July 1932, Tôkyô, pp. 361-387, 389-440, ills., diags.
- OCHNEV, W. E. Tenzometri khuggenbergera i praktika s nimi.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 142, Moscow, Leningrad, 1932, pp. 20, ills., diags., tabs.
- OCKER, WILLIAM C., and CARL J. CRANE. Blind flight in theory and practice.
San Antonio, Texas, Naylor Printing Company, 1932, pp. 200, ills.
- Blind flying—Why?
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 33-38, ill.
- ODIER-BESSIÈRE. Le clinogyre Odier-Bessièrè.
L'Aérophile, 40e Année, No. 7 (Juil. 1932), Paris, pp. 209-210, ills.
- OEMICHEN, E. Note sur les hélices sustentatrices au point fixe et en mouvement de translation uniforme.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, p. 228.
- OGAWA, SEIJI. On the balance weight of radial aero-engine.
Journ. Soc. Mech. Eng. Japan, Foreign edition, Vol. 34, No. 5 (March 1931), Tôkyô, pp. 10-11, diagr.
- OGAWA, TAITIRO. A design formula for ailerons.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 88 (Vol. 7, 7), November 1932, Tôkyô, pp. 179-194, ills., diags., tabs.
- OGDEN, WARREN C. Model airport for land and sea planes under construction at New Orleans.
Southern Aviation, Vol. 2, No. 10 (June 1931), Atlanta, Ga., pp. 11, 20, ill.
- New Orleans' "Carnival of the air" stages a thrilling exhibition.
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 6-7, ills.
- These aviation pioneers offer a complete air service.
Southern Aviation, Vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., pp. 8-10, ills.
- OILS. See Marsh, E. C. J., and E. Mills: Oil quenching of steel. An analysis of the properties of various oils showing their relative suitability.
- OKLAHOMA. Training at the Spartan School and Oklahoma Military Academy.
Aero Digest, Vol. 21, No. 5 (Nov. 1932), New York, pp. 28-30.
- OKLAHOMA CITY. See Fletcher, W. E.: The new air terminal at Oklahoma City.
- O'MALLEY, PAT. Thrills aplenty for airline pilots.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 20-21, 62.
- OMLIE, PHOEBE FAIRGRAVE. See Williams, Edwin M.: How Phoebe Omlie won the 1931 Air Derby.
- See Williams, Edwin M.: The thrilling experiences of a pioneer woman flyer.
- OMLIE, VERNON C. Some problems of the airplane salesman.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 6, 8.
- OPERATION. See Bohrer, Ann: Do's and don'ts for aircraft operators.
- See Sewell, Ike: Traffic tactics.

- OPTICS.** See Gardner, Irvine C.: The optical requirements of airplane mapping.
- ORIENTATION.** See Marcuse, Adolfo: Informe sobre una orientación astronómica en el aire, mediante medios gráficos, sin cálculos.
- ORLANDI, FRANCESCO.** Descrizione della macchina aereobatica costrutta da Francesco Orlandi di Bologna, con cui ha già eseguiti varj esperimenti. Brescia, Dalla tip. Cristiana, 1931, pp. 15, ill.
- ORLEBAR, A. H.** Wing Com. Orlebar on high-speed flying. *Flight*, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 290.
- ORLOVIUS, HEINZ.** See Supf, Peter, und Heinz Orlovius: Die welt der flieger.
- ORMEROD, A.** Full-scale determination of the motions, at the stall, of a Bristol fighter aeroplane fitted with auto control slots and interceptors. *Aer. Res. Comm.*, Rep. Mem. No. 1442, October 1931, London, 1932, pp. 4, diags.
- Full scale measurements of lift coefficients of a Bristol Fighter with R. A. F. 34 wings and slots. *Aeronautics*, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 233-241, diags., tabs.
- Slotted R. A. F. 34 Bristol fighter. Forces on slat in flight. *Aer. Res. Comm.*, Rep. Mem. No. 1477 (T. 3260), May 1932, London, 1932, pp. 6, ill., diags.
- See Jennings, W. G., and A. Ormerod: Full-scale experiments on high-tip-speed airscrews. The effect of thickness of section on airscrew performance.
- ORR, GEORGE W.** Roosevelt field. *Aero Digest*, Vol. 20, No. 6 (June 1932), New York, pp. 44-45, ill.
- ORR, JAMES.** Several cases of noncircular torsion solved by analysis and direct test. *Aeronautics*, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 632-652, ill., diags., tabs.
- ORR, JOSEPH S.** Model airplanes. Chicago, Goodheart-Willcox, 1932 (?).
- ORTHOPTERS.** See Alayrac: Étude théorique du vol par battements.
- O'RYAN, JOHN F.** Limitation of aircraft liability. *Air Law Review*, Vol. 3, No. 1 (Jan. 1932), New York, pp. 27-41.
- ÖSTERREICHISCHE LUFTVERKEHRS-AKTIENGESELLSCHAFT.** Austroflug; offizielles luftkursbuch der Österreichischen luftverkehrs a. g. 1932/33. Wien-Leipzig, Fiba-Verlag, 1932, ill., map.
- OSWALD, W. BAILEY.** General formulas and charts for the calculation of airplane performance. National Advisory Committee for Aeronautics, Report No. 408, April 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 50, diags., tabs.
- OUTRAM, H. W. S.** British aeronautical inspection. London, Society of British Aircraft Constructors, Ltd., pp. 27, ill.
- OWER, E.** Interference. *Journ. Roy. Aer. Soc.*, Vol. 36, No. 259 (July 1932), London, pp. 531-577, ill., diags.
- OWER, E., and C. T. HUTTON.** Note on the measurement of the drag of small streamline bodies. *Aer. Res. Comm.*, Rep. Mem. No. 1409 (Ae. 530), June 1931, London, 1931, pp. 7, diags.
- On the interference of a streamline nacelle on a monoplane wing. *Aeronautics*, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 332-343, diags., tabs.

- OWER, E., and F. C. JOHANSEN. On the determination of the pitot-static tube factor at low Reynolds numbers, with special reference to the measurement of low air speeds.
Aer. Res. Comm., Rep. Mem. No. 1437, August 1931, London, 1932, pp. 28, ills., diagrs., tabs.
- OWER, E. Some aspects of the mutual interference between parts of aircraft.
Aer. Res. Comm., Rep. Mem. No. 1480 (T. 3280), (June 1932), London, 1932, pp. 88, ills., diagrs., tabs.
- See Grey, Charles Grey: Interference.
- OXFORD UNIVERSITY. Oxford University air squadron.
Flight, Vol. 24, No. 30 (1230) (July 22, 1932), London, pp. 684-686, ills.
- OXYGEN. Aparato de respiración por oxígeno a presión.
Icaro, Núm. 6, 7 y 8, junio-julio-agosto 1928, Madrid, pp. 227-230, ills.
- The use of gaseous and liquid oxygen in the service.
Air Corps Information Circular, Vol. 7, No. 667 (June 30, 1932), Washington, 1932, pp. 8, ills.
Air Corp. Technical Report No. 3443.
- See Beyne, Mazer, et M. Grenier: Inhalation d'oxygène pour le vol à l'haute altitude.
- See Naszogen: El aparato de respiración a grandes alturas "Naszogen."
- OZONE. See Chapman, M. A.: On a theory of upper atmospheric ozone.

P

- P., A. L'ala volante.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 27-34, ills.
- P., C. Ai margini della storia. Gli eroi di Lubiana.
Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 375-379.
- P. N. 30. See Germany: A new German airship.
- PABST, WILHELM. Schwimmwerkentwicklung und ihre versuchstechnischen Hilfsmittel.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 23 (14. Dez. 1932), München und Berlin, pp. 681-686, ills., diagrs.
- PACIFIC. See Newcomb, J. Arthur: Echoes from the Pacific flight.
- PACK, MENDEL N., and HOWARD Z. BOGERT. Comparison of the structural design requirements for airplanes with the loads obtained in full-scale pressure distribution tests.
Air Corps Information Circular, Vol. 7, No. 672 (June 30, 1932), Washington, pp. 36, ills., diagrs., tabs.
Air Corps Technical Report No. 3509.
- PACKARD. The Packard Diesel engine. An important series of British patents covering details of the design.
Aircraft Engineering, Vol. 4, No. 44 (Oct. 1932), London, p. 267, ills.
- PAGE, GEORGE A., jr. See Damon, Ralph S., George A. Page, jr., and Kendall Perkins: The economic aspects of transport-airplane design.
- PAINLEVÉ, PAUL. See Journées Techniques Internationales de l'Aéronautiques: Journées techniques internationales de l'aéronautiques, 28 novembre-2 décembre 1932. Préface de M. Paul Painlevé.
- PAINTS. See Tizard, H. T.: The aircraft industry and chemical engineering.
- PALMER. Rueda de freno "Palmer."
Icaro, Año 5, Núm. 49 (enero 1932), Madrid, pp. 7-11, ills.
- PALMER, O. C. Opportunities for jobbers and salesmen in selling aviation supplies.
Southern Aviation, Vol. 3, No. 1 (Sept. 1931), Atlanta, Ga., pp. 7-8, ill.

- PALSGROVE, GRANT K.** Solution of special problems in pipe flow by graphical analysis.
Rensselaer Polytechnic Institute Bulletin, Engineering and Science Series, No. 37, Troy, N. Y., August 1932, pp. 29, diagrs., tabs.
- PALUMBO, LOUISA.** Le condizioni meteorologiche del "Passo della Cisa."
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 553-561, ills., diagrs., tabs.
- L'esplorazione meteorologica dell'alta atmosfera.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 52-61, ills.
- PANAMA.** Verordnung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, pp. 335-336.
- PAN AMERICA.** See Airways: Pan American airways.
- PAN AMERICAN AIRWAYS.** Roaring down to Rio on a flying boat of the Pan American Airways.
Southern Aviation, Vol. 3, No. 5 (Jan. 1932), Atlanta, Ga., pp. 21-23, ill.
- See Lindbergh, Charles Augustus: Lindbergh inaugurates new Pan American route.
- PAN AMERICAN CONVENTION FOR AIR NAVIGATION.** See Warner, Edward P.: The International Convention for Air Navigation; and the Pan American Convention for Air Navigation; a comparative and critical analysis.
- PARABOLIC reflectors.** See Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama: On the acoustical properties of parabolic reflectors.
- PARACHUTES.** Chutes for ships.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., p. 36.
- See Gregory-Quilter: The Gregory-Quilter parachute.
- See Hoffman, E. L.: The tirangle parachute.
- See Irving Air Chute Company: Service manual for Irvin Air Chutes; safety parachutes for aeroplanes, balloons, dirigibles; standard life-saving equipment for the United States Army, Navy, Marine Corps; British Air Ministry; many other governments and numerous commercial companies throughout the world.
- See Salvator: Notice sur l'emploi et l'entretien du parachute "Salvator D 30" avec système d'ouverture à bille.
- See Schröter, Lola: 150 Fallschirm-Absprünge. Lola erzählt Selbsterlebtes.
- See Smith, Floyd: Parachute performance.
- See Switlik Parachute and Equipment Co.: Manual for all models of Switlik safety chutes.
- See Thornblad: El paracaídas sistema Thornblad.
- See Van Loven, F. D.: Successful tests of plane parachute.
- PARASITE drag.** See Hem, L. W.: Resistance and interference of large size tires. A study of the parasite drag of parts of the airplane and the use of fenders and fairings.
- See Munk, Max Michael: Parasite drag. The twentieth of a series of articles on the principles of aerodynamics.
- PARIS.** Un aéroport relais sur la Seine.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, pp. 107-109, ills., map.
- XIII Exposición Internacional de la Aeronáutica en París.
Icaro, Año 5, Núm. 57 (sept. 1932), Madrid, p. 3.

- PARIS. Internationale Luftfahrtausstellung Paris 1932.
Die Luftwacht, Heft 12, Dez. 1932, Berlin, pp. 485-501, ills., tabs.
- Los motores en el Salón de Aeronáutica de París.
Icaro, Año 5, Núm. 60 (dic. 1932), Madrid, pp. 2-3.
- The Paris aero show.
Flight, Vol. 24, No. 48 (1248) (Nov. 24, 1932), London, pp. 1103-1112, ills.
- Paris and her airport problem.
Flight, Vol. 24, No. 12 (1212) (March 18, 1932), London, p. 239, ill.
- De stand en stand a través del XI Salón de Aeronáutica de París.
Icaro, Núm. 6, 7 y 8, junio-julio-agosto 1928, Madrid, pp. 172-186, ills.
- See Bulman, G. P.: Engine features from the Paris show.
- See De Marolles, R. J.: The thirteenth aero salon. A survey of the principal aeroplane and engine exhibits at the Grand Palais.
- See Ducout, M. S.: Le XIII^e Salon de l'Aéronautique.
- See Great Britain: British aircraft at the Paris aero show.
- See Pollard, H. J.: The Paris aero show.
- PARISOT, JACQUES, ET A. ARDISSON. La protection contre le danger aérodynamique; rôle des infirmières, secouristes et assistantes du devoir national; éléments d'instruction à leur fournir; préface du médecin-général inspecteur Sieur.
Nancy, Société de secours aux blessés militaires (Comité de Nancy), 1932, pp. x, 148, ill.
- PARKER, C. F. See Lea, F. C., and C. F. Parker: The effects of temperature on some of the physical properties of metals.
- PARKIN, J. H. Research equipment in Canada. A description of the wind tunnel and seaplane model tank at Ottawa.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, pp. 85-88, ills.
- PARKS AIR COLLEGE. See Parry, Thomas W.: Training methods at Parks Air College.
- PARLETT, R. A. Ingenious telephone system aboard the U. S. S. Akron.
Aero Digest, Vol. 20, No. 1 (Jan. 1932), New York, p. 69.
- PARRI, WALTER. Detonazione ed antidetonanti.
L'Aerotecnica, Vol. 12, N. 6 (giugno 1932), Roma, pp. 793-852, diags.
- PARRY, THOMAS W. Training methods at Parks Air College.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 52, 56-58, ills.
- PASCAL, MARIO. Azioni di correnti fluide tridimensionali e circuitazione superficiale.
L'Aerotecnica, Vol. 12, No. 2 (feb. 1932), Roma, pp. 167-174.
- PASSO DELLA CISA. See Palumbo, Luisa: Le condizioni meteorologiche del "Passo della Cisa."
- PATENTS. See Cross, Grosvenor M.: Flying the patents with good old Walter Green.
- PATH of flight. See Magnan, Antoine, and A. Sainte-Lague: Etude des trajectoires et des qualites aerodynamiques d'un avion par l'emploi d'un appareil cinematographique de bord.
- PATTERNS. See Allen, J. R.: Flat patterns.
- PAULS VALLEY. See Hightower, Louise: A village goes skyward.

- PAWLIKOWSKI, JÓSEF. Wzorcowanie barografów. (Étalonnage des barographes).
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 9, (Nr. 44), Warszawa, 1932, pp. 5-9, diags.
- PEARSON, E. S. See Lythgoe, R. J., Dorothy E. Coekill and E. S. Pearson: Measurement of visual acuity.
- PEARSON, HENRY A. See Rhode, Richard V., and Henry A. Pearson: A method for computing leading-edge loads.
- PECK, ANNIE SMITH. Flying over South America; twenty thousand miles by air. Boston and New York, Houghton Mifflin Company, 1932, pp. xiv, 256, ills.
- PECK, WILLIAM CECIL, and A. P. BEARD. Drop and flight tests on NY-2 landing gears, including measurements of vertical velocities at landing. National Advisory Committee for Aeronautics, Report No. 406, March 16, 1932, Washington, U. S. Government Printing Office, 1931, pp. 15, ills., diags., tabs.
- PEGNA, GIOVANNI. Alcune idee sugli idrovolanti da corsa. Rivista Aeronautica, Anno 8, No. 6 (giugno 1932), Roma, pp. 461-516, ills., diags.
- Some ideas on racing seaplanes. National Advisory Committee for Aeronautics, Technical Memorandums No. 691, Nov. 3, 1932, Washington, November 1932, pp. 24, ills., diags.
- PELLETT, D. L. The application of photoelasticity to the study of indeterminate truss-stresses. Journ. Soc. Automotive Engineers, Vol. 31, No. 6 (Dec. 1932), New York, pp. 469-474, ills., tabs.
- Photo-elasticity, and its application to the study of indeterminate truss-stresses. Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 128.
- PENCK, ALBRECHT. Geographische ergebnisse des Zeppelinfluges. Forschungen und Fortschritte, 8. Jahrg., Nr. 2 (10. Jan. 1932), Berlin, p. 23.
- PENNSYLVANIA. State Aeronautical Commission. General rules and regulations governing aeronautics adopted by the State Aeronautics Commission. Revised, adopted and approved March 30, 1932. Effective April 1, 1932. Harrisburg, Pa., 1932, pp. 85.
- PENSACOLA. See Millar, H. B.: Flight training at Pensacola—"The Mother-in-Law of Naval Aviation."
- PERALTA, MARIANO. La exposición de aviación en Berlin. Icaro, Año 5, Núm. 59 (nov. 1932), Madrid, pp. 7-8, ills.
- PERCIVAL. The Percival "Gull." 130 h. p. "Hermes IV" engine. Flight, Vol. 24, No. 30 (1230) (July 29, 1932), London, pp. 708-710, ills.
- PERFORMANCE. Aircraft performance testing. Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 176.
- See Alston, R. P., D. A. Jones, and E. T. Jones: A flight-path recorder suitable for performance testing.
- See Cope, W. F.: Heat transmission between surfaces and fluids flowing over them.
- See Crouch, A. S.: Full scale measurement of lift and drag of Southampton boat seaplane.
- See Diehl, W. S., and R. F. Anderson: Variable density wind tunnel test data on models of the Hawker Hornbill aeroplane and the A. D. 1 aerofoil section.

- PERFORMANCE.** See Hardy, J. K., and K. V. Wright: A system for the automatic timing of aircraft over a speed course.
- See Hartshorn, A. S.: The influence of a fuselage on the lift of a monoplane.
 - See Jennings, W. G.: Some possible causes of discrepancy in the performance of aircraft of the same type.
 - See Jones, E. T.: A full scale comparison of the drag and heat dissipation of three radiator systems.
 - See Oswald, W. Bailey: General formulas and charts for the calculation of airplane performance.
 - See Ower, E., and C. T. Hutton: On the interference of a streamline nacelle on a monoplane wing.
 - See Perring, W. G. A., and C. Callen: The influence of a stopped airscrew on the lift and drag of an aerofoil.
 - See Schrenk, Martin: Über das Zusammenwirken von Flugwerk und Triebwerk.
 - See Tinson, Clifford W.: Ceiling capacity as a measure of performance.
- PERKINS, KENDALL.** See Damon, Ralph S., George A. Page, jr., and Kendall Perkins: The economic aspects of transport-airplane design.
- PERLEWITZ, und GROTEWAHL.** Im Freiballon über die Ostsee.
Luftschau, 5. Jahrg., Nr. 14 (24. Juli 1932), Berlin, pp. 217-218.
- PERRING, W. G. A.** The cowling of air-cooled engines. A summary of wind-tunnel tests of the effect on performance of various types.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, pp. 123-126, illus., tabs.
- PERRING, W. G. A., and C. CALLEN.** Drag and interference of a nacelle when installed on the upper surface of a wing.
Aer. Res. Comm., Rep. Mem. No. 1414 (Ae. 535), September 1930, London, 1932, pp. 241 illus., diagrs., tabs.
- The influence of a stopped airscrew on the lift and drag of an aerofoil.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 363-369, illus., diagrs., tabs.
 - On the validity of large-scale tests on an open-jet wind tunnel. Tests on one-fifth scale Bristol Fighter (7.9-ft. span) in a 5-foot open-jet tunnel.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 636-697, illus., diagrs., tabs.
Reports and Memoranda No. 1348, (Ae. 480).
- PERRING, W. G. A.** Theoretical investigation of the take-off time of "Singapore II."
Aer. Res. Comm., Rep. Mem. No. 1412 (Ae. 533), February 1931, London, 1932, pp. 10, illus., diagrs., tabs.
- Wind-tunnel experiments on the cowling of air-cooled engines.
Aer. Res. Comm., Rep. Mem. No. 1413 (Ae. 534), April 1930, London, 1932, pp. 49, illus., diagrs., tabs.
 - See Bradfield, F. B., and W. G. A. Perring: The validity of drag tests on a large scale model in a small closed wind tunnel. Drag of one-fifth scale nacelle installed on the upper surface of a monoplane.
- PERRY, H. R.** Increased sales of airplanes expected this year.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 10, ill.
- PERSIA.** The new Persian gulf route.
Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, p. 919, map.
- The Persian oil-fields and their defence.
The Aeroplane, Vol. 42, No. 14 (Apr. 6, 1932), London, pp. 592, 594, map.

- PERSIA.** Teheran—Pahlevi—Boku, Luftverkehr.
Nachrichten für Luftfahrer, 13 Jahrg., Nr. 5 (30. Jan. 1932), Berlin, p. 40.
- PERSIAN GULF.** The Persian Gulf.
Flight, Vol. 24, No. 8 (1208) (Feb. 19, 1932), London, pp. 145-146.
- PERSONNEL.** See Europe: Commercial aircraft in Europe. Details of the numbers of operating personnel and aircraft types in use by various companies.
- PERU.** Verordnung. Auszug aus der Verordnung über die Organisation des Flugwesens vom 2. 10. 31.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, pp. 94-95.
- PETERS, H.** See Betz, A., und H. Peters: III. Versuchsergebnisse. 18. Untersuchung eines Staudruckmultiplikators. (Brunsche Doppel-Venturidüse.)
- PETERSOHN, E.** See Betz, A., and E. Petersohn: Application of the theory of free jets.
- PETERSON.** See Schmalhorst, L. D. A., und Peterson: Neuartige Luftschiffhalle mit sechseckigem Grundriss.
- PETRO-FLEX.** See Tubing: Petro-flex tubing.
- PETTITT-HERRIOT, J.** The installation of a racing engine. An account of the problems overcome during the preparations for the 1931 Schneider trophy contest.
Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, pp. 91-95, ill.
- PETZEL, F. W.** See Fassbender, H.: Hochfrequenztechnik in Luftfahrt.
- PFAUNDLER, C.** See Ritter, G., und C. Pfaundler: Ziviler luftschutz. L. S. aufbau und schulung.
- PFISTER, E.** Konstruktion und Berechnung des Flugzeuges. Teil 2.
Berlin-Charlottenburg, C. J. E. Volckmann Nachfolger G. m. b. H., 1932, pp. 71. Flugzeugbau und Luftfahrt, Heft 16a.
- PHILIPPINE ISLANDS.** Department of Commerce and Communications. Aëronautics Bulletin, No. 1.
Manila, Bureau of Printing, 1932-
- PHILLIPS, S. H.** Steel versus aluminum. Summarization of the possible advantages of stainless steel for airplane structures.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 21-23.
- PHOLIEN.** Le droit aeronautique.
Louvain, Imprimerie administrative, 1932.
- PHOTOELASTICITY.** See Pellett, D. L.: The application of photoelasticity to the study of indeterminate truss-stresses.
- See Pellett, D. L.: Photo-elasticity, and its application to the study of interminate truss stresses.
- PHOTOGRAMMETRY.** Las bases económicas de la fotogrametría.
Icaro, Núm. 5, mayo 1932, Madrid, pp. 153-156.
- Octavo curso de vacaciones de fotogrametría aérea.
Icaro, Año 5, Núm. 54 (junio 1932), Madrid, p. 14.
- Die Photogrammetrie, insbesondere die Luftbildmessung, ihre Entwicklung und ihre Ziele.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 5 (14. März 1932), München und Berlin, p. 144.
- See Dupuy, Pierre: La fotogrammetria Francese.
- See Graf Zeppelin: Photogrammetrie equipment of the Graf Zeppelin.
- See Greenland: Luftphotogrammetrische vermessung in Ost-Grönland.

PHOTOGRAMMETRY. See Gruber, O. von: Photogrammetry. Collected lectures and essays. Translated by G. T. McCaw and F. A. Cazalet.

- See Lacmann, Otto: Einfaches Verfahren zur photogrammetrischen Festlegung von Flugbahnen aus erdfesten Stationen.
- See Lacmann, Otto: Die Photogrammetrie, insbesondere die Luftbildmessung, ihre Entwicklung und ihre Ziele.

PHOTOGRAPHY. Aerial photography.

Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 291.

- Ciò che può offrire la tecnica aerofotografica in una guerra futura. Rivista Aeronautica, Anno 8, N. 2 (feb. 1932), Roma, pp. 317-319.
 - How airplanes speed the work of the movie cameramen. Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 10-12, ills.
 - Through rose-tinted spectacles. Infra-red rays and aerial photography. Flight, Vol. 24, No. 36 (1236) (Sept. 2, 1932), London, pp. 824-825, ills.
 - See Ballmann, Peter: Prüfung eines Collinears auf Verzeichnungsfehler.
 - See Canada. Department of the Interior. Surveys Branch: The use of aerial photographs for mapping.
 - See Curry, Manfield: Beauty of flight; with a foreword by Rear-Admiral Richard E. Byrd.
 - See Debham, W. E.: Developments in aerial photography.
 - See France: Utilizzazione rapida della fotografia.
 - See Georgia: Aerial photography for Georgia highway department. Contract let for mapping Georgia-Louisiana tract.
 - See Guillaux, A.: The fun and knack of aerial snapshooting.
 - See Kelly, Gerald: Creating a profitable market for aerial photographs.
 - See Leiber, Ferdinand: Ein neues Umkehrverfahren für Luftbildzwecke.
 - See Leiber, Ferdinand: Photographie unsichtbarer Farben.
 - See McKinley, Ashley C.: Mapping the Antarctic from the air.
 - See Messter: Toporeniógrafo "Messter" (18 x 24).
 - See Muttray, H.: I. Neue Versuchseinrichtungen. 4. Ein photographisches Profil-Aufnahmegerät für Modell-Luftschauben.
 - See Saul, Milt: Taking aerial photographs over the Southern transcontinental route.
 - See Schmieschek, Ulrich: Über die Einwirkung von Stoffen mit bestimmten chemischen Eigenschaften auf nicht sensibilisierte, orthochromatische und panchromatische Emulsionen.
 - See Volla, Fernando, e Felice Porro: Fotografia aerea negli usi civili e militari; fotografare, interpretare, misurare la terra dall'aeroplano.
 - See Williamson: Williamson "Eagle" III camera.
- PHYSIOLOGY.** See Diringshofen, H. v.: Die Bedeutung von hydrostatischen Druckunterschieden für den Blutkreislauf des Menschen bei Einwirkung hoher Beschleunigungen.
- See Naylor, J. L.: The effect of accelerations on human beings.

- PICCARD, AUGUSTE.** El próximo vuelo del Profesor Piccard.
Icaro, Año 5, Núm. 56 (agosto 1932), Madrid, p. 7.
- La segunda ascensión del Profesor Piccard a la estratosfera.
Ibérica, Año 19, Núm. 944 (1 oct. 1932), Barcelona, p. 167, ill.
- A stratospherical record. Record balloon ascent by Prof. Piccard. 10½ miles up.
Flight, Vol. 24, No. 35 (1235) (Aug. 26, 1932), London, p. 798, port.
- See Heathcote, Dudley: Conquest of the stratosphere. at hand, by Prof. Auguste Piccard as told to Maj. Dudley Heathcote.
- See Margerit, Ad.: La exploración de la estratosfera. Datos y resultados publicados por el Profesor Piccard.
- See Stratosphere: L'ascension stratosphérique du Professeur Piccard.
- PILGRIM.** See Depew, Richard H., jr.: Pilgrim transport.
- PILOTING.** See Lainé, André: Manuel Pratique de pilotage d'aérodynamique, le vol normal, le vol acrobatique, le voyage.
- See Mahachek, Ross: Airplane pilot's manual.
- See Schofield, Harry Methuen, and W. E. Johns: The pictorial flying course.
- PILOTS.** Il libro del pilota aviatore.
Milan, Ulrico Hoepli, 1932, pp. 300, ill.
- See Baldwin, J. E. A.: Training of pilots and instructors.
- See Barbieri, Fortunato: Il libro del pilota aviatore. L'apparecchio; perché vola; come si pilota; come si ottiene il brevetto; turismo aereo.
- See Brownfield, Clifford C.: Problems and opportunities for prospective pilots.
- See Fechet, James E.: Are pilots professional men or merely aerial chauffeurs?
- See Sgarbi, Giuseppe: Importanza dell'esame psicologico nella scelta dei piloti.
- See Sperry, Elmer A., jr.: Description of the Sperry Automatic Pilot.
- PILTZ.** Die Höhenfahrten des Ballones "Ernst Brandenburg" zur Höhenstrahlenmessung.
Luftschau, 5. Jahrg., Nr. 8 (24. April 1932), Berlin, pp. 121-122.
- PINE.** See Chulitzky, N. N.: An investigation of the kiln-drying of aircraft pine.
- PIONEER aircraft instruments.** See Tate, George: Recent developments in pioneer aircraft instruments.
- PIPE flow.** See Palsgrove, Grant K.: Solution of special problems in pipe flow by graphical analysis.
- PIPPARD, A. J. SUTTON.** Note on the distortion of thin tubes under flexure.
Aer. Res. Comm., Rep. Mem. No. 1465, May 1932, London, 1932, pp. 5, diagrs.
- PIPPARD, A. J. SUTTON, and W. E. FRANCIS.** The stresses in a radially spoked wire wheel under loads applied to the rim. Part II.—Simplified formulae and curves.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 622-631, ill., diagrs., table.
Reports and Memoranda No. 1337 (Ae. 468).

- PIRATH, CARL. Forschungsergebnisse des Verkehrswissenschaftlichen Institutes für Luftfahrt an der Technischen Hochschule Stuttgart. Heft 5: Die hochstrassen des weltluftverkehrs.
München und Berlin, Verlag R. Oldenbourg, 1932, pp. 46, illus., tabs.
- Die Hochstrassen des Weltluftverkehrs.
Forschungsergebnisse des Verkehrswissenschaftlichen Institutes für Luftfahrt an der Technischen Hochschule Stuttgart. Heft 5. München und Berlin, Verlag R. Oldenbourg, 1932, pp. 47, illus., tabs.
- PIROZZI, ALFONSO. Attività di organi internazionali per lo sviluppo della posta aerea.
Rivista Aeronautica, Anno 8, N. 6 (giugno 1932), Roma, pp. 572-578.
- Le comunicazioni aeree verso l'oriente.
Rivista Aeronautica, Anno 8, N. 1 (gen. 1932), Roma, pp. 35-40, map.
- PISTOLESI, ENRICO. Aerodinamica.
Torino, Unione Tipografica Editrice Torinese, 1932, pp. xvi, 576.
Biblioteca dell'Ingegnere, Scienze Propedeutiche, 1.
- PISTONS. See Dock, German: The "Dock" patent piston.
- PITCAIRN, HAROLD F. The autogiro answers its critics.
Aviation, Vol. 31, No. 4 (Apr. 1932), New York, pp. 169-172, ill.
- PITTARD, EDMOND. L'Aéronautique et la Société des Nations.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 149-154.
- PITTMAN, OWEN W. An international air-mail post office.
Southern Aviation, Vol. 3, No. 10 (June 1932), Atlanta, Ga., p. 8, ill.
- PLANES. More uses for planes.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., pp. 18-21.
- PLANING SURFACES. See Sottorf, W.: Experiments with planing surfaces.
- PLATES. See Bergman, Stefan, and H. Reissner: Neuere Probleme aus der Flugzeugstatik. Über die Knickung von rechteckigen Platten bei Schubbeanspruchung.
- See Kármán, Theodor von, Ernest E. Sechler, and L. H. Donnell: The strength of thin plates in compression.
- See Sezawa, Katsutada, and Kei Kubo: Stresses in a plate with a flanged circular hole.
- See Stanton, T. E. and Dorothy Marshall: On the eddy system in the wake of flat circular plates in three-dimensional flow.
- See Tomotika, Susumu, and Miduho Inanuma: On the moment of the force acting on a flat plate placed in a stream between two parallel walls.
- PLATT, ROBERT C. See Weick, Fred E., and Robert C. Platt: Wind-tunnel tests of the Fowler variable-area wing.
- PLEINES, WILHELM. Deutsche flugzeugmuster für sport und reise. Der gegenwärtige entwicklungsstand.
Zeitschr. ver. deutscher Ing., Bd. 76, Nr. 40 (1. Okt. 1932), Berlin, pp. 949-957, illus., diagrs., tabs.
- Die flugzeugmuster des 3. Internationalen Rundfluges 1932.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 19 (14 Okt. 1932), München und Berlin, Berlin, pp. 563-577, illus., diagrs., tabs.
- Further flight tests on the effectiveness of Handley-Page automatic control slots.
National Advisory Committee for Aeronautics, Technical Memorandums No. 686, Sept. 29, 1932, pp. 13, illus., diagrs.

- PLEINES, WILHELM.** Weitere Flugmessungen über die Wirksamkeit von automatischen Handley-Page-Schlitzquerrudern.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, pp. 287-294, illus., diags. Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. VIII 9-16, illus., diags., tabls.
- See Hübner, Walter, und Wilhelm Pleines: Das DVL-Gleitwinkelsteuer (Bauart W. Hübner). Aerodynamische Grundlagen der Vorrichtung; Flugmessungen mit einer Ausführungsform.
- See Hübner, Walter, and Wilhelm Pleines: The D. V. L. gliding-angle control (W. Hübner design).
- PLENDL, H.** See Fassbender, H.: Hochfrequenztechnik in der Luftfahrt.
- See Krüger, Kurt, und H. Plendl: Untersuchungen über Polarisationsfadings.
- PLYWOOD.** The making of plywood.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, pp. 291-292.
- See Grzędzielski, Aleksander: O spólczynnikach sprężystości sklejk.
- See Hertel, Heinrich: Die Schubmoduln von Furnier und Sperrholz, von Heinr. Hertel. Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen, von Paul Brenner und Otto Kraemer.
- POBEDONOSZEW, J. A.** Capacity method of pressure vibration recording.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, Moscow, Leningrad, 1932, pp. 46, illus., diags.
- POBJOY.** The Pobjoy "R" engine.
Flight, Vol. 24, No. 17 (1217) (April 22, 1932), London, pp. 349-350, illus.
- The Pobjoy "R" engine. Improvements in 1933 model.
Flight, Vol. 24, No. 42 (1242) (Oct. 13, 1932), London, pp. 955-957, illus., diagr.
- POE.** See Brigham, Clarence S.: Poe's "Balloon hoax."
- POESCHEL, JOHANNES.** Deutscher Luftfahrtverband und deutscher Sprachverein.
Luftschau, 5. Jahrg., Nr. 5 (10 März 1932), Berlin, pp. 67-68.
- POGGI, L.** Campo di velocità in una corrente piana di fluido compressibile.
L'Aerotecnica, Vol. 12, N. 12 (dic. 1932), Roma, pp. 1579-1593, 1699.
- Studio sulla manovra di cambiamento di rotta nei dirigibili.
L'Aerotecnica, Vol. 12, No. 4 (aprile 1932), Roma, pp. 524-542, ill., diagr.
- POISON GASES.** See Parisot, Jacques, et A. Ardisson: La protection contre le danger aéro-chimique; rôle des infirmières, secouristes et assistantes du devoir national; éléments d'instruction à leur fournir; préface du médecin-général inspecteur Sieur.
- See Stackelberg, S. de: Fléau aérien; la guerre aéro-chimique et la défense anti-aérienne.
- POLAND.** Polsk seger i Europa-runt-flygninggen.
Flying, Årg. 10, N:R 9 (Sept. 1932), Stockholm, pp. 152-154, 162, illus., tabl.
- Stand der lufrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 18-21.
- Ueberflug.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 13 (26. März 1932), Berlin, p. 93.
- Zollverordnung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4, 5, 6 (23. 30. Jan., 6. Feb. 1932), Berlin, pp. 30-32, 39-40, 41-48.

- POLAND.** Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8, 28-29 (20. Feb., 16. Juli 1932), Berlin, pp. 59, 196.
- See Murray, Kenneth Malcolm: Wings over Poland; the story of the 7th (Kosciuszko) squadron of the Polish air services, 1919, 1920, 1921.
- POPLAR CURVE.** See Magnan, Antoine, and A. Sainte-Lague: Etude des trajectoires et des qualités aérodynamiques d'un avion par l'emploi d'un appareil cinématographique de bord.
- POLAR diagram.** See Atkin, E. H.: Applications of the polar diagram.
- POLAR flight.** See Bruns, Walther: Luftfahrzeuge als Hilfsmittel in der Polarforschung.
- POLARIZATION.** Untersuchungen über Polarisationsfadings.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, p. 294.
- POLLARD, H. J.** Notes on the use of stainless steel in aircraft structures.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 49 (1249) (Dec. 1, 1932), London, pp. 1152a-1152g (85-87).
- The Paris aero show.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 53 (1253) (Dec. 29, 1932), London, pp. 1232a-1232d (89-92), ill.
- POLSON, J. A.** Internal combustion engines.
New York, John Wiley and Sons, Inc.; London, Chapman and Hall, Ltd., 1931, pp. vii, 475.
- PONCIN, HENRI.** Recherches sur le mouvement d'un fluide pesant dans un plan vertical.
Paris, E. Blondel La Rougery, 1932, pp. 102, diags.
Publications scientifiques et techniques du Ministère de l'Air, No. 16.
- Sur les cavitations de forme permanente . . . préface de M. Henri Villat.
Paris, E. Blondel La Rougery, 1932, pp. 114, ill., diags.
France. Services techniques et industriels de l'aéronautique. Publications scientifiques et techniques . . . No. 18.
- POND, OSCAR LEWIS.** A treatise on the law of public utilities, including motor vehicle transportation, airports and radio service.
Indianapolis, The Bobbs-Merrill Company, 1932, 3 vols.
- PORPOISING tests.** See Garner, H. M.: Porpoising tests on a model of a flying boat hull.
- PORRO, FELICE.** See Volla, Fernando, e Felice Porro: Fotografia aerea negli usi civili e militari; fotografare, interpretare, misurare la terra dall'aeroplano.
- PORTSMOUTH.** Portsmouth's airport opened.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, pp. 629-631, ill.
- See Bradbrooke, F. D.: The opening of Portsmouth aerodrome.
- PORTUGAL.** Zollflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 59.
- See Howard, Leslie H.: Aero Industry in Portugal.
- POSITION finding.** See Ceccotti, Giuseppe: Un metodo Americano per determinare di notte il punto mediante osservazioni di stelle.
- See Severing, Giuseppe: Sulle determinazioni di posizione nei lunghi voli.
- POSS, R.** Betrachtungen über den Europa-Rundflug.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 19 (14. Okt. 1932), München und Berlin, pp. 561-563.
- POST, and GATTY.** Around the world in 8 days.
London, John Hamilton, Ltd., 1932, pp. 319, ill.

- POST, GEORGE B.** Seaplane transportation vs. the airport bus and cab.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 37-40, 43, ills.
- POTENTIAL.** See Thompson, M. J.: A note on the discontinuous potential.
- POTEZ.** See Ducout, M. S.: Essai d'un avion de tourisme Potez 36, 95 CV.
— See France: The observation type in France. The Potez 37R.2 two-seater monoplane with oval tubular rear-end of fuselage.
- POTURZYN, FISCHER VON.** Minister Balbos tätigkeitsbericht zur luftfahrtdebatte in der italienischen Kammer.
Die Luftwacht, Heft 6, Juni 1932, Berlin, pp. 207-208.
— Wert und wertung des luftbildes. Zur veranstaltung der Sächsischen Landesbildstelle Dresden 8.—11.2.1932.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 139-140.
- POWER.** See Schrenk, Martin: The mutual action of airplane body and power plant.
— See Weyl, Alfred Richard: Triebwerkanordnungen bei Mehrmotorenflugzeugen.
- POWER lines.** Trouble shooting on power lines with an airplane.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta Ga., pp. 5-6, 10, ills.
- PRAEGER, OTTO.** See Siam: Otto Praeger is developing aviation in Siam.
- PRANDTL, LUDWIG, und A. BETZ.** Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen (angegliedert dem Kaiser Wilhelm-Institut für Strömungsforschung). IV. Lieferung.
München, Verlag R. Oldenbourg, 1932, pp. 148, ills., tabs.
- PRANDTL, LUDWIG.** II. Theoretischer Teil. Zur turbulenten Strömung in Rohren und längs Platten.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 18-29, diagrs., tabs.
— See Daniel Guggenheim Medal Fund: The Daniel Guggenheim Medal for achievement in aeronautics. Biographies of Orville Wright, medalist for 1929; Ludwig Prandtl, medalist for 1930; Frederick William Lanchester, medalist for 1931; Juan de la Cievra, medalist for 1932.
- PRATT & WHITNEY.** The Pratt & Whitney fuel-injection system.
Flight, Vol. 24, No. 9 (1209) (Feb. 26, 1932), London, p. 171.
— See Hornet: An injection "Hornet."
— See Wasp: The twin Wasp Junior. Double-banked cylinders show Pratt & Whitney in most interesting development in air-cooled field.
— See Willgoos, A. V. D.: Model R-1535 Pratt & Whitney "Twin Wasp Junior" engine.
— See Willgoos, A. V. D.: Pratt and Whitney's new fuel-injection system.
- PRATT & WHITNEY AIRCRAFT Co.** Overhaul manual for Pratt & Whitney engines. Wasp A, B, C., C-1, D, D-1; Hornet A, A-1, A-2, C, B, B-1; Wasp Junior A. November 1, 1932.
East Hartford, Conn., The Pratt & Whitney Aircraft Co., 1932, ills., diagrs.
- PRENTICE, JAMES.** Flying at the races better than ever before.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 15-16.
— A great event with a happy ending.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., pp. 12-14.

- PRENTICE, JAMES.** Young America is growing wings in fact and not in talk. A few observations on this gliding and cloud-riding business.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., p. 36.
- PRESTON, G. D.** See Gayler, L. V., and G. D. Preston: Age-hardening of aluminum alloys.
- PRESTON, R. C.** By air to Karlsbad.
Flight, Vol. 24, No. 45 (1245) (Nov. 3, 1932), London, pp. 1021-1022, ills.
- PRESTONE cooling.** The mechanical difficulties of Prestone cooling at 300° F. outlet temperature.
Air Corps Information Circular, Vol. 7, No. 670 (June 30, 1932), Washington, pp. 12, ills., tabl.
Air Corps Technical Report No. 3474.
- PREUSS.** Die Borkenberge-Gesellschaft als Förderin des Gleit- und Segelfluges in Westdeutschland.
Luftschau, 5. Jahrg., Nr. 5 (10. März 1932), Berlin, pp. 73-74, ill., tabl.
- PRICE, R. P.** Engineering developments in noise elimination.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 33, 36, ill.
- PRICOLO, FRANCESCO.** La difesa aerea di una grande città.
Rivista Aeronautica, Anno 8, N. 11 (nov. 1932), Roma, pp. 205-211.
- PRIETO Y FACCILO, FELIPE.** See Torres Menier, Mario, y Felipe Prieto y Facciolo: Aviación y mecánica; tratado teórico-práctico que explica la manera de resolver los problemas más importantes que se presentan a los pilotos aviadores comerciales. Contiene además informaciones de interés general para pilotos y estudiantes de aviación.
- PRINCE OF WALES.** See Nettleton, Arthur: The Prince of Wales prods England.
- PRIS, M.** The controls at low hinge moments.
National Advisory Committee for Aeronautics, Technical Memorandum No. 685, Sept. 23, 1932, Washington, September 1932, pp. 17, ills., diagrs.
- PRIS, R.** Les hélices et leur adaptation sur l'avion.
L'Aerophile, 40e Année, No. 6 (Juin 1932), Paris, pp. 177-181, ills., diagrs.
- PRITSCHOW, W.** Volkmanns Baupläne flugfähiger Flugmodelle. Herausgegeben im Auftrage des Deutschen Luftfahrt-Verbandes E. V. 4. Bauplan: Hochdecker-Rumpfmödel mit textlichen Erläuterungen.
Berlin-Charlottenburg, Verlag C. J. E. Volkmann Nachf. G. m. b. H., 1932.
- PRIVATE flying.** Strangling private flying.
Flight, Vol. 24, No. 51, 53 (1251, 1253) (Dec. 8, 29, 1932), London, pp. 1173-1174, 1230-1232.
- PRIVATEER.** The Privateer III.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., pp. 34-36, ills.
- See Spencer, P. H.: The Privateer III amphibion.
- PRODUCTION.** Interesting analysis of aircraft production figures, 1931.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 50.
- Production and licensing.
Aviation, Vol. 31, No. 3 (March 1932), New York, pp. 118-123, diagrs., tabs., maps.
- PROFIT and loss.** See Putnam, L. L.: Keeping tab on profit and loss.
- PROGRESS.** See Ames, Joseph Sweetman: Scientific progress.
- PROPELLERS.** Airscrew design.
Flight, Vol. 24, No. 47 (1247) (Nov. 17, 1932), London, p. 1093.
- The free rotational prop.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, p. 23.

PROPELLERS. How to make a synchronizing mirror for tri-motors.

Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, p. 36, ill.

- Propellers of steel.
Aviation, Vol. 31, No. 11 (Nov. 1932), New York, p. 447.
- See Andrews, W. R.: Light aero engine-airscrew combinations.
- See Andrews, W. R.: Notes on airscrew-body interference.
- See Bateman, H., and F. C. Johansen: Pressure and force measurements on airscrew-body combinations.
- See Betz, A.: I. Neue Versuchseinrichtungen. 1. Das Luftschrauben-Laboratorium.
- See Blyth, J. D.: The determination of air-screw design conditions.
- See Blyth, J. D.: The mutual influence of engine and airscrew characteristics.
- See Bonifacio, Ferdinando: Moderni problemi sui motori e propulsori per aviazione.
- See Caldwell, Frank W.: Propeller design.
- See Diehl, Walter Stuart: Static thrust of airplane propellers.
- See Egoroff, B. N.: Influence of a thick wing on airscrew performance.
- See Gigli, Alberto: Esposizione intuitiva del funzionamento dell'elica aerea.
- See Glauert, H.: Airscrews for high-speed aeroplanes.
- See Gloster: La hélice graduable Gloster Hele-Shaw Beacham.
- See Hartshorn, A. S., and G. P. Douglas: Wind tunnel experiments on high tip speed airscrews.
- See Hartshorn, A. S., and G. P. Douglas: Wind tunnel tests on high tip speed airscrews. Further experiments on scale effect.
- See Heinz, W. B.: Value of controllable-pitch propellers to the aeronautics industry.
- See Helmbold, H. B.: Ansätze zur Berechnung von Verstellluftschrauben.
- See Hohenemser, K.: Beitrag zur Dynamik des elastischen Stabes mit Anwendung auf den Propeller.
- See Jennings, W. G., and A. Ormerod: Full scale experiments on high tip speed airscrews. The effect of thickness of section on airscrew performance.
- See Kármán, Theodor von, und C. Wieselberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 11. Zur Frage der schräg angeblasenen Propeller, von Fr. Misztal. Aerodynamische Theorie und Entwurf von Luftschrauben, von Th. Troller.
- See Kouzmin, G. I., and D. V. Chalezow: Effect of profile shape and blade thickness on airscrew characteristic.
- See Kuzmin, G. I.: Airscrew design by vortex theory.
- See Ledoux, Charles: Étude de la déformation des hélices.
- See Liebers, Fritz: Propeller tip flutter.
- See Liebers, Fritz: Resonance vibrations of aircraft propellers.
- See Liebers, Fritz: Versuche über Luftschraubenschwingungen.

- PROPELLERS. See Lincke, Jack: Inspection and maintenance of steel propellers.
- See Lock, C. N. H., and H. Bateman: Airscrews at negative torque.
- See Lock, C. N. H., and H. Bateman: Analysis of experiments on the interference between bodies and tractor and pusher air screws.
- See Lock, C. N. H.: The application of Goldstein's theory to the practical design of air screws.
- See Lock, C. N. H.: Theory of air screw body interference. Application to experiments on a body of fineness ratio 3.0 with tractor air screw.
- See McKee, James H.: Hollow steel propellers.
- See Misztal, Franz: The problem of the propeller in yaw with special reference to airplane stability.
- See Misztal, Franz, und Th. Troller: Zur frage der schräg angeblasenen propeller, von Fr. Misztal. Aerodynamische theorie und entwurf vom luftschrauben, von Th. Troller.
- See Morris, J.: The two bladed air screw. A discussion on mathematical lines of certain peculiarities and disadvantages.
- See Muttray, H.: I. Neue Versuchseinrichtungen. 4. Ein photographisches Profil-Aufnahmegerät für Modell-Luftschrauben.
- See Obata, Juichi, Yahei Yosida, and Sakae Morita: Studies on the sounds emitted by revolving air screws. Part I.
- See Oemichen, E.: Note sur les hélices sustentatrices au point fixe et en mouvement de translation uniforme.
- See Pris. R.: Les hélices et leur adaptation sur l'avion.
- See Reissner, H., und Melitta Schiller: Auswertung experimenteller Untersuchungen über Luftschrauben mit verdrehbaren Flügelblättern.
- See Schaefer, E. B.: The Smith controllable-pitch propeller.
- See Schory, Carl F.: The care and service of metal propellers.
- See Schrenk, Martin: Abflug und Schraubenschub.
- See Seewald, Friedrich: Determination of stresses and deformations of aircraft propellers.
- See Stickle, George Walter: Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers.
- See Stipa, Luigi: Experiments with intubed propellers.
- See Stipa, Luigi: Sull'impeigo di eliche di vario tipo.
- See Townend, H. C. H.: An automatic variable pitch air screw.
- See Townend, H. C. H.: Hot wire and spark shadowgraphs of the air flow through an air screw.
- See Turnbull: Il propulsore a passo variabile Turnbull.
- See Turnbull: The Turnbull V. P. propeller.
- See Webb, L. D.: The fan on the front end.
- See Wiesinger, Kurt: Zur Prioritätsfrage bezüglich der Propellerschnellbahn.
- See Williams, D. C. Hollis: The design of air screws. A review of the present position from an engineering aspect.

- PROPELLERS.** See Windler, Ray: The effect of propellers and nacelles on the landing speeds of tractor monoplanes.
- See Wood, Donald H.: Tests of nacelle-propeller combinations in various positions with reference to wings. Part I. Thick wing—N. A. C. A. cowled nacelle—tractor propeller. Part II. Thick wing—various radial-engine cowlings—tractor propeller.
- PRUDDEN, EARL D.** Ryan school of aeronautics, Ltd.
Aero Digest, Vol. 21, No. 3 (Sept. 1932), New York, pp. 36, 38, ill.
- PTER.** Fin fyr för flygare.
Flygning, Årg. 10, N:R. 11 o 12 (Nov. Dec. 1932), Stockholm, p. 207, ill.
- PTERODACTYL design.** See Gates, S. B., and D. M. Hirst: Some features of the earlier Pterodactyl design.
- PUBLICITY.** See Berchtold, William E.: Front page!
- PUGSLEY, A. G.** Aerodynamic characteristics of a semirigid wing.
Aer. Res. Comm., Rep. Mem., No. 1490 (T. 3270), June 1932, London, 1932, pp. 11, diags.
- Torsional instability in struts. A general theory of the failure by twisting of certain types of strut in compression.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 229-230, ill.
- PUMPS.** Pompe a air comprimé Vickers pour le démarrage des moteurs.
L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 23.
- See Eclipse Aviation Corporation: Eclipse vacuum pump for instruments.
- PUSCH, GERHARD.** Segelflugzeugstart von schwierigen Abflugstellen.
Luftschau, 5. Jahrg., Nr. 13 (10. Juli 1932), Berlin, p. 203.
- PUTNAM, AMELIA EARHART.** Amelia Earhart Putnam.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 7-8.
- Amelia scores again.
Nat. Aer. Mag., Vol. 10, No. 6 (June 1932), Washington, pp. 4-5, port.
- Amelias have changed since Thackeray's "Vanity Fair."
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 13.
- Miss Amelia Earhart's Atlantic flight. First woman to accomplish solo crossing.
Flight, Vol. 24, No. 22 (1222) (May 27, 1932), London, p. 469, ill.
- Mrs. Earhart Putnam a traversé, seule, l'Atlantique.
L'Aérophile, 40e Année, No. 6 (Juin 1932), Paris, pp. 170-171, ill.
- See Earhart, Amelia.
- See Newton, Byron R.: Amelia and her chariot—A thrilling fairy story as our grandmothers would have told it.
- See Wells, Hart: A. E.
- PUTNAM, L. L.** Keeping tab on profit and loss.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 25-28.
- PUTNAM, LAWSON L., and FRANKLIN D. MYERS.** Accounting for air carriers..
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 72-75, ill.
- PYE, D. R.** The limits of compression ratio in Diesel engines.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 790-798, diags.
Reports and Memoranda No. 1365 (E. 45).

- PYLE, ERNIE. The operations of a tri-state feeder line.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., pp. 11-13, ills.

Q

- QUÉMIN. Le dispositif aérodynamique Quémin.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, p. 85, ill.
- QUESSETTE, J. Étude théorique et expérimentale de la stabilité des avions.
Paris. Gauthier-Villars & Cie, 1932, pp. vii, 60, ills.
- QUILTER, RAYMOND. See Gregory-Quilter: The Gregory-Quilter parachute.

R

- R XVI. Próby w locie samolotu R XVI.
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10, Warszawa, 1932, pp. 73-76, ills., diagrs., tabs.
- RACES. See Farkas, Harold M.: Thrilling aircraft demonstrations at the all American air races.
— See Rundflug.
- RACING. See Hutchinson, J. L.: Air-race handicapping. An allowance for wind when the course is a closed circuit.
- RADIATORS. See Brown, C. Anderson: Design and test data for aircraft radiators.
— See Brown, C. Anderton, and A. W. Morley: Estimation of wing-surface area for evaporative cooling.
- RADIO. Built-in radio. How technical and practical advantages are obtained by provision in original design.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 11-13, ills.
— Radio on the airways.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., pp. 21-22, ill.
— Radio operations on the Southern Transcontinental line.
Southern Aviation, Vol. 2, No. 7 (March 1931), Atlanta, Ga., pp. 18-20, 29, ills.
— Traffic control by radio.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, p. 36.
— See Auger, André: T. S. F. L'emploi des ondes courtes dans le raid du "Saint-Didier."
— See Brintzinger, Wilhelm, und Heinrich Viehmann: Das Rauschen von Empfängern.
— See Bryant, P. E.: Operating a radio net on the S. A. T. Lines.
— See Communication: Communications on an international airline.
— See Crotti, Attilio: Sull'impiego della radiogoniometria nella navigazione aerea con particolare riguardo all'organizzazione delle reti R D G terrestri.
— See Eddy, Myron F.: Radio and its personnel.
— See Falco, Armando: Le comunicazioni radiotelefoniche aeree.
— See Fassbender, H.: Hochfrequenztechnik in der Luftfahrt.
— See Gisart, Heinz: Funkrecht im luftverkehr.
— See Hoffman, Willy. The Danish law of March 31, 1931, dealing with protective measures against disturbances of radio broadcast reception.

- RADIO.** See Kennedy, Walter B.: Radio and the commerce clause.
- See Knott, E. M.: Airport radio transmitter.
- See Krüger, Kurt: Die drahtlose Nachrichtenübermittlung in den Polar-gebieten.
- See Krüger, Kurt, und H. Plendl: Untersuchungen über Polarisations-fadings.
- See Laird, Cody: The practical uses of two-way radio on Southern transport lines.
- See Lyman, Joseph: Ultra-short-wave radio tests.
- See Mesny, M.: Las aplicaciones de la radioelectricidad a la aviación.
- See Moschenross, M.: Radio for the private flyer.
- See National Radio Institute: Advanced course in Aircraft Radio.
- See Sokolcow, D. M., i J. Bylewski: Wyniki III-ciej serji badań nad rozchodzeniem się fal posrednich i krótkich.
- See Sprague, E. Stuart: Copyright-radio and the Jewell-La Salle case.
- RADIO beacons.** See Bonnalie, Alan F.: Follow the beam.
- RADIO interference.** See Fromy, E.: Déviations radio-goniométriques à bord d'avion.
- RADIOTELEPHONE.** See Nance, H. H.: Wire communication aids air transportation.
- RAFFAELLI, ITALO.** Un nouvo sistema di sostentazione aerodinamica.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Foma, pp. 23-25, ill.
- RAGSDALE, E. J. W.** Stainless steel and shot-welding.
Aviation, Vol. 31, No. 4 (Apr. 1932), New York, pp. 177-179, ills.
- Stainless steel in aircraft production.
Aviation Engineering, Vol. 7, No. 2 (Aug. 1932), East Stroudsburg, Pa., pp. 5-7, 31.
- RAHSKOPFF, H.** Zauberlandsschaft über den wolken.
Die Luftreise, Heft 5, Dez. 1932, Berlin, p. 108, ill.
- RAMAT, GEORGES.** Manuel du breveté mécanicien; théorie de l'avion.
Paris, Charles-Lavauzelle & Cie., 1932, pp. 279, ills., diagrs.
- RAMSEY, LOGAN C.** Compass roses for airports. An inexpensive facility to aid cross-country fliers.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 40, 42, ill.
- RANDOLPH FIELD.** See Kilner, Walter C.: Randolph Field, a "Flying City."
- See Training: Flight training started at the South's "West Point of the Air."
- RANGE.** See Nutt, A. E. Woodward, and A. F. Scroggs: Some factors affecting the range of aircraft with special reference to height.
- RANGE and endurance.** See Fenton, G. B.: An investigation of range and endurance.
- RANGER.** Ranger V-770 engines.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, p. 83, ill.
- RATE making.** See Watkins, Myron W.: Air transport rate making.
- RATINGS.** Why not compulsory ratings for airports?
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., p. 19.

- RAVEN. Der diesjährige Wettbewerb um den DLV-Wanderpreis für Leuchtgasballone.
Luftschau, 5. Jahrg., Nr. 14 (24. Juli 1932), Berlin, pp. 219-220, ills., tabl.
- RAVEN, ED. Entwicklung des Freiballonsports im Deutschen Luftfahrt-Verband e.V.
Luftschau, 5. Jahrg., Nr. 9 (10. Mai 1932), Berlin, pp. 144-146, ills., diags.
- RAWLINSON, E. GOODWIN. Preventive medicine in its relation to aviation.
Journ. Roy. Aer. Soc., Vol. 36, No. 256 (April 1932), London, pp. 366-373.
- RAYMOND, ARTHUR E. The mold loft. Its economical application to aircraft construction.
Aviation, Vol. 31, No. 6 (June 1932), New York, pp. 264-266, ills.
- READ, R. H. See Coombes, L. P., and R. H. Read: The effect of the various types of lateral stabilizers on the take-off of a flying boat.
- REALE AERO CLUB D'ITALIA. Convegno internazionale degli aviatori transoceanici.
Roma, [Società anonima poligrafica Italiana], 1932, pp. 15, ills.
- REBUFFET, P. Soufflerie aérodynamique à dynamomètres électrométriques du service des recherches de l'aéronautique.
Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 5, Paris, 1932
- RECORDS. The altitude record.
Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, pp. 909-910.
- How Lees and Brossy established a new endurance record at Jacksonville.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., pp. 5-8, ill., ports.
- Le mois—records.
L'Aérophile, 40e Année, No. 10 (oct. 1932), Paris, pp. 293-294, ills.
- Record de vitesse sur 2.000 kilomètres. (Marcel Haegelen.)
L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, p. 280.
- Rekorde. Stand der von der F. A. I. anerkannten Internationalen Flugzeug-Rekorde am 1. Januar 1932.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 1 (14. Jan. 1932), München und Berlin, pp. 32-34.
- Rekord som falla. Nya höjd- och hastighets-rekord för landflygplan.
Flygning, Årg. 10, N:R 10 (Okt. 1932), Stockholm, pp. 166-167, ills.
- Tabelle dei records mondiali.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 431-444, tabs.
- World's altitude record for Britain.
Flight, Vol. 24, No. 40 (1240) (Sept. 30, 1932), London, pp. 912-914, ills.
- A World's record? A "Vesta"—"Pegasus" achievement.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, p. 889, ills.
- See Mason, L. G.: Mason's systematic methods of inspection and records.
- See National Air Races: World records made at 1932 National Air Races.
- REDMOND, JOHN C. Rapid chemical test for the identification of chromium-molybdenum steel aircraft tubing.
National Advisory Committee for Aeronautics, Technical Notes No. 411, March 22, 1932, Washington, March 1932, pp. 3.
- REDSHAW, S. C. A method for stressing monospar pyramid bracing.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, pp. 1008a-1008d, 73-76, ills., tabs.
- REED, THOMAS R. A modern Sinbad.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., p. 15.

- REED, THOMAS R. Forecasting winds the aviator will encounter.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 33-34.
- He speaks with authority.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 27.
- Señor Don Juan de la Cierva y Cordoniu.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 10-12.
- What the Weather Bureau does to make air travel safe.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 37-38.
- REFLECTORS. See Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama:
On the acoustical properties of parabolic reflectors.
- REHM, H. See Eisner, F., H. Rehm und H. Schuchmann: Frequenzanalyse von
Flugzeuggeräuschen.
- REICH, O. Godesberger Freiballongfahrt. Eine Erinnerung an die erste Frei-
ballongfahrt Professor E. Milarchs.
Luftschau, 5. Jahrg., Nr. 14 (24. Juli 1932), Berlin, pp. 221-222.
- REID, ELLIOTT GRAY. Applied wing theory.
New York and London, McGraw-Hill Book Company, inc., 1932, pp. xi, 231, ills., diagrs.
- REISSNER, H., und MELITTA SCHILLER. Auswertung experimenteller Unter-
suchungen über Luftschrauben mit verdrehbaren Flügelblättern.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin,
[1932], pp. IX 17-22, ills., diagrs., tabs.
- REISSNER, H. See Bergmann, Stefan, and H. Reissner: Neuere Probleme aus
der Flugzeugstatik. Über die Knickung von rechteckigen Platten bei
Schubbeanspruchung.
- RENARD, PAUL. Comment pourrait être constituée une armée internationale.
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 193.
- RENAUDON. Historique de l'aérostation au Maroc en 1925-26.
[Paris, 1932?]
- RENAULT. Le nouveau moteur Renault 100 CV inversé.
L'Aérophile, 40e Année, No. 7 (juil. 1932), Paris, p. 212, ill.
- RENKER, GUSTAV. Mein tollstes flug-abenteuer.
Die Luftreise, Heft 3, Okt. 1932, Berlin, pp. 60-61, ills.
- RENTERÍA, JULIO de. Cómo nacieron los motores "Dragón."
Revista de Aeronáutica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 68-69.
- REPAIRS. See Kline, Sherman J.: Methods of maintenance in the Spartan
Service shops.
- REPPY, ALISON. American Academy of Air Law—Annual report.
Air Law Review, Vol. 3, No. 4 (Oct. 1932), New York, pp. 375-406.
- RESEARCH. See United States: Luftfahrtforschung in den Vereinigten Staaten
von Nordamerika.
- See Wimperis, H. E.: New methods of research.
- See Wimperis, H. E.: New methods of research. Details of the new
R. A. E. 24-foot vertical tunnels and seaplane tank.
- See Wimperis, H. E.: New methods of research in aeronautics.
- RESISTANCE. See Ahlborn, Fr.: Turbulence and mechanism of resistance on
spheres and cylinders.
- See Löhner, Kurt: Die Reibungswiderstände des Flugmotors.

- RESISTANCE.** See Schoenherr, Karl L.: Resistance of flat surfaces moving through a fluid.
- RESONANT vibrations.** See Liebers, Fritz: Resonance vibrations of aircraft propellers.
- RESPESS, ROLAND B.** Travel by dirigible. The "magic carpet" way. Wichford, R. I., Providence, R. I., 1932, diags.
- REY, BRITTON.** Crop dusting as a business. Western Flying, Vol. 11, No. 6 (June, 1932), Los Angeles, pp. 20-21, 57.
- REYNOLDS.** See Flachsbart, O.: III. Versuchsergebnisse. 13. Der Widerstand von Kugeln in der Umgebung der kritischen Reynolds schen Zahl.
- REYNOLDS, ZACHARY SMITH.** Log of aeroplane NR-898W; experiences, comments, impressions, of a flight from England to China, 1931-32. New York, Priv. print. [W. E. Rudge's Sons, inc.], 1932, pp. 50, ills.
- RHODE, RICHARD V., and HENRY A. PEARSON.** A method for computing leading-edge loads. National Advisory Committee for Aeronautics, Report No. 413, March 31, 1932, Washington, U. S. Government Printing Office, 1931, pp. 12, ills., diags., tabs.
- RHODE, RICHARD V.** The pressure distribution over a long elliptical wing tip on a biplane in flight. National Advisory Committee, for Aeronautics, Technical Notes, No. 437, Dec. 17, 1932, Washington, December 1932, pp. 8, diags., tabs.
- The pressure distribution over a standard and a modified Navy elliptical wing-tip on a biplane in flight. National Advisory Committee for Aeronautics, Technical Notes No. 433, Oct. 31, 1932, Washington, October 1932, pp. 23, ill., diags., tabs.
- RHODESIA.** Flughäfen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 336.
- Nord-Rhodesien. Zollflughäfen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 67.
- Süd-Rhodesien. Verkehrsvorschriften. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-27 (2. Juli 1932), Berlin, p. 184.
- Süd-Rhodesien. Warnung vor Ueberfliegen. Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 67.
- See Roberts, W. Norman: Aerial surveying in northern Rhodesia.
- RHOEN.** Aguila de la Rhoen. Icaro, Año 5, Núm. 54 (Junio 1932), Madrid, p. 15, ill.
- Le concours de la Rhoen de 1932. L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, pp. 271-274, ills.
- Resultado de 12º concurso del vuelo a vela en el Rhoen en el año 1931. Icaro, Año 5, Núm. 52 (abril 1932), Madrid, pp. 5-9, ills.
- XIII concurso de la Rhoen. 1932. Icaro, Año 5, Núm. 59 (nov. 1932), Madrid, pp. 12-14, ills.
- See Georgii, Walter: Ergebnisse des 12. Rhön-Segelflug-Wettbewerbes 1931.
- See Georgii, Walter: Twelfth Rhön soaring contest, 1931.
- See Georgii, Walter: Veröffentlichungen des Forschungsinstitutes der Rhön-Rossitten-Gesellschaft E. V.
- See Ysenburg, Graf: Rhön-segelflug-wettbewerb 1932.

- RIABOUCHINSKY, D. Hydrodynamique.—Recherches experimentales sur la naissance des cavitations.
C. R. Acad. Sci., T. 195, No. 3 (18 juil. 1932), Paris, pp. 205-208, ill.
- Mécanique des fluids.—Sur l'analogie hydraulique des mouvements d'un fluide compressible.
C. R. Acad. Sci., T. 195, No. 22 (28 nov. 1932), Paris, pp. 998-999.
- RICARDO, HARRY. Schnellaufende Verbrennungsmotoren. Zweite, verbesserte Auflage, übersetzt und bearbeitet von A. Werner und P. Friedmann.
Berlin, Verlag Julius Springer, 1932, pp. 447, ill.
- RICCOBONO, SALVATORE. Il diritto sullo spazio aereo secondo il diritto Romano.
Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 141-148.
- RICE, E. ALLAN. The Shushan airport.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 44-46, ill.
- The Shushan airport.
Flight, Vol. 24, No. 6, 7 (1206, 1207) (Feb. 5, 12, 1932), London, pp. 114-116, 137-138, ill.
- RICHARDSON, D. G. Instrument flying on the airline to Mexico City.
U. S. Air Services, Vol. 17, No. 7 (July 1932), Washington, D. C., pp. 32-33.
- RICHARDSON, E. G. On the flow of air adjacent to the surface of a rotating cylinder in a stream.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 160-171, ill., diagrs., tabls.
- RICHÉ, ÉTIENNE. See Blanchet, Georges: Personalités contemporaines Étienne Riché sous-secrétaire d'état à la défense nationale.
- See Vivent, Jacques, et Étienne Riché: L'organisation générale des aérodromes en France et aux colonies.
- RICHTHOFEN, BARONE VON. See Locatelli, Domenico: Considerazioni sulle "Memorie del Barone von Richthofen."
- RIESE, OTTO. Exposé sur l'avant-projet de convention relatif à la saisie conservatoire des aéronefs. Comité International Technique d'Experts Juridiques Aériens.
Riv. Dir. Aer., N. 4, dicembre 1932-X, Roma, pp. 466-476.
- Die 6. Jahresversammlung der C. I. T. E. J. A. Paris, Oktober 1931.
Archiv für Luftrecht, Nr. 1, 1932.
- RIGID bodies. See Marin, N. J.: Classification of mechanical properties of rigid bodies and their numerical determination.
- RIJKS-STUDIEDIENST VOOR DE LUCHTVAART. De Rikjs-Studiedienst voor de Luchtvaart, Amsterdam. Verslag over het jaar 1931.
's-Gravenhage, Algemeene Landsdrukkerij, 1932, pp. 25.
- RING, LAWRENCE E. Airlines in Asia.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, p. 71.
- RINGS. See Milner, H. L.: The stress and deflection of uniformly and axially loaded rings.
- RIO DE JANEIRO. The Rio survey and the Aircraft Operating Company.
The Aeroplane, Vol. 42, No. 20 (May 18, 1932), London, pp. 898, 900.
- The survey of Rio de Janeiro. Aircraft Operating Company, Ltd., completes important contract.
Flight, Vol. 24, No. 21 (1221) (May 20, 1932), London, p. 452.
- RITENBERGS, N. Izlūku aviācijas darbība karā.
Rīgā, Armijas spiestuve, 1931, pp. 108, diagrs.

- RITTER.** Die grundsätze für die verwendung der kampfverbände der französischen luftstreitkräfte im jahre 1918.
Die Luftwacht, Heft 2, 3, Feb., März 1932, Berlin, pp. 57- , 95-99.
- RITTER, G., und C. PFAUNDLER.** Ziviler luftschutz. L. S. aufbau und schulung.
Ludwigshafen a. Rh., Ludwig Kelle, 1932.
- RIVERSIDE MILITARY ACADEMY.** Successful aviation experiment at a Southern preparatory school.
Southern Aviation, Vol. 4, No. 2 (Oct. 1932), Atlanta, Ga., pp. 15-16, ills.
- ROBBINS, RICHARD W.** Getting there!
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 32-35, port.
- Safety, dependability, speed.
Nat. Aer. Mag., Vol. 10, No. 3 (March 1932), Washington, pp. 6-8.
- ROBERT.** Aerodynamique. Recherches experimentales,
Paris, Gauthier-Villars et Cie., 1932. Fasc. 1. Profils d'ailes.
- ROBERTS.** Roberts' aeroplane stabiliser.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, p. 51, 89, ills.
- Stabilizzatore "Roberts" per velivoli.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 426-427, ills.
- ROBERTS, W. NORMAN.** Aerial surveying in northern Rhodesia.
Journ. Roy. Aer. Soc., Vol. 36, No. 258 (June 1932), London, pp. 500-527, ills., diagrs., maps.
- ROBERTSON, F. A. de V.** The aircraft of the R. A. F. specially compiled in connection with the thirteenth R. A. F. display.
Flight, Vol. 24, No. 26 (1226) (June 24, 1932), London, pp. 543-563, ills.
- London's auxiliaries. Camps in Kent and Sussex.
Flight, Vol. 24 No. 43 (1243) (Oct. 20, 1932), London, pp. 978-981, ills.
- No. 40 (Bomber) Squadron. The first "Gordon" squadron.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, pp. 411-416, ills.
- No. 100 (Bomber) squadron.
Flight, Vol. 24, No. 34 (1234) (Aug. 19, 1932), London, pp. 774-779, ills.
- Scotland's auxiliaries. Visits to Renfrew and Turnhouse.
Flight, Vol. 24, No. 38 (1238) (Sept. 16, 1932), London, pp. 865-871, ills.
- Worthy Down. A visit to the night bombers. Nos. 7 and 58 (Bomber) squadrons.
Flight, Vol. 24, No. 24 (1224) (June 10, 1932), London, pp. 503-509, 515, ills.
- ROBIDA.** See Codos and Robida: The Hanoi-Paris flight of Codos and Robida.
- ROBIN, MAXIME.** Étude mécanique du vol de l'avion à l'usage des techniciens; cours professé à l'École spéciale de travaux aéronautiques.
Paris, Librairie Polytechnique Ch. Béranger, 1932, pp. 254, ills.
- Note sur une formule de flambage.
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, p. 51, ill., diagr.
- ROBINSON, WILLIAM.** Heavy-oil engines of Akroyd type; being developments of compression-ignition oil engines, including modern applications to land purposes, marine and airship propulsion, and railway traction.
London, Glasgow and Bombay, Blackie and Son, Ltd., 1931, pp. xv, 142, ills.
- ROCARD, Y.** L'hydrodynamique et la théorie cinétique des gaz. (Institut de Mécanique des Fluides de l'Université de Paris.)
Paris, Gauthier, Villars et Cie., 1932, pp. x, 160.
- ROCKEFELLER, J. W., jr.** Growing wings on the business man.
Aviation, Vol. 31, No. 12 (Dec. 1932), New York, pp. 467-468.
- ROCKET.** See Heinze, Edwin P. A.: The Tilling rocket.

- ROCKET. *See* Kort, L.: Raketen mit Strahlapparat.
- *See* Ley, Willy: Grundriss einer geschichte der rakete.
- *See* Nebel, Rudolf: Raketenflug.
- RODER, HERMANN. Navegación sin visión de tierra en niebla y sobre nubes.
Icaro, Núm. 11, nov. 1928, Madrid, pp. 329-331.
- RODGER, R. Engine mounting stresses.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 18, 22 (1218, 1222) (April 29, May 27, 1932).
London, pp. 376e-376g, 468e-468g, ill.
- ROETHIG. Deutscher Luftfahrkalender 1932.
Berlin, Verlag Ferdinand Ashelm, 1932.
- ROGERS, LEIGHTON. Aviation exports during 1931.
Aero Digest [Vol. 20, No. 2] (Feb. 1932), New York, pp. 29-30, ill.
- ROHRBACH. *See* Heinze, Edwin P. A.: German transport airplanes. (Part VI) Rohrbach.
- *See* Heinze, Edwin P. A.: German transport airplanes (Part VII concluded) Rohrbach.
- ROHRBACH, CHARLES H. Army Air Corps reserve flying at Cape Cod.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 17-20, ill., port.
- ROLINSON, D. Measurement of take-off and landing runs.
Aer. Res. Comm., Rep. Mem. No. 1458, November 1931, London, 1932, pp. 3, diagrs.
- Take-off and landing of aircraft.
Aer. Res. Comm., Rep. Mem. No. 1406 (Ae. 527), June 1931, London, 1931, pp. 25, ill., diagrs., tables.
- ROLL. *See* Flachsbar, O.: III. Versuchsergebnisse. 13. Der Widerstand von Kugeln in der Umgebung der kritischen Reynolds schen Zahl.
- ROLLING. *See* Knoetzsch, Hans-Dietrich: Untersuchung der Trudeleigenschaften des Musters Focke-Wulf A 32 "Buzzard."
- ROLLING moments. *See* Irving, H. B.: Addition of rolling moments due to roll and sideslip.
- ROLLS-ROYCE. The Rolls-Royce Condor Diesel. The first details of a compression-ignition type developed by A. R. C. experiments.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, pp. 308-309, ill.
- ROME. *See* A. Z.: Berlin-Rom in 10 stunden.
- *See* Matthias, Heinz: Mit den Fliegern aus aller Welt in Rom.
- ROMEC. Romec fuel pump.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 46-48, ill., diagrs.
- R. 101. *See* Jones, R., and A. H. Bell: Experiments on a model of the airship R. 101 with applications to determine the steady motion of the airship.
- ROOSEVELT, THEODORE. Up to the time of going to press, Theodore Roosevelt is the only president of the United States to have flown in an airplane.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 19, ill.
- ROOSEVELT FIELD. *See* Orr, George W.: Roosevelt field.
- ROSE, THAD. Something new in airships.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, p. 902, ill.
- ROSENBLATT, A. Hydrodynamique.—Sur la stabilité du mouvement général laminaire des fluides visqueux incompressibles.
C. R. Acad. Sci., T. 194, No. 26 (27. juin 1932), Paris, pp. 2284-2286.

- ROSENHAIN, W., J. D. GROGAN, and T. H. SCHOFIELD. Gas removal and grain refinement in aluminium alloys.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 844-851, ills., diagr., table. Reports and Memoranda No. 1387 (M. 72).
- The influence of titanium tetrachloride on the gas content and grain size of aluminium and some alloys.
Aeronautics. Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 834-843, ills., tabs. Reports and Memoranda No. 1386 (M. 71).
- ROSKOTEN, RICHARD. Ziviler Luftschutz. Ein Buch für das deutsche Volk.
Düsseldorf, Industrie-Verlag und Druckerei A. G., 1932, pp. 55, ills.
- ROSS, CECIL ALURED. *See* Zahm, Albert Francis and Cecil Alured Ross: Bibliography on skin friction and boundary flow, compiled by A. F. Zahm and C. A. Ross.
- ROSSIGNOL, J. Hydrodynamique.—Problème touchant des tourbillons cylindriques de section finie.
C. R. Acad. Sci., T. 194, No. 23 (6 juin 1932), Paris, pp. 2026-2028.
- ROTHROCK, ADDISON M., and D. W. LEE. Effect of the reservoir volume on the discharge pressures in the injection system of the N. A. C. A. spray photography equipment.
National Advisory Committee for Aeronautics, Technical Notes No. 407, Feb. 17, 1932, Washington, February 1932, pp. 9, ills., diagrs.
- ROTHROCK, ADDISON M., and C. D. WALDRON. Effect of engine operating conditions on the vaporization of safety fuels.
National Advisory Committee for Aeronautics, Technical Notes No. 430, Aug. 30, 1932, Washington, August 1932, pp. 8, ills., diagrs.
- Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine.
National Advisory Committee for Aeronautics, Report No. 435, Sept. 19, 1932, Washington, U. S. Government Printing Office, 1932, pp. 25, ills., diagrs., tabs.
- ROTHROCK, ADDISON M. The N. A. C. A. apparatus for studying the formation and combustion of fuel sprays and the results from preliminary tests.
National Advisory Committee for Aeronautics, Report No. 429, Sept. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 19, diagrs., tabs.
- Preliminary tests on the vaporization of fuel sprays.
National Advisory Committee for Aeronautics, Technical Notes No. 408, Feb. 23, 1932, Washington, February, pp. 4, ills., diagr.
- ROY, MAURICE. Contribution à la théorie des ailes sustentrices.
Aero Club de France, Travaux du Cercle d'Études Aérotechniques, No. 5, Paris.
- ROYAL AERONAUTICAL SOCIETY. Summary of the Society's activities December 1931-December 1932.
Journ. Roy. Aer. Soc., Vol. 36, No. 264 (Dec. 1932) London, pp. 1013-1036.
- ROYAL AIR FORCE. The R. A. F. navy.
The Aeroplane, Vol. 42, No. 14 (Apr. 6, 1932), London, pp. 604, 606, ill.
- The thirteenth R. A. F. display.
Flight, Vol. 24, No. 27 (1227) (July 1, 1932), London, pp. 685-690, ills.
- *See* Grey, Charles Grey: On the equipment of the Royal Air Force.
- *See* Grey, Charles Grey: On the thirteenth Air Force display.
- *See* McAbery, C. M.: The thirteenth R. A. F. display.
- *See* Robertson, F. A. de V.: The aircraft of the R. A. F. specially compiled in connection with the thirteenth R. A. F. display.

- ROYAL AIRCRAFT ESTABLISHMENT. Nuevos métodos de investigación en aeronáutica.
Ibérica, Año 19, Núm. 940 (3 sept. 1932), Barcelona, p. 100.
- See Bradfield, F. B.: The 5-ft. open jet wind tunnel, R. A. E.
- R-670. The new Continental "R-670" engine.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 48.
- R. 38. See Morris, J.: A note on Miss Chitty and Prof. Southwell's R. 38 memorial prize essay for 1931.
- RUBBER diaphragms. See Strother, D. H., and H. B. Hendrickson: Effect of aging on taut rubber diaphragms.
- RUBICAM, HARRY C. Westward Ho! Via air.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, pp. 20, 25, ill.
- RUDDERS. See Bradfield, F. B., and R. A. Fairthorne: Maximum force on the fin and rudder of a Bristol fighter.
- See Bradfield, F. B.: Maximum force on rudders.
- See Hübner, Walter: Flugmessungen über den Einfluss eines Spaltes zwischen Höhenruder und -flosse auf die statische Stabilität und Steuerbarkeit um die Querachse.
- See Mathias, Gotthold: Querruderform und Querruderwirkung.
- RUDLICKI. La coda a V "Rudlicki."
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 595-599, ill., diags.
- RUDLICKI, GEORGES. The Rudlicki vee tail. A novel arrangement by which a single set of surfaces operates as both elevators and rudder.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, pp. 63-64, ill., diags.
- RUE, LARRY. I fly for news.
New York, A. and C. Boni, inc., 1932, pp. viii, 307, ill.
- RUFFNER, BENJAMIN F. Performance computation from atmospheric wind-tunnel tests.
Aviation Engineering, Vol. 7, No. 5 (Nov. 1932), East Stroudsburg, Pa., pp. 16-17, diags.
- RÜHL, K. H. Amerikanischer flugzeugbau.
Zeitschr. Ver. deutscher Ing., Bd. 76, Nr. 33 (13. Aug. 1932) Berlin, pp. 807-809, ill., diags., tabs.
- RUMANIA. Galatz-Konstanza, Luftverkehr.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6 Aug. 1932), Berlin, p. 215.
- Stand der luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, p. 25.
- Verordnung.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 3-4 (23. Jan. 1932), Berlin, pp. 28-30.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8, 13 (20. Feb., 26. März 1932), Berlin, pp. 59, 93.
- See Grigoresco, Constant: Entwicklung der zivilluftfahrt in Rumänien.
- RUMPF, HANS. Brandbomben; ein beitrage zum luftschutz-problem.
Berlin, E. S. Mittler & Sohn, 1932, pp. vii, 224, ill.
- RUNDFLUG. Internationaler rundflug 1932. Die für den rundflug entwickelten deutschen flugzeuge und motoren.
Die Luftwacht, Heft 8, 9, Aug., Sept. 1932, Berlin, pp. 289-299, 323-346, ill., tabs., map.
- See Kurtz, O.: Die Motoren des Europa-Rundflugs 1932.

- RUNDFLUG. *See* Leander: Der technische Wettbewerb des dritten Internationalen Rundfluges 1932.
- *See* Pleines, Wilhelm: Die Flugzeugmuster des 3. International Rundfluges 1932.
- *See* Races.
- RUSSELL, A. F. "Wires cut" cases in wing structures.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 13 (1213) (March 25, 1932), London, pp. 260a-260e, ills., tabs.
- RUSSIA. Attacco di una colonna di reparti motorizzati da parte dell'aviazione da combattimento.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 579-582, ills.
- Le code de l'air de l'U. R. S. S.
Riv. Dir. Aer., N. 3, luglio 1932-X, Roma, pp. 358-370.
- L'esplorazione aerea notturna durante un inseguimento.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 577-578.
- La partecipazione dell'aviazione alle operazioni di una grande unità motomeccanizzata.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 363-369, ills.
- Red Russia.
Flight, Vol. 24, No. 49 (1249) (Dec. 1, 1932), London, pp. 1143-1144.
- Sowjet-Union.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, p. 25.
- *See* Addinell, H.: Air transport. Russia and her airships.
- *See* Grierson, John: A flight in Russia.
- *See* Japan: La organización de la aeronáutica japonesa y de la U. R. S. S.
- RUST. *See* March, E. C. J., and E. Mills: Temporary rust preventers. The short-period protection of metals, with special reference to grease and oils.
- RYBKA, KARL R. Amerikanische heizungs- und lüftungspraxis.
Berlin, Julius Springer, 1932, pp. 174, ills.
- RYNIN, N. Sternnavigation, zwischenplaneten-verkehr.
Leningrad, Verlag der Akademie der Wissenschaften der U. S. S. R., 1932, pp. 230.
- Teoria del volo cosmico.
Leningrado, Presso l'autore Leningrado; Ul. lukoskogo, 1932, pp. 358, ills.
- RYNIN, N. A. Astronautica.
Edizione dell'Accademia delle Scienze U. S. S. R., Leningrad (Per richieste rivolgersi all'autore), 1932, pp. 217-X, ills.
- RYSKY, CARLO de. El aeroplano Stipa-Caproni 120.
Icaro, Año 5, Núm. 60 (dic. 1932), Madrid, pp. 5-6, ills.

S

- S. B. A. C. The S. B. A. C. display.
Flight, Vol. 24, No. 27 (1227) (July 1, 1932), London, 601-603.
- SABLIER, G. Notions pratiques d'aéronautique . . .
Paris, F. L. Vivien, 1932, pp. 23, ills.
- Plans et construction d'une avionnette . . .
Paris, F. L. Vivien, 1932, pp. 22, ills.
- Plans et construction d'un planeur d'entraînement.
Paris, F. L. Vivien, 1932, pp. [24], ills.
First published as articles in the "Aérotau."

- SACHSENBERG, GOTTHARD. Die deutsche luftfahrt-wirtschaft als gesamtproblem.
Leipzig, Röderdruck, 1932, pp. 16.
- SACO DEL VALLE, CARLOS. Albarrán muere en un accidente de aviación.
Icaro, Año 5, Núm. 54 (junio 1932), Madrid, pp. 3-4, port.
- Hacia la solución de un problema de importancia capital.
Icaro, Año 5, Núm. 56 (agosto 1932), Madrid, p. 14.
- Y la Marañososa . . . ¿cuándo?
Icaro, Año 5, Núm. 53 (mayo 1932), Madrid, pp. 3-4.
- SADRON, CH. Aérodynamique expérimentale—Étalonnage d'une soufflerie pour faibles vitesses.
C. R. Acad. Sci., T. 195, No. 16 (17 oct. 1932), Paris, pp. 647-649.
- SAFETY. Increasing safety in the air.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, p. 421.
- Safety problems in the aircraft factory.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, p. 59, tabl.
- See Bradbrooke, F. D.: Air sense and sensibility.
- See Cremona, Cesare: Il coefficiente di sicurezza nella virata corretta.
- See Forges, Georg: Akustische Nahortungsverfahren für Flugzeuge.
- See Giannini, Amedeo: L'assistenza agli aeromobili in pericolo.
- See Grey, Charles Grey: On the safety of civil aviation.
- See Gridley, Wm. H.: Standards useful servants but poor masters.
- See Hovgard, Paul E.: Safety—with performance.
- See Irving, H. B., and A. V. Stephens: Safety in spinning. A summary of recent investigations, models and full-scale, and general deductions to be drawn.
- See Kahn, Louis: aerodynamic safety of airplanes.
- See Küssner, Hans Georg, und Karl Thalau: Die entwicklung der festigkeitsvorschriften für flugzeuge.
- See Marriott, Joseph S.: How to avoid stalls and spins.
- See Marriott, Joseph S.: How to avoid trouble on the take-off.
- SAFETY belt. See Irvin: A new safety-belt harness.
- See Winters, S. R.: Testing the safety belt for tensile strength.
- SAFETY fuels. See Rothrock, Addison M., and C. D. Waldron: Effect of engine operating conditions on the vaporization of safety fuels.
- SAFETY glass. See Abraham, Martin: Prüfung von Sicherheitsglas.
- SAFEWAY system. See Kline, Sherman J.: Development and operation of the Safeway System.
- SAILPLANES. See Needham, Cecil Hugh Latimer: Sailplanes. Their design, construction, and pilotage.
- See Needham, C. H. Latimer: Sailplanes. Their design, construction and pilotage.
- ST. CLAIRE, M. H. Parachutes.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 42-43, 46, ill.
- SAINTE EXUPERY, ANTOINE DE. Night flight.
New York, Century Company.

- SAINTE-LAGUË, A.** See Magnan, A., and A. Sainte-Laguë: Étude des trajectoires et des qualités aérodynamiques d'un avion par l'emploi d'un appareil cinématographique de bord.
- See Magnan Antoine, et A. Sainte-Laguë: Sur la distribution des vitesses aérodynamiques autour d'un avion en vol.
- SALES.** Economic factors and aircraft sales. Showing the relationship of aircraft sales and economic factors as an aid to sales information.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 23-24, 32, map., tabs.
- See Hurlbert, W. B.: Increased sales of airplanes in the Southern States.
- See Kline, Sherman J.: Practical sales suggestions for airplane salesmen.
- See Perry H. R.: Increased sales of airplanes expected this year.
- See Sudlow, E. W.: Getting the name on the dotted line. The methods used by a Florida agency in developing plane prospects and closing sales are based on successful automobile sales policies.
- SALMON, P.** Catapults and catapulting of aeroplanes.
Journ. Roy. Aer. Soc., Vol. 36, No. 261 (Sept. 1932), London, pp. 704-732, ills.
- SALMOND, GEOFFREY.** See Salmond, John: Sir John Salmond resigns. Sir Geoffrey Salmond succeeds.
- SALMOND, JOHN.** Sir John Salmond resigns. Sir Geoffrey Salmond succeeds.
Flight, Vol. 24, No. 30 (1230) (July 29, 1932), London, p. 704, ports.
- SALMSON.** See Handasyde, G. H.: A radial engine for light aircraft. The factory at which the British-built examples of the Salmson engines are produced.
- SALOMON, H. VON.** Europa-rundflug 1932.
Die Luftreise, Heft 1, 1. Aug. 1932, Berlin, pp. 8-9, map.
- F A I-Konferenz im Haag 5.-10. 9. 1932.
Die Luftreise, Heft 3, Okt. 1932, Berlin, pp. 66-67, ill.
- SALT, J. S. A.** Air survey.
Flight, Vol. 24, No. 51 (1251) (Dec. 15, 1932), London, pp. 1195-1198, ills., diagr.
- SALVATOR.** Notice sur l'emploi et l'entretien du parachute "Salvator D 30" avec système d'ouverture à bille. (Anonima innovazioni aeronautiche.)
Roma, tip. della Camera dei deputati, 1932, pp. 45.
- SALVATOR.** The "Salvator" parachute.
Roma, s. a. brevetti aeronautici "Salvator" (s. tip.), 1932, p. 49.
- SAMUELS, L. T.** Meteorological conditions during the formation of ice on aircraft.
National Advisory Committee for Aeronautics, Technical Notes No. 439, Dec. 27, 1932, Washington, December 1932, pp. 20, diagrs., tabs.
- SANDERS, ROBERT.** See Weick, Fred E., and Robert Sanders: Wind-tunnel tests of a Hall high-lift wing.
- SANDIFORD, ROBERTO.** Legislazione e giurisdizione in materia penale nella navigazione aerea.
Riv. Dir. Aer., N. 3, luglio 1932-X, Roma, pp. 284-300.
- La neutralité aérienne.
Paris, A. Pedone, 1932, pp. 37. Extrait de la Revue Générale de Droit International Public, nov.-déc. 1932, pp. 739-775.
- Lo stato civile delle persone scomparse in seguito a viaggio aereo.
Revista Aeronautica, Anno 8, N. 5 (maggio 1932), Roma, pp. 265-271.

- SANDIFORD, ROBERTO. Sulla repressione dei reati commessi a bordo di aeromobili.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 339-357.
- SANDQUIST, O. A. Plans and construction methods for seaplane ramps.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., pp. 17-18, ills.
- SÄNGER, EUGEN. Accurate calculation of multispar cantilever and semicantilever wings with parallel webs under direct and indirect loading.
National Advisory Committee for Aeronautics, Technical Memorandums No. 662, March 22, 1932, Washington, March 1932, pp. 18, ills., tabs.
- Approximate calculation of multispar centilever and semicantilever wings with parallel ribs under direct and indirect loading.
National Advisory Committee for Aeronautics, Technical Memorandums No. 680, Aug. 22, 1932, Washington, August 1932, pp. 14, ills.
- Zur genäherten Berechnung vielholmig-parallelstegiger, ganz- und halbfrei-tragender, mittelbar und unmittelbar belasteter Flügelgerippe.
Zeitscher. Flugt. Motorluftsch., 23. Jahrg., Nr. 9 (14. Mai 1932), München und Berlin, pp. 245-250, diagrs.
- SANTO DOMINGO. See Farkas, Harold M.: Santo Domingo relief activities of Pan American Airways.
- SANTOS-DUMONT. The passing of a pioneer. Death of Santos-Dumont.
Flight, Vol. 24, No. 30 (1230) (July 29, 1932), London, p. 703, ills.
- See Aimé, Emmanuel: L'Aéro-Club de France en deuil. Le comte Henri de la Valette, Santos Dumont.
- SANTOS-DUMONT, ALBERTO. M. Santos-Dumont.
Nature, Vol. 130, No. 3296 (Dec. 31, 1932), London, p. 995.
Died July 23, 1932. Buried Dec. 18, 1932.
- SANUKI, MATAO, and ITIRÔ TANI. The wall interference of a wind tunnel of elliptic cross-section.
Proc. Physico-Math. Soc. Japan, 3rd Ser., Vol. 14, No. 10 (Nov. 1932), Tôkyô, pp. 592-603 ills., diagrs.
- SARATOGA. El buque porta-aviones "Saratoga."
Icaro, Núm. 2, feb. 1928, Madrid, pp. 29-30, ill.
- SARGEANT, HARRY. Aeronautics; technical and general: Books in the Coventry Libraries on the theory of flight, practical flying, aeronautical engineering (including construction and maintenance), and on gliders and gliding.
Coventry, Eng., Coventry Libraries, 1932, pp. 27.
- SASAO, MASAOKI. See Satô, Kôzi, Masaaki Sasao, Keiiti Kubo, and Masao Nisiyama: On the acoustical properties of parabolic reflectors.
- SASSOON, PHILIP. The air estimates.
Flight, Vol. 24, No. 12 (1212) (March 18, 1932), London, pp. 243-245.
- SATÔ, KÔZI, MASAOKI SASAO, KEIITI KUBO, and MASAO NISIYAMA. Hôbutumen no onkyôgakutekino seisitu ni tuite. (Sono I.) On the acoustical properties of parabolic reflectors. (Part I.)
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 83 (Vol. 7, 2), August 1932, Tôkiô, pp. 19-63, ills., diagrs., tabs.
- SAUL, MILT. Taking aerial photographs over the Southern transcontinental route.
Southern Aviation, Vol. 3, No. 6 (Feb. 1932), Atlanta, Ga., pp. 5-8, ills.
- SAVAGE. The Savage projector.
Flight, Vol. 24, No. 4 (1204) (Jan. 22, 1933), London, pp. 68-69, ills.
- SAVOIA. Savoia flying boat.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., p. 28, ills.

- SAVOIA, CESARE. I maredromi.
Rivista Aeronautica, Anno 8, N. 4 (aprile 1932), Roma, pp. 76-80.
- SAVOIA-MARCHETTI. The Savoia-Marchetti S. 66.
Flight, Vol. 24, No. 42 (1242) (Oct. 13, 1932), London, pp. 953-959, ills.
- A stainless steel amphibian. An American adaptation of the Savoia-Marchetti S. 31 of all-metal spot-welded construction.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 38, 54, ills.
- SCARONI, SILVIO. Profilo di un caccia del periodo di transizione.
Rivista Aeronautica, Anno 8, N. 5 (maggio 1932), Roma, pp. 235-252.
- SCHAEFER, E. B. The Smith controllable-pitch propeller.
Aviation Engineering, Vol. 7, No. 6 (Dec. 1932), East Stroudsburg, Pa., pp. 16-17, ills.
- The Stark system of instrument flying.
Aviation Engineering, Vol. 8, No. 3 (March 1932), Washington, N. J., pp. 21-22, ills.
- SCHÄFER, HANS ULRICH. Die Fluginsel. Eine völkerrechtliche studie über probleme der künstlichen flugstützpunkte auf offener see.
Göttingen, 1932, pp. 77.
- SCHATZKI, ERICH. Die Entwicklung schneller Post- und Personen-Flugzeuge für den deutschen Luftverkehr.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 1 (14. Jan. 1932), München und Berlin, pp. 1-6, diagrs., tabls.
- SCHNEINERT, C. A. Principles of weather observation.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 17-18, ill.
- SCHELHASSE, H. F. A. Volkmanns Baupläne flugfähiger Modelle, herausgeben im Auftrage des Deutschen Luftfahrt-Verbandes E. V. 2. Bauplan: Rennflugzeug Tiefdecker-Rumpfmmodell HS 33.
Berlin, Verlag C. J. E. Volkmann Nachf. G. m. b. H., 1932.
- SCHENK, EWALT. Der flughafen.
Borna-Leipzig, R. Noske, 1931, pp. xiv, 75.
- SCHETTER, CLYDE E. Blimp travelog.
Western Flying, Vol. 11, No. 6 (June, 1932), Los Angeles, pp. 25-26, ill.
- SCHEY, OSCAR W., and HERMAN H. ELLERBROCK, jr. Comparative performance of powerplus vane-type supercharger and an N. A. C. A. Roots-type supercharger.
National Advisory Committee for Aeronautics, Technical Notes No. 426, Aug. 2, 1932, Washington, July 1932, pp. 14, ills., diagrs., tabl.
- SCHEY, OSCAR W., and ARNOLD W. BIERMANN. Heat dissipation from a finned cylinder at different fin-plane air-stream angles.
National Advisory Committee for Aeronautics, Technical Notes No. 429, Aug. 25, 1932, Washington, August 1932, pp. 11, ills., diagrs., tabl.
- SCHEY, OSCAR W. Scavenging a supercharged fuel-injection engine.
Western Flying, Vol. 12, No. 4 (Oct. 1932), Los Angeles, pp. 44-45.
- Scavenging a supercharged spark-ignition engine using fuel injection by the use of large valve overlap.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 129.
- SCHEY, OSCAR W., and ALFRED W. YOUNG. The use of large valve overlap in scavenging a supercharged spark-ignition engine using fuel injection.
National Advisory Committee for Aeronautics, Technical Notes No. 406, April 5, 1932, Washington, April 1932, pp. 10, ills., diagrs.
- SCHEY, OSCAR. See McAvoy, William H., Oscar W. Schey and Alfred W. Young: The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines.

- SCHILLER, L. *See* Wien, Wilhelm Carl, Werner Otto Fritz, und F. Harms, unter mitarbeit von H. Lenz: Handbuch der experimentalphysik, Band 4, Hydro- und Aerodynamik, 4. Teil, Rohre, Offene Gerinne, Zähigkeit. Herausgegeben von L. Schiller, F. Eisner, S. Erk.
- SCHILLER, MELITTA. *See* Reissner, H., und Melitta Schiller: Auswertung experimenteller Untersuchungen über Luftschrauben mit verdrehbaren Flügelblättern.
- SCHLIHA. Der 36-40 Schliha-zweitakt-flugmotor.
Die Luftwacht, Heft 4, April 1932, Berlin, pp. 151-153, ills.
- SCHLIPPE, B. v. Zusätzliche Biegespannungen bei Doppel-C-Profilanschlüssen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 21 (14. Nov. 1932), München und Berlin, pp. 625-627, ills.
- SCHLOMANN, ALFRED. Illustrierte technische wörterbücher . . . Bd. 17: Luftfahrt, aeronautics, aeronautique, aeronautica . . .
Berlin, Technische Wörterbücher-verlag, 1932, pp. xxxv, 292, 108, 337, diagrs.
- SCHMALHORST, L. D. A., und PETERSON. Neuartige Luftschiffhalle mit sechseckigem Grundriss.
Luftschau, 5. Jahrg., Nr. 3 (10. Feb. 1932), Berlin, pp. 42-43.
- SCHMEIDLER. *See* Wings: L'ala a superficie ed a profilo variabile Schmeidler.
- SCHMEIDLER, WERNER, und GERHARD NEUMANN. Ein Versuchsflugzeug mit veränderlicher Tragfläche.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 17 (14. Sept. 1932), München und Berlin, pp. 505-507, ills., diagrs.
- SCHMIDT, ERICH K. O. Der Oberflächenschutz der Flugzeugbespannstoffe.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 18 (28. Sept. 1932), München und Berlin, pp. 549-550.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. V 19-31, ills., diagrs., tabs.
- *See* Schraivogel, Karl, und Erich K. O. Schmidt: Untersuchung von Duralplattblechen. Mechanisch-technologische Versuche, von K. Schraivogel. Korrosionsversuche, von Erich K. O. Schmidt.
- SCHMIDT-REPS, und POLTE. Streckenerfahrungen im instrumentenflug.
Die Luftwacht, Heft 6, Juni 1932, Berlin, pp. 210-216, ills.
- SCHMIESCHEK, ULRICH. Über die Einwirkung von Stoffen mit bestimmten chemischen Eigenschaften auf nicht sensibilisierte, orthochromatische und panchromatische Emulsionen.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. VI 33-43, tabs.
- SCHMITT, M. *See* Godchot, M., et Mile. G. Cauquil. E. Carrière et R. Lautié. M. Schmitt: Étude sur les constituants des essences. (1) Contribution à l'étude physico-chimique des carbures cyclaniques, par M. Godchot et Mile. G. Cauquil. (2) Recherches des constituants des essences d'aviation par mesures de densités ou d'indices de réfraction ou de viscosities, par E. Carrière et R. Lautié. (3) Études comparatives des colonnes à distiller en vue de la séparation des carbures d'hydrogène, par M. Schmitt.
- SCHNAUFFER, KURT. Combustion velocity of benzine-benzol-air mixtures in high-speed internal-combustion engines.
National Advisory Committee for Aeronautics, Technical Memorandums No. 668, April 29, 1932, Washington, April 1932, pp. 17, ills., diagrs.

- SCHNAUFFER, KURT. Verbrennungsgeschwindigkeiten von Benzin-Benzol-Luftgemischen in raschlaufenden Zündermotoren.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. IV 5-12, ill., diagrs.
- SCHNEIDER. Los motores del último concurso Schneider.
Icaro, Núm. 3, marzo 1928, Madrid, pp. 62-65, ill.
- SCHNEIDER TROPHY. Collected reports on British high speed aircraft for the 1927 Schneider Trophy contest. With an introduction by W. L. Cowley.
Aer. Res. Comm., Rep. Mem. No. 1300, January 1931, London, 1931, pp. 372, ill., diagrs., tabs.
- See Mattioli, G.: La coppa Schneider.
- See Pettitt-Herriot, J.: The installation of a racing engine. An account of the problems overcome during the preparations for the 1931 Schneider trophy contest.
- See Weyl, Alfred Richard: Der Wettbewerb um den "Schneider-Pokal."
- SCHOENHERR, KARL E. Resistance of flat surfaces moving through a fluid. A dissertation submitted to the Advisory Board of the School of Engineering of the Johns Hopkins University in conformity with the requirements for the degree of Doctor of Engineering, 1932.
Reprinted from the Transactions of the Society of Naval Architects and Marine Engineers, Vol. 40, 1932, pp. 21, ill., diagrs., tabs.
- SCHOFIELD, HARRY METHUEN. The high speed and other flights.
London, J. Hamilton Limited, 1932, pp. 270, ill.
- SCHOFIELD, HARRY METHUEN, and W. E. JOHNS. The pictorial flying course.
London, J. Hamilton, Ltd. [1932], pp. 100, ill.
- SCHOFIELD, T. H. See Rosenhain, W., J. D. Grogan, and T. H. Schofield: Gas removal and grain refinement in aluminium alloys.
- See Rosenhain, W., J. D. Grogan, and T. H. Schofield: The influence of titanium tetrachloride on the gas content and grain size of aluminium and some alloys.
- SCHONLAND, B. F. J. Atmospheric electricity.
London, Methuen & Co., Ltd., 1932, pp. vii, 100, diagrs.
- SCHORY, CARL F. The care and service of metal propellers.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 29-32, ill.
- SCHOWALTER, C. H. Reviewing the aircraft engines at the show.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 14-16, ill.
- SCHRAIVOGEL, KARL. Prüfung von Flugzeug-Bespannstoffen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 16, 17 (27. Aug., 14. Sept. 1932), München und Berlin, pp. 489-494, 519-522, ill., diagrs., tabs.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. V 33-42, ill., diagrs., tabs.
- The testing of airplane fabrics.
National Advisory Committee for Aeronautics, Technical Memorandum No. 693, Nov. 19, 1932, Washington, November 1932, pp. 27, ill., tabs.
- SCHRAIVOGEL, KARL, und ERICH K. O. SCHMIDT. Untersuchung von Dural-platblechen. Mechanisch-technologische Versuche, von K. Schraivogel. Korrosionsversuche, von Erich K. O. Schmidt.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. V 13-18, ill., diagrs., tabs.
- SCHREIBER. Deutsche luftsport-ausstellung, Berlin 1932.
Die Luftreise, Heft 4, Nov. 1932, Berlin, pp. 88-89, ill.

- SCHREIBER. "Helden kämpfen nie vergebens." Den Toten der deutschen Luftfahrt.
Luftschau, 5. Jahrg., Nr. 2 (24. Jan. 1932), Berlin, p. 24.
- Vogelmenschen auf der wasserkuppe.
Die Luftreise, Heft 2, 1. Sept. 1932, Berlin, pp. 38-39, ills.
- SCHRENK, MARTIN. Abflug und Schraubenschub.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 21 (14. Nov. 1932), München und Berlin, pp. 629-639, diagrs.
- Das drehflügelflugzeug.
Zeitschr. ver. deutscher Ing., Bd. 76, Nr. 35 (27. Aug. 1932), Berlin, pp. 843-846, ills., diagr.
- The mutual action of airplane body and power plant.
National Advisory Committee for Aeronautics, Technical Memorandums No. 665, April 7, 1932, Washington, April 1932, pp. 35, diagrs..
- Über das Zusammenwirken von Flugwerk und Triebwerk.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin [1932], pp. IX 1-15, ills., diagrs.
- SCHRENK, OSKAR. III. Versuchsergebnisse. 2. Untersuchung weiterer Joukowsky-Profile.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 67-71, ills., diagrs., tabs.
- III. Versuchsergebnisse. 3. Untersuchung einiger verallgemeinerter Joukowsky-Profile. (Verallgemeinerung nach Betz.)
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 71-74, ills., diagrs., tabs.
- III. Versuchsergebnisse. 4. Profileigenschaften eines Absaugeflügels.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 74-76, ills., diagrs.
- III. Versuchsergebnisse. 17. Untersuchung von Dachlüftern.
Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 123-126, ills., diagrs.
- See Gruschwitz, Eugen, und Oskar Schrenk: Über eine einfache Möglichkeit zur Auftriebserhöhung von Tragflügeln.
- SCHRÖDER, P. Towing tests of models as an aid in the design of seaplanes.
National Advisory Committee for Aeronautics, Technical Memorandums No. 676, July 18, 1932, Washington, July 1932, pp. 18, diagrs.
- SCHRÖDER, TH. Französische luftfahrt.
Zeitschr. ver. deutscher Ing., Bd. 76, Nr. 44 (29. Okt. 1932), Berlin, pp. 1083-1085, ills., diagrs., tabl.
- SCHROTER, LOLA. 150 Fallschirm-Absprünge. Lola erzählt Selbsterlebtes.
Dresden, Verlag Wilhelm Limpert, 1932, pp. 176, ills.
- SCHUBERT, A. Les moteurs Diesel sans compresseur et les moteurs semi-Diesel.
Paris, Dunod, 1932, pp. xii, 471, ills.
- SCHUCHMANN, H. See Eisner, F., H. Rehm und H. Schuchmann: Frequenzanalyse von Flugzeuggeräuschen.
- SCHULER, FRITZ. Flugmodellbau mit Rolf Italiaander.
Bern, Paul Haupt, 1932.
- SCHULTZ, EDWARD A. The log of the 668-M.
Southern Aviation, Vol. 2, No. 5 (Jan. 1931), Atlanta, Ga., pp. 7-9, ills.
- SCHULZ, W. R. The Europa Rundflug. A review of the machines entered and of the technical aspect of the competition.
Aircraft Engineering, Vol. 4, No. 44 (Oct. 1932), London, pp. 250-252, ills., diagrs., tabs.

- SCHULZ, W. R. The German aero show. A review of the aircraft at the D. E. L. A. exhibition with notes on the trends in design.
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, pp. 273-276, ills., tabs.
- Kritischer rückblick auf die Dela.
Die Luftwacht, Heft 11, Nov. 1932, Berlin, pp. 465-473, ill., tabs.
- Internationale Luftfahrtausstellung Paris 1932.
Die Luftwacht Heft, 12, Dez. 1932, Berlin, pp. 485-501, ills., tabs.
- SCHWAM, MORTON. Design of wing panels for incidence and dihedral.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 20-21, ills.
- SCHWENGLER, J. Erfordernisse und Anregungen für wirtschaftliche Luftschiffbauten.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 419-422.
- SCOTLAND. See Robertson, F. A. de V.: Scotland's auxiliaries. Visits to Renfrew and Turnhouse.
- SCOTT, C. W. A. Scott succeeds! Butler's time for England-Australia flight reduced by 5 hours 42 minutes.
Flight, Vol. 24, No. 19 (1219) (May 6, 1932), London, p. 389, port.
- SCOTT-HALL, S. Aeroplane performance testing. Theoretical and practical aspects of methods employed at Martlesham with civil aircraft.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, pp. 112-114, diags.
- Wheel brakes and undercarriages.
Journ. Roy. Aer. Soc., Vol. 36, No. 257 (May 1932), London, pp. 286-432, ills.
- SCROGGS, A. F. See Nutt, A. E. Woodward, and A. F. Scroggs: Some factors factors affecting the range of aircraft with special reference to height.
- SCRUTON, C. See Duncan, W. J.: First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton.
- SCUD. The Scud II. A high-efficiency sailplane especially suitable for groups of "C" licensed glider pilots who wish to possess their own sailplane.
Flight, Vol. 24, No. 38 (1238) (Sept. 16, 1932), London, pp. 875-876, ills.
- SCUDDER, NATHAN FROST. A flight investigation of the spinning of the NY-1 airplane with varied mass distribution and other modifications, and an analysis based on wind-tunnel tests.
National Advisory Committee for Aeronautics, Report No. 441, Nov. 2, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diags., tabs.
- SCUDDER, Nathan Frost, and M. P. MILLER. The nature of air flow about the tail of an airplane in a spin.
National Advisory Committee for Aeronautics, Technical Notes No. 421, July 5, 1932, Washington, May 1932, pp. 6, ills.
- SEADROMES. See Savoia, Cesare: I maredromi.
- SEAGLE, BEN F. Carolinas' "Good Will" air tour. Thirty-one planes traveled 30,000 miles without an accident in a one-week air tour of North Carolina.
Southern Aviation, Vol. 2, No. 9 (May 1931), Atlanta, Ga., pp. 11-12, ills.
- Large crowds attracted to Charlotte for all-southern aircraft pageant.
Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., pp. 8-11, ills.
- SEAPLANES. Flying boats on commercial air routes.
Flight, Vol. 24, No. 11 (1211) (March 11, 1932), London, p. 220.
- Seaplane training.
Flight, Vol. 24, No. 45 (1245) (Nov. 3, 1932), London, pp. 1025-1026, ills.
- See Coombes, L. P.: Tests of anchors for use on flying boats.

- SEAPLANES.** See Coombes, L. P., and R. H. Read: The effect of the various types of lateral stabilizers on the take-off of a flying boat.
- See Coombes, L. P., and R. K. Cushing: Full-scale measurement of lift and drag of large seaplanes—experiments on Blackburn "Iris".
- See Crouch, A. S.: Full-scale lift and drag curves of a standard seaplane.
- See Diehl, Walter S.: The estimation of maximum-load capacity of seaplanes and flying boats.
- See Floats: Float construction and repair. The process of building a seaplane float described, with hints on replacing damaged parts.
- See Garner, H. M.: Porpoising tests on a model of a flying-boat hull.
- See Hull construction: Practical metal-hull construction. The results of the experience of many years in the erection of flying boats.
- See Kartveli, Alexander: Stress analysis of flying-boat hulls.
- See Landing: Flying boat lands on snow.
- See Latécoère: The Latécoère Lat. 300.
- See Magaldi, Giulio: Il raggio d'azione dell'idrovolante odierno.
- See Nelson, William: Flying-boat design related to its uses.
- See Pegna, Giovanni: Alcune idee sugli idrovolanti da corsa.
- See Pegna, Giovanni: Some ideas on racing seaplanes.
- See Post, George B.: Seaplane transportation vs. the airport bus and cab.
- See Schröder, P.: Towing tests of models as an aid in the design of seaplanes.
- See Sokolow, N. A.: Beitrag zur berechnung der hydrodynamischen eigenschaften von gleitbooten und seeflugzeugen.
- See Sottorf, W.: Über den Einfluss des Modellmassstabes bei der Untersuchung von Flugzeugschwimmern.
- See Supermarine: Supplement to the Supermarine S.6.B. racing seaplane (British). A low-wing twin-float monoplane.
- See Verduzio, Rudolfo: Stresses developed in seaplanes while taking off and landing.
- SEAPLANE hulls.** See Wigley, W. C. S.: Mathematical investigation of strength of wooden seaplane hulls of the Linton-Hope type of construction.
- SEAPLANE ramps.** See Sandquist, O. A.: Plans and construction methods for seaplane ramps.
- SECHLER, ERNEST E.** See Kármán, Theodor von, Ernest E. Sechler, and L. H. Donnell: The strength of thin plates in compression.
- SEEWALD, FRIEDRICH.** Determination of stresses and deformations of aircraft propellers.
National Advisory Committee for Aeronautics, Technical Memorandums No. 670, May 12, 1932, Washington, May 1932, pp. 24, ill., diags.
- SEIFERTH, R.** III. Versuchsergebnisse. 16. Untersuchung von vier Windrädern. Ergebnisse der Aerodynamischen Versuchsanstalt zu Göttingen, IV. Lieferung, München und Berlin, 1932, pp. 118-123, ill., diags., tabs.
- SEINE.** See Paris: Un aéroport relais sur la Seine.

- SEJO.** Comment on devient aviateur.
Paris, B. Béchet, 1932.
- SERPI, LUIGI.** Un nuovo freno-ventilatore per motori d'aviazione raffreddati ad aria.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 354-356, ill.
- SERRAGLI, GIOVANNI.** Considerazioni sui profili alari praticamente reversibili.
L'Aerotecnica, Vol. 12, N. 5 (mag. 1932), Roma, pp. 663-677, 789, ill., diagrs., tabs.
- Le deformazione di un vortice in stato di dissipazione.
L'Aerotecnica, Vol. 12, N. 10 (ott. 1932), Roma, pp. 1311-1321, 1436, ill., diagrs.
- Un sistema di frenatura aerodinamica.
L'Aerotecnica, Vol. 12, N. 7-8 (luglio-agosto 1932), Roma, pp. 1008-1023, ill.
- Teoria di uno schermo aerodinamico per le route a vento. (Elica ad induzione variabile.)
L'Aerotecnica, Vol. 12, N. 1 (gen. 1932), Roma, pp. 34-44, ill.
- SETTLE, T. G. W.** Winning the Gordon-Bennett cup.
Nat. Aer. Mag., Vol. 10, No. 12 (Dec. 1932), Washington, pp. 15, 18.
- SEVERING, GIUSEPPE.** Sulle determinazioni di posizione nei lunghi voli.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 534-552, ill., tabs.
- SEVERSKY.** See Garges, J. P. D.: High speed expectations in the Seversky Sev-3.
Novel construction features make newest product interesting development.
- SEWELL, IKE.** Traffic tactics.
Western Flying, Vol. 11, No. 1 (Jan. 1932), Los Angeles, Calif., pp. 16-18.
- SEXTANTS.** See Coutinho, Gago: El sextante Gago Coutinho.
- SEYDEL, EDGAR.** Müller-Breslaus "Elastizitätstheorie des starren Luftschiffs."
Zeitschr. Flugt. Motorluftsch., 23 Jahrg., Nr. 2 (28. Jan. 1932), München und Berlin, pp. 46-51, ill., diagrs.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, 1932, pp. III 31-35, ill.
- SEZAWA, KATSUTADA, and KEI KUBO.** Measurements of the solid viscosities of metals through the flexural vibrations of a bar.
Rep. Aer. Res. Inst., Tōkyō Imperial University, No. 89 (Vol. 7, 8), December 1932, Tōkyō, pp. 195-231, ill., diagrs.
- Stresses in a plate with a flanged circular hole.
Rep. Aer. Res. Inst., Tōkyō Imperial University, No. 84 (Vol. 7, 3), September 1932, Tōkyō, pp. 65-114, ill., diagrs., tabl.
- SGARBI, GIUSEPPE.** Importanza dell'esame psicologico nella scelta dei piloti. Studio del "temperamento" e del "carattere" dell'aviatore per la valutazione e valorizzazione della sua "personalità" agli effetti della sua missione in pace e della sua preparazione alla guerra.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 270-298.
- SHADOWGRAPHS.** See Townend, H. C. H.: Hot wire and spark shadowgraphs of the air flow through an airscrew.
- SHAFTS.** See Minelli, Carlo: Sulle velocità critiche degli alberi.
- See Nakanishi, Fujio: The secondary vibrations of revolving shafts.
- SHAMIN, N. A.** See Akimow, G. B., and N. A. Shamin: Electrochemical protection from corrosion of the aluminium alloy cooling systems.
- SHANGHAI.** See Fugo: L'impiego dei mezzi aerei nel conflitto di Shanghai.
- SHARP, EDWARD R.** A Nation's tribute to the Wrights.
Nat. Aer. Mag., Vol. 10, No. 7 (July 1932), Washington, pp. 14-17, ill.

- SHAW, SIR NAPIER.** Manual of meteorology. Vol. 4. Meteorological calculus; pressure and wind.
 Cambridge, At the University Press, 1931, pp. xx, 360, xii.
 Reviewed in *Nature*, Vol. 129, No. 3200 (Feb. 13, 1932), London, pp. 220-221.
- SHEFFEY, MILDRED M.** The thrilling experience of learning to fly.
Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., pp. 17, 22.
- SHERIDAN, LAURENCE WARD.** On the two-dimensional flow of air past a series of Rankine ovals.
 Washington, D. C., The Catholic University of America, 1932, pp. 22, diags.
- SHERLOCK, R. H., and M. B. STOUT.** Picturing the structure of the wind. Experiments at the University of Michigan determine characteristics of gusts.
Civil Engineering, Vol. 2, No. 6 (June 1932). Easton, Pa., pp. 358-363, ills.
- SHIMIDZU, ATSUMARO.** On the creep of steel at elevated temperatures. (Second report.)
Journ. Soc. Mech. Eng. Japan, Vol. 35, No. 188 (Dec. 1932), Tôkyô, pp. 1174-1179, ills., diags., tabs. In Japanese.
- SHOCK absorber.** Dynamic test of Gruss shock absorber model X-58.
Air Corps Information Circular, Vol. 7, No. 671 (June 30, 1932), Washington, pp. 4, diags.
- Dynamic tests of Keystone B-3A bomber oleo shock absorber.
Air Corps Information Circular, Vol. 7, No. 666 (June 30, 1932), Washington, pp. 6, ills., diags.
Air Corps Technical Report No. 3392.
- SHOEMAKER, JAMES M.** See Jacobs, Eastman Nixon, and James M. Shoemaker: Tests on thrust augmentors for jet propulsion.
- SHORT.** The Short "Kent" class.
Flight, Vol. 24, No. 34 (1234) (Aug. 19, 1932), London, pp. 780-781, ills.
- The Short R. 628 flying boat "Presented."
Flight, Vol. 24, No. 29 (1229) (July 15, 1932), London, pp. 666, 643, ills.
- SHORT, C. W., jr.** The Tulsa municipal airport.
Aero Digest, Vol. 21, No. 5 (Nov. 1932), New York, p. 30.
- SHORTAL, JOSEPH A.** See Weick, Fred E., and Joseph A. Shortal: The effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil.
- See Weick, Fred E., and Joseph A. Shortal: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. V—Spoilers and ailerons on rectangular wings.
- SHOULGIN, I. G.** Investigations on the elastic and plastic deformation of the bending duraluminium sheets.
 USSR Supreme Council of National Economy. The All-union Association of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 114, Moscow, 1932, pp. 36, ills. diags., tabs.
- SHREVEPORT.** See Miller, Emily U.: Shreveport municipal airport.
- SHUSHAN AIRPORT.** See Rice, E. Allan: The Shushan airport.
- SIADBEI, G.** Hydrodynamique.—Sur la mesure de la résistance opposée par un milieu visqueux au mouvement des corps.
C. R. Acad. Sci., T. 193, No. 23 (6 juin 1932), Paris, pp. 2023-2026, diags.
- SIAM.** Operations in Siam.
Flight, Vol. 24, No. 31 (1231) (July 29, 1932), London, pp. 712-713.
- Otto Praeger is developing aviation in Siam.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 19-20.

SIAM. Zollflughäfen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 59.

SIDESLIP. See Bradfield, F. B., and A. S. Hartshorn: Some preliminary tests on the effects of sideslip on the rolling and yawing moments due to roll of a Bristol biplane.

— See Irving, H. B.: Addition of rolling moments due to roll and sideslip.

— See Jones, E. T.: Effect of sideslip on the performance of a multi-engined aircraft.

SIDESTRAND. See Great Britain Air Ministry: Sidestrand III aeroplane (two Jupiter VIII F engines).

SIEMENS. Siemens SH 14 A.

Die Luftwacht, Heft 8, Aug. 1932, Berlin, pp. 298-299, ill., diagr.

SIEUR, CÉLESTINE. Conférence du médecin général inspecteur Sieur.

Angoulême, S. a. Imprimerie Centrale, 1932, pp. 34.

SIGSFELD, HANS BARSCH VON. See Hildebrandt: Zur Erinnerung an Hans Bartsch von Sigsfeld.

SIKORSKY. See Wind tunnels: Un tunnel aérodynamique vertical.

SIKORSKY AIRCRAFT CORPORATION. See Wind tunnels: Another vertical wind tunnel. The Sikorsky Aircraft Corporation's tunnel for spinning experiments at Bridgeport.

SILENT transport plane. Price offered for really silent transport plane.

Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, pp. 25-26.

SILLA, LUCIO. Influenza della compressibilità sui fenomeni aerodinamici.

L'Aerotecnica, Vol. 12, No. 2 (feb. 1932), Roma, pp. 175-180.

SILLEVAERTS, CH. Le médecin et la guerre aéro-chimique.

Bruxelles, Imp. médicale, 1932.

Reprint from: Bruxelles-Médical.

SILVA, CAMILLO. See Bonomi, Vittorio, e Camillo Silva: Il volo a vela; teoria, pratica del volo e della costruzione degli apparecchi, illustrata da tavole contenenti i disegni costruttivi di un apparecchio scuola.

SILVER. See Gough, H. J., and L. H. Cox: The mode of deformation of a single crystal of silver.

SIMEON, GIUSEPPE. Considerazioni sul cinemo-derivometro Gatty.

Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 562-567.

— Sulla determinazione del punto in volo con rette di altezza.

Rivista Aeronautica, Anno 8, No. 3 (marzo 1932), Roma, pp. 472-486, diags.

SIMMER, F. Über tourenflüge.

Die Luftreise, Heft 5, Dez. 1932, Berlin, pp. 112-114, map., ill.

SIMMONS, L. F. G., and N. S. DEWEY. Photographic records of flow in the boundary layer.

Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 1, London, 1932, pp. 141-149, ills.

SIMMONS, L. F. G. Wind-tunnel experiments with circular discs.

Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 227-232, ill., diags., tabs.

SIMMONS, V. DUDLEY. Relax—Metaphysics of flying.

Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., p. 26.

SIMS, C. A. British aviation illustrated, with references to international aviation.

London, A. & C. Black Ltd., 1932, pp. 96, ills.

- SINCLAIR, J. A. B. The medical requirements for fliers as described in an interview with Harold M. Farkas.
Southern Aviation, Vol. 2, No. 7 (March 1931), Atlanta, Ga., pp. 7-8, 12, ills.
- SINGAPORE II. See Perring, W. G. A.: Theoretical investigation of the take-off time of "Singapore II."
- 668-M. See Schultz, Edward A.: The log of the 668-M.
- SKIN friction. See Millikan, Clarke B.: The boundary layer and skin friction for a figure of revolution.
— See Zahm, Albert Francis, and Cecil Alured Ross: Bibliography on skin friction and boundary flow, compiled by A. F. Zahm and C. A. Ross.
- SKYWRITING. Skywriting.
Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, p. 420.
— Skywriting.
Flight, Vol. 24, No. 28 (1228) (July 8, 1932), London, p. 638.
— See Great Britain: Report from the Select Committee on Skywriting together with the proceedings of the Committee, Minutes of evidence, appendices, and index.
- SLIPSTREAM. See Bowman, R. G., and J. P. D. Garges: The effect of slipstream on longitudinal stability.
— See Hartshorn, A. S., D. M. Hirst, and G. F. Midwood: Wind-tunnel tests on a model of the "Wapiti", including the effect of the slipstream on certain derivatives.
- SLOT control. See Ormerod, A.: Full-scale determination of the motions, at the stall, of a Bristol fighter aeroplane fitted with auto control slots and interceptors.
- SLOTEMAKER, LAMBERTUS HENDRIK. Freedom of passage for international air services.
Leiden, A. W. Sijthoff's Uitgeversmij n. v., [1932], pp. 117.
"Convention relating to the regulation of aerial navigation dated 13th October 1919"; pp. 101-113.
- SLOTTED ailerons. See Evans, Stanley H.: Design of slotted ailerons.
- SLOTTED wings. Ranura de ala y seguridad de vuelo.
Icaro, Núm. 9, sept. 1928, Madrid, p. 279, ills.
— See Guglielmetti, Aldo: Prove dinamiche dell'aletta a fessura tipo Handley-Page.
— See Krassilschikoff, P. P.: Influence of the length of slats and flaps on the slotted wing work.
— See Ormerod, A.: Slotted R. A. F. 34 Bristol fighter. Forces on slat in flight.
— See Pleines, Wilhelm: Further flight tests on the effectiveness of Handley-Page automatic control slots.
— See Pleines, Wilhelm: Weitere Flugmessungen über die Wirksamkeit von automatischen Handley-Page-Schlitzquerrudern.
- SLOTS. See Graham, R. R.: Slots in the wings of birds.
— See Lachmann, G. V.: Slots and the wings of birds.

- SMALL, JAMES.** Simple tilting manometer for rapid reading.
Aer. Res. Comm., Rep. Mem. No. 1430, October 1931, London, 1932, pp. 19, ills., diagra. tabs.
- SMITH.** See Schaefer, E. B.: The Smith controllable-pitch propeller.
- SMITH, GLADYS.** From Camaguey to Port-of-Spain on a magic carpet.
Nat. Aer. Mag., Vol. 10, No. 6 (June 1932), Washington, pp. 19-24, ills.
- SMITH, FLOYD.** Parachute performance.
Aviation Engineering, Vol. 7, No. 3 (Sept. 1932), East Stroudsburg, Pa., pp. 17-19, ills.
- SMITH, ROBERT A.** Temple hunting in Central America.
Flight, Vol. 24, No. 1, 2 (1201, 1202) (Jan. 1, 8, 1932), London, pp. 3-6, 25-27, ills.
- SMITH, S. A.** Lesson from depression.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 46.
- SMITH, TOM.** Now they're taking to the air on insurance campaigns.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., p. 3.
- SMITH automatic control.** The automatic pilot.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, pp. 765-766, ills.
- SMOKE.** See Douglas, C. K. M.: Smoke and visibility.
- SNEED, PRESTON.** The problem of revenues at a municipal airport.
Southern Aviation, Vol. 2, No. 11 (July 1931), Atlanta, Ga., pp. 10-12, ill.
- SNOW.** See Landing: Flying boat lands on snow.
- SOARING.** Les terrains de vol a voile.
L'Aérophile, 40e Année, No. 4 (avril 1932), Paris, p. 110, ills.
- See Alayrac: Étude théorique du vol plané dans une atmosphère en mouvement.
- See Ashwell-Cooke, John Raymond: Motorless flight.
- See Bruce, (Mrs.) Victor: Wind hovering.
- See Cendrars, Blaise: Vol à voile.
- See Coffin, Harold: Wings over Hawaii.
- See Dowd, R. E.: Roche training and soaring glider.
- See Dowd, R. E.: Soaring and gliding at Elmira.
- See Eaton, Warren: A transport pilot's reaction to gliding and soaring.
- See Elmira: Soaring to new records at Elmira.
- See Georgii, Waltër: Ergebnisse des 12. Rhön-Segelflug-Wettbewerbes 1931.
- See Gliding.
- See Grunau: Jahresergebnis 1931 der Segelflugschule Grunau i. Rsgb.
- See Grunau: Das Schlepp-segelflugzeug "Grunau 6."
- See Haller, Augustine C.: Matching wits with the wind.
- See Haller, Augustine C.: Thoughts while soaring.
- See Haller, Augustine C.: Where and why we can soar.
- See Helbig, Hans: Entwicklung der Gleit- und Segelflugbewegung im Deutschen Luftfahrt-Verband e. V.
- See Helbig, Hans: Schlepstartübungen des DLV.

SOARING. *See* Idrac, Pierre: Experimentelle untersuchungen über den segelflug mitten im fluggebiet grosser segelnder vögel (geier, albatros usw.), ihre anwendung auf den segelflug des menschen.

— *See* Kirchner, V.: Das schwanzlose Segelflugzeug "Futurum."

— *See* Latimer-Needham, C. H.: The 1932 B. G. A. open soaring competition.

— *See* Loedding, Alfred C.: Future aspects of the soaring plane.

— *See* Massenot, P.: Le vol sans moteur et les pilotes.

— *See* Matthias, Joachim: Hervorragende Segelflugschleppleistungen.

— *See* Needham, Cecil Hugh Latimer: The conquest of soaring flight.

— *See* Nimführ, Raimund: Mechanische und technische Grundlagen des Segelfluges.

— *See* 1931: Jahresbericht 1931 der Flugübungsstelle Gatow bei Berlin.

— *See* Pusch, Gerhard: Segelflugzeugstart von schwierigen Abflugstellen.

— *See* Schreiber: Vogelmenschen auf der wasserkuppe.

— *See* Steyer: Das Segelfluglager Dörnberg bei Kassel im Jahre 1931.

SOARING flight. Centro de vuelos sin motor.

Icaro, Año 5, Núm. 55 (julio 1932), Madrid, p. 4.

— Proyecto de reglamento de Club de Aviación sin motor.

Icaro, Año 5, Núm. 53 (mayo 1932), Madrid, p. 7.

— Vuelo sin motor.

Icaro, Año 5, Núm. 57 (sept. 1932), Madrid, pp. 9-10.

— Vuelo a vela.

Icaro, Año 5, Núm. 49, 50 (enero, feb. 1932), Madrid, pp. 12-13, 12-14, ills.

— Vuelo a vela en el extranjero.

Icaro, Año 5, Núm. 53 (mayo 1932), Madrid, pp. 14-15.

— Vuelo a vela en todos los países.

Icaro, Año 5, Núm. 52 (abr. 1932), Madrid, pp. 13-15, ill.

— *See* Bachem, Erich: Die Praxis des Leistungs-Segelfliegens.

— *See* Catalonia: Vuelo sin motor en Cataluña. Primera semana de vuelo sin motor en Puigcerdá.

— *See* England, Gordon: Gordon England on gliding.

— *See* Georgii, Walter: Vuelo a vela.

— *See* Jacobs, Hans: Segelflugzeug. Anleitung zum Selbstbau.

— *See* Luftflotten: El vuelo a vela.

— *See* Maluquer, Juan J.: Sobre la agrupaciones de vuelo sin motor.

— *See* Preuss: Die Borkenberge-Gesellschaft als Förderin des Gleit- und Segelfluges in Westdeutschland.

— *See* Rhoen: Resultado de 12º concurso del vuelo a vela en el Rhoen en el año 1931.

— *See* Spain: Ministerio de Comunicaciones. Reglamento de vuelo a vela.

— *See* Theodorides, Ph.: Einführung in das Segelflugwesen.

- SOCIÉTÉ ANONYME BELGE DE CONSTRUCTIONS AÉRONAUTIQUES.** The S. A. B. C. A. "S. XI" commercial airplane (Belgian). A high-wing semicantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 160, May 4, 1932, Washington, April 1932, pp. 4, ills.
- SOCIÉTÉ PROVENÇALE DE CONSTRUCTIONS AÉRONAUTIQUES.** The S. P. C. A. 30 M. 4 military airplane (French). A multiplace low-wing monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 171, Sept. 30, 1932, Washington, September 1932, pp. 4, ills.
- SOCIETY OF AUTOMOTIVE ENGINEERS.** S. A. E. meetings. Excerpts from papers read during sessions at Detroit during the National Aircraft Show.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 20-24, 36, ills., diagr., tabs.
- SOIL survey.** See Bourne, R.: Air survey in relation to soil survey.
- SOKOLCOW, D. M., i J. BYLEWSKI.** Wyniki III-ciej serji badań nad rozchodzeniem się fal pośrednich i krótkich. (Résultats de la III-e série d'essais sur la propagation des ondes intermédiaires et courtes.)
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 10, (Nr. 51), Warszawa, 1932, pp. 31-69, ills., diagrs., maps.
- SOKOŁOW, N. A.** Beitrag zur berechnung der hydrodynamischen eigenschaften von gleitbooten und seeflugzeugen.
UdSSR Volkskommissariat der Schwerindustrie. Hauptverwaltung der Flugzeugindustrie Abhandlungen des Zentralen Aerohydrodynamischen Instituts. Lieferung 149, Moskau, 1932, pp. 40, ills., diagrs., tabs.
- SOLAR eclipse.** See Mason, George: Observing the solar eclipse from 16,500 feet.
- SOMERHOUGH, ANTHONY GEORGE.** A guide to air force law procedure, from minor offences to court-martial.
Aldershot, Gale & Polden, ltd., 1932, pp. v, 57.
- SOMMERS, JOHN E.** Requirements for airport ratings.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 12-14, ill.
- SONGIA, ROBERTO.** Nota sui depositi di sicurezza per benzina e liquidi infiammabili.
Rivista Aeronautica, Anno. 8, N. 6 (giugno 1932), Roma, pp. 542-556, ills.
- SONNTAG, ALBERT.** Mit Graf Zeppelin und Kondor-flugzeugen Europa-Brasilien! Eine reisebeschreibung.
Bonn am Rhein, Selbst-verlag, druck und herstellung: Köllen-verlag, 1932, pp. 75, ills., maps.
- SOPWITH, D. G.** See Gough, H. J., and D. G. Sopwith: The behaviour of a single crystal of aluminium under alternating torsional stresses while immersed in a slow stream of tap-water.
— See Gough, H. J., and D. G. Sopwith: Relative temperatures of brass when subjected to reversed direct stresses in vacuo and in air.
- SOREAU, RODOLPHE.** L'air moyen et la stratosphère . . . Congrès du Génie Civil (23-29 septembre 1931).
Paris et Liège, C. Béranger, 1932, pp. 123, ills., diagrs.
— La stratosfera.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 629-638.
- SOTTORF, W.** Experiments with planing surfaces.
National Advisory Committee for Aeronautics, Technical Memorandums No. 661, March 5, 1932, Washington, March 1932, pp. 20, ills., diagrs., tabs.
- Über den Einfluss des Modellmasstabes bei der Untersuchung von Flugzeugschwimmern.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 24 (28. Dez. 1932), München und Berlin, pp. 713-719, ills., diagrs.

- SOUË, HARTLEY AKIN, and JOHN B. WHEATLEY.** A comparison between the theoretical and measured longitudinal stability characteristics of an airplane.
National Advisory Committee for Aeronautics, Report No. 442, Dec. 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., diags.
- SOUË, HARTLEY AKIN.** Flight tests to determine the effect of a fixed auxiliary airfoil on the lift and drag of a parasol monoplane.
National Advisory Committee for Aeronautics, Technical Notes No. 440, Dec. 23, 1932, Washington, December 1932, pp. 9, ills., diags.
- SOUTH AFRICA.** The air mail to South Africa.
Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, p. 37.
- Exchange of notes between His Majesty's Government in the Union of South Africa and the Government of the United States of America respecting certificates of airworthiness for aircraft. Pretoria, October 12, December 1, 1931.
London, H. M. Stationery Office, 1932, pp. 4. Great Britain. Foreign Office. Treaty series No. 18 (1932). Cmd. 4111. Reprint of Union of South Africa Treaty Series, No. 6 (1931).
- See Grey, Charles Grey: On the South African air-line scandal.
- See United States: Reciprocal recognition of certificates of airworthiness for imported aircraft. Arrangement between the United States of America and the Union of South Africa. Effected by exchange of notes signed October 12 and December 1, 1931. Effective December 1, 1931.
- SOUTH AFRICAN UNION.** Flughafenvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 30-31 (30. Juli 1932), Berlin, p. 208.
- SOUTH AMERICA.** See Hoepfner, Gerhard von: Mit dem Zeppelin in 3 Tagen nach Süd-Amerika.
- See Peck, Annie Smith: Flying over South America; twenty thousand miles by air.
- SOUTHERN air transport lines.** The amazing 2-year development of Southern air transport lines.
Southern Aviation, Vol. 3, No. 5 (Jan. 1932), Atlanta, Ga., pp. 11-14, ills.
- SOUTHERN STATES.** See Elliot, H. A.: Air-transport development in the Southern States.
- SOUTHWELL, R. V.** See Chitty, L., and R. V. Southwell: Primary stresses in the hull of a rigid airship.
- SPAIGHT, JAMES MOLONY.** An international air force.
London, Gale & Polden, Ltd., 1932, pp. vi, 115.
- SPAIN.** Cartagena, Sperrgebiet.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 43 (22. Okt. 1932), Berlin, p. 292.
- Discusión en las Cortes Constituyentes referente a las líneas aéreas postales Españolas.
Icaro, Año 5, Núm. 51 (marzo 1932), Madrid, pp. 3-5.
- Flughafenbenützung in Spanisch-Marokko.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, pp. 58-59.
- Líneas Aéreas Postales Españolas. Decreto de la "Gaceta."
Icaro, Año 5, Núm. 59 (nov. 1932), Madrid, pp. 2-4.
- Ministerio de Comunicaciones. Reglamento de vuelo a vela.
Icaro, Año 5, Núm. 52 (abril 1932), Madrid, p. 4.
- Presupuesto de aeronáutica.
Icaro, Núm. 2, feb. 1928, Madrid, p. 49.

- SPAIN.** Presupuesto Ministerio de la Guerra 1932. Presupuesto Ministerio de Marina. Presupuesto de la Aeronáutica Civil.
Icaro, Año 5, Núm. 50 (feb. 1932), Madrid, p. 3.
- Puerto de la Luz (Gran Canaria), Seeflughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 40 (1. Okt. 1932), Berlin, p. 267.
- Sección oficial.
Icaro, Año 5, Núm. 49 (enero 1932), Madrid, pp. 15-16.
- Stand der Iuflrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, p. 24.
- See Moret, G.: La aviación mercante en España.
- SPANOGLE, J. A.** Compression-ignition engine tests of several fuels.
National Advisory Committee for Aeronautics, Technical Notes No. 418, May 16, 1932, Washington, May 1932, pp. 10, diags.
- SPANOGLE, J. A., and C. S. MOORE.** Consideration of air flow in combustion chambers of high-speed compression-ignition engines.
National Advisory Committee for Aeronautics, Technical Notes No. 414, April 15, 1932, Washington, April 1932, pp. 10, ills., diags.
- SPARK** plugs. See Haifter, Mitchell: A study in spark-plug manufacture. Refinements and accuracy as evidenced in B. G. Spark Plug construction.
- See Hall, Roy M.: Selection, care, and maintenance of porcelain spark plugs.
- See Miyata, Masanori: Some aspects in the production problem of sparking plugs for aircraft engines.
- SPARS.** See Bartel, Ryszard: Badania wytrzymałości na zginanie dźwigarów drewnianych.
- See Łuczynski, Zbigniew: Badania doświadczalne nad współpracą dźwigarów w skrzydłach wolnonośnych.
- SPARTAN.** The Spartan "Cruiser."
Flight, Vol. 24, No. 30 (1230) (July 22, 1932), London, pp. 689-692, ills.
- Spartan "Cruiser" commercial airplane (British). A six-seat low-wing cantilever monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 168, Aug. 19, 1932, Washington, August 1932, pp. 5, ills.
- The Spartan display at Heston.
Flight, Vol. 24, No. 37 (1237) (Sept. 9, 1932), London, pp. 851-852, ills.
- SPARTAN SERVICE.** See Kline, Sherman J.: Methods of maintenance and overhaul in the Spartan Service shops.
- SPEED.** Increase in commercial flying speed.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., p. 18.
- Speed planes at the races.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 8-10.
- See Cushing, R. K.: Measurement of position error on high-speed aircraft.
- See Galante, Nicolò: Nota sul calcolo grafico della velocità economica di un aeroplano tenendo conto del vento.
- See McAtery, C. M.: High-speed flying.
- See Mattei, Pietro: Aeronautica veloce.
- See Miller, Jack B.: Speed—Its relation to cost in passenger transportation.
- See Miller, Jack B.: Speed—The solution to the airlines' problems.

- SPEED.** See Orlebar, A. H.: Wing Com. Orlebar on high-speed flying.
- See Ower, E., and F. C. Johnansen: On the determination of the pitot static tube factor at low Reynolds numbers, with reference to the measurement of low air speeds.
- See Steele, Dudley M.: Races high speed events.
- See Thompson, Charles E.: Speed and air races.
- See Warner, Edward P.: Is there a limit on speed?
- See Willgoos, A. V. D.: P. & W. fuel injection system.
- SPEED indicator.** See Nakanishi, Fujio, Masaharu Itô and Kikuo Kitamura: A new speed indicator for internal combustion engines.
- See Webb, L. D.: Correcting your air speed indicator.
- SPEED instruments.** See Beij, K. Hilding: Aircraft speed instruments.
- SPENCER, ROBERT C.** See Lee, Dana Willie, and Robert C. Spencer: Preliminary photomicrographic studies of fuel sprays.
- SPENCER, P. H.** The Privateer III amphibion.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 52-53, ills.
- SPERRY.** See Blind flying: The latest scientific arrangement of Sperry and Pioneer instruments installed on a panel for blind flight.
- SPERRY, ELMER, A., jr.** Description of the Sperry Automatic Pilot.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 16-18, ills.
- SPERRY GYROSCOPE COMPANY.** The new Sperry horizon.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 36, ills.
- SPHERANT.** See Kaster, Howard B.: Interesting new navigation instrument. [Spherant].
- SPIN.** See Bryant, L. W., and Miss I. M. W. Jones: Notes on recovery from a spin.
- See Gates, S. B.: The effect of centrifugal force on the controls in a spin.
- SPINNING.** An anti-spinning device. Possibilities of a new tail developed in Poland.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, pp. 55-56.
- Pointed tips to reduce spinning.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., p. 15, diags.
- The problem of the spin. The present position reached by investigators on the subject.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 27-28.
- See Batson, A. S., H. B. Irving, and S. B. Gates: Spinning experiments on a single seater fighter.
- See Irving, H. B., and A. S. Batson: Spinning experiments and calculations on a model of the Fairey IIIF seaplane with special reference to the effect of floats, tailplane modifications, differential and floating ailerons and "interceptors."
- See Irving, H. B., A. S. Batson, and A. V. Stephens: Spinning experiments on a single seater fighter with deepened body and raised tailplane, Part I: Model experiments, by H. B. Irving and A. S. Batson. Part II: Full scale spinning tests, by A. V. Stephens.

- SPINNING.** See Irving, H. B., and A. V. Stephens: Safety in spinning. A summary of recent investigations, models and full-scale, and general deductions to be drawn.
- See Scudder, Nathan Frost: A flight investigation of the spinning of the NY-1 airplane with varied mass distribution and other modifications, and an analysis based on wind-tunnel tests.
 - See Scudder, Nathan Frost, and M. P. Miller: The nature of air flow about the tail of an airplane in a spin.
 - See Stephens, A. V.: Free-flight spinning experiments with single-seater aircraft H and Bristol fighter models.
- SPITTEL, F.** See Walwaart Sacre, Hendrik: Vijf-en-twintig jaar luchtvaart in Nederland . . . Uitgegeven ter gelegenheid van het zilveren jubileum der kon. Ned. vereeniging voor luchtvaart.
- SPLICING.** See Gazley, Richard C.: Splicing aircraft cable.
- SPRAGUE, E. STUART.** Copyright-radio and the Jewell-La Salle case.
Air Law Review, Vol. 3, No. 4 (Oct. 1932), New York, pp. 417-426.
- SPRAYING.** See Brown, L. F.: Building an economical spray booth.
- SPRAY** photography. See Rothrock, Addison M., and D. W. Lee: Effect of the reservoir volume on the discharge pressures in the injection system of the N. A. C. A. spray photography equipment.
- SPRIGG, CHRISTOPHER ST. JOHN.** See Davis, Henry Duncan, and Christopher Sprigg: Fly with me; an elementary textbook on the art of flying.
- SPRIGG, T. STANHOPE, and A. J. THOMPSON.** Who's who in British aviation 1932.
London, Airways' publication.
- SPRUCE.** See Bourakov, N. N.: Tests of spar-type samples of spruce.
- "SQUATTERS' RIGHTS."** "Squatters' Rights" policy to be tested.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., p. 14.
- STABILITY.** See Anderlik, E.: Airplane stability in taxiing.
- See Anderlik, E.: Über die Stabilität des Flugzeuges beim Rollen.
 - See Bergmann, Stefan, and H. Reissner: Neuere Probleme aus der Flugzeugstatik. Über die Knickung von rechteckigen Platten bei Schubbeanspruchung.
 - See Biche, Jean: Problems concerning the stability and maneuverability of airplanes.
 - See Bradfield, F. B., and R. A. Fairthorne: Hinge moments of balanced and unbalanced ailerons on R. A. F. 14 wing, to large angles of incidence.
 - See Bowman, R. G., and J. P. D. Garges: The effect of slipstream on longitudinal stability.
 - See Bryant, L. W., and D. H. Williams: The application of the method of operators to the calculation of the disturbed motion of an aeroplane.
 - See Clark, K. W.: Full scale determination of the motions at the stall, of a Bristol Fighter aeroplane with slot and aileron control on both planes.
 - See Everling, Emil: Das Gleichgewichtsorgan als Wendezeiger.
 - See Haus, Fr.: Automatic stability of airplanes.

STABILITY. See Hübner, Walter: Flugmessungen über den Einfluss eines Spaltes zwischen Höhenruder und -flosse auf die statische Stabilität und Steuerbarkeit um die Querachse.

— See Jennings, W. G.: Directional stability of high speed aircraft.

— See Lippisch, A.: Das Problem des schwanzlosen Flugzeuges und seine Weiterentwicklung zum Nurflügelflugzeug.

— See Marmonier, L.: Stabilisateur automatique pour aeroplanes à actionnement pneumatique.

— See Mokrzycki, Gustave André: Aviation.—Equilibrage longitudinal des avions.

— See Quessette, J.: Étude théorique et experimentale de la stabilité des avions.

— See Soulé, Hartley Akin, and John B. Wheatley: A comparison between the theoretical and measured longitudinal stability characteristics of an airplane.

— See Weick, Fred E., and Carl J. Wenzinger: Effect of length of Handley-Page tip slots on the lateral-stability factor; damping in roll.

STABILIZERS. See Coombes, L. P., and R. H. Read: The effect of the various types of lateral stabilizers on the take-off of a flying boat.

— See Marmonnier: La realisation du stabilisateur Marmonnier.

— See Roberts: Roberts' aeroplane stabilizer.

— See Roberts: Stabilizzatore "Roberts" per velivoli.

STACKELBERG, S. DE. Fléau aérien; la guerre aéro-chimique et la défense anti-aérienne.

Lausanne, Éditions Croix-violette, 1932, pp. 224, ills.

STAINLESS steel. See Pollard, H. J.: Notes on the use of stainless steel in aircraft structures.

— See Ragsdale, E. J. W.: Stainless steel in aircraft production.

— See Savoia-Marchetti: A stainless steel amphibian. An American adaptation of the Savoia-Marchetti S.31 of all-metal spot-welded construction.

— See Tubing: Stainless-steel tubes for aircraft.

STALL. See Lachman, G. V.: Control beyond the stall.

— See Ormerod, A.: Full-scale determination of the motions, at the stall, of a Bristol fighter aeroplane fitted with auto control slots and interceptors.

STAMER, FRITZ. Segelflugschulung und motorflugschulung.

Die Luftwacht, Heft 11, Nov. 1932, Berlin, pp. 459-461.

STAMPING. See Thain, W. A.: Drop forgings and stampings. The technique of the process explained, with a description of the plant used.

STANAVO chart. Stanavo Chart fits the fuel to the aircraft engine.

U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., p. 26.

STANAVO Specifications Board. Stanavo pilot's handbook.

New York, Stanavo Specifications Board, inc., 1932, pp. 107, ills., maps, tabs.

STANDARDISATION. See Acampora, L.: La standardizzazione dal punto di vista delle linee aeree.

STANDARDS. See Grard: L'unification et les produits standards dans la mobilisation industrielle de l'aéronautique.

— See Great Britain: British standard specifications. An up-to-date list of all the standards laid down for aircraft materials and components.

STANTON, T. E. The adhesion and fatigue of thin coatings of white metal deposited on mild steel surfaces.

Aer. Res. Comm., Rep. Mem. No. 1424 (M. 74), December 1930, London, 1932, pp. 8, ills.

— The variation of velocity in the neighbourhood of the throat of a constriction in a wind channel.

Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 728-730, diagrs., tabl.

Reports and Memoranda No. 1388 (Ae. 510).

STANTON, T. E., and DOROTHY Marshall. On the eddy system in the wake of flat circular plates in three dimensional flow.

Aer. Res. Comm., Rep. Mem. No. 1358 (Ae. 489), January 1930, London, 1932, pp. 11, ills.

STARK, HOWARD C. Locating radio beacon stations.

Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, p. 39, ills.

— See Schaefer, E. B.: The Stark system of instrument flying.

STARK, RUDOLF. Die Jagdstaffel unserer Heimat. Ein Fliegetagebuch aus dem letzten Kriegsjahr.

Leipzig, Verlag von K. F. Koehler, 1932, pp. 164, ills.

STATISTICS. See Disarmament: Disarmament in aircraft.

STEDMAN, E. W. An engineer's conception of matter and its application to materials of construction.

Journ. Roy. Aer. Soc., Vol. 36, No. 262 (Oct. 1932), London, pp. 861-882, ills., diagrs.

STEEL. Acciai per magneti.

L'Aerotecnica, Vol. 12, N. 2 (Feb. 1932), Roma, pp. 198-219, ill., diagrs., tabls.

— Recent developments in steels. Some of the advances made in the last eighteen months reviewed and described.

Aircraft Engineering, Vol. 4, No. 38 (April 1932), London, p. 101.

— See Marsh, E. C. J., and E. Mills: Oil quenching of steel. An analysis of the properties of various oils showing their relative suitability.

— See Nakanishi, Fujio: Yield points of round bars of mild steel under combined torsion and bending.

— See Phillips, S. H.: Steel versus aluminum. Summarization of the possible advantages of stainless steel for airplane structures.

— See Pollard, H. J.: Notes on the use of stainless steel in aircraft structures.

— See Ragsdale, E. J. W.: Stainless steel in aircraft production.

— See Redmond, John C.: Rapid chemical test for the identification of chromium-molybdenum-steel aircraft tubing.

— See Savoia-Marchetti: A stainless-steel amphibian. An American adaptation of the Savoia-Marchetti S.31 of all-metal spot-welded construction.

— See Shimidzu, Atsumaro: On the creep of steel at elevated temperatures.

— See Stainless steel.

STEELE, DUDLEY M. Races high-speed events.

Western Flying, Vol. 12, No. 4 (Oct. 1932), Los Angeles, pp. 8-9.

- STEERING gear.** See Dryden, Hugh L., and B. H. Monish: The effect of area and aspect ratio on the yawing moments of rudders at large angles of pitch on three fuselages.
- STEIGER.** The Steiger mono-spar. Single-spar construction tends to reduce torsional loads due to aerodynamic forces.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 5-6, ills.
- STEINHAEUER, J. EARL.** Our own outline of history.
U. S. Air Services, Vol. 17, No. 1 (Jan. 1932), Washington, D. C., pp. 31-32.
- STEOEGER, C. O.** Aeronáutica y lucha contra la niebla.
Icaro, Núm. 12, dic. 1928, Madrid, pp. 355-356.
- STEPHENS, A. V.** Free-flight spinning experiments with single-seater aircraft H and Bristol fighter models.
Aer. Res. Comm., Rep. Mem. No. 1404 (Ae. 525), April 1931, London, 1931, pp. 12, ills., diags.
- See Irving, H. B., A. S. Batson, and A. V. Stephens: Spinning experiments on a single-seater fighter with deepened body and raised tailplane. Part I: Model experiments, by H. B. Irving and A. S. Batson. Part II: Full-scale spinning tests, by A. V. Stephens.
- See Irving, H. B., and A. V. Stephens: Safety in spinning. A summary of recent investigations, models and full-scale, and general deductions to be drawn.
- STEVENS, ALBERT W.** Photographing the eclipse of 1932 from the air.
National Geographic Magazine, Vol. 62, No. 5 (Nov. 1932), Washington, D. C., pp. 581-596, ills.
- STEVENS, F. W.** The gaseous explosive reaction at constant pressure—further data on the effect of inert gases.
National Advisory Committee for Aeronautics, Technical Notes No. 438, Dec. 20, 1932, Washington, December 1932, pp. 16, ill., diags., tabs.
- STEVENSON, C. W.** Organizing a private flying club.
Southern Aviation, Vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., pp. 11-12, 16.
- Practical suggestions on elimination of those preventable accidents.
Southern Aviation, Vol. 3, No. 2 (Oct. 1931), Atlanta, Ga., pp. 9-10, ills.
- STEWART, J. N.** To the magic isle.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., pp. 22-23.
- STEWART, OLIVER.** Combate aereo. Observaciones bajo el punto de vista alemán sobre el interesante libro: Estrategia y táctica de combate aéreo.
Icaro, Núm. 5, mayo 1928, Madrid, pp. 146-152, ills.
- The equipment of air forces. Great Britain.
Aviation, Vol. 31, No. 12 (Dec. 1932), New York, pp. 473-475, tabs.
- STEWART, W. G.** Florida firms find air travel a sales stimulant.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., pp. 15-16, ills.
- STEYER.** Das Segelfluglager Dörnberg bei Kassel im Jahre 1931.
Luftschau, 5. Jahrg., Nr. 6 (24 März 1932), Berlin, pp. 69-90.
- STICKLE, GEORGE WALTER.** Measurement of the differential and total thrust and torque of six full-scale adjustable-pitch propellers.
National Advisory Committee for Aeronautics, Report No. 421, Sept. 7, 1932, Washington, U. S. Government Printing Office, 1932, pp. 22, ills., diags., tabs.
- STIEBER, W.** Ventilsteuerung mit Ölgestänge.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 18 (28. Sept. 1932), München und Berlin, pp. 536-539, ills.
- STIEGER.** The Stieger St. 4 light airplane (British).
Flight, Vol. 24, No. 17 (1217) (April 22, 1932), London, pp. 341-348, ills.

- STIEGER.** The Stieger St. 4 light airplane (British). A twin-engine four-seat low-wing cabin monoplane.
National Advisory Committee for Aeronautics, Aircraft Circulars No. 164, June 7, 1932, Washington, May 1932, pp. 7, ills.
- STIEGER, H. J.** The Monospar supplement.
The Aeroplane, Vol. 42, No. 16 (Apr. 20, 1932), London, pp. 691-692, 694, 696, 698, 700, 704, 706, ills.
- Wing construction.
The Aeroplane, Vol. 42, No. 15 (Apr. 13, 1932), London, pp. 643-650, ills.
Journ. Roy. Aer. Soc., Vol. 36, No. 262 (Oct. 1932), London, pp. 789-827, ills.
- STIMSON, THOMAS E., jr.** Keeping up interest in a glider club.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 34-36.
- STINSON.** New Stinson De Luxe Model R cabin plane.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, p. 68, ills.
- Stinson model U trimotor.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 66-67, ills.
- STIPA.** A flying venturi tube.
Flight, Vol. 24, No. 43 (1243) (Oct. 20, 1932), London, p. 995, ills.
- STIPA, LUIGI.** Caratteristiche sperimentali del velivolo con fusoliera tubolare.
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 75-86, ills. diagsr.
- L'efficienza aerodinamica di fusoliere tubolari.
L'Aerotecnica, Vol. 12, N. 3 (marzo 1932), Roma, pp. 321-350, ills., diagsr., tabls.
- Experiments with intubed propellers.
National Advisory Committee for Aeronautics, Technical Memorandums No. 655, Jan. 25, 1932, Washington, January 1932, pp. 11, ills., diagsr., tabls.
- Sull'impiego di eliche di vario tipo.
Rivista Aeronautica, Anno 8, N. 3 (marzo 1932), Roma, pp. 420-436, diagsr.
- STIPA-CAPRONI.** El aeroplano Stipa-Caproni 120.
Icaro, Año 5, Núm. 60 (dic. 1932), Madrid, pp. 5-6, ills.
- STOUT, LILLIAN.** Columbia's chief radio booster former air corps man.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., p. 42.
Jesse S. Butcher.
- STOUT, WILLIAM B.** Planes of yesterday.
Aviation, Vol. 31, No. 4 (Apr. 1932), New York, pp. 166-168.
- STRATOSPHERE.** L'ascension stratosphérique du Professeur Piccard.
L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, pp. 278-279, ills.
- The lure of the stratosphere.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., p. 7.
- Stratosphere airplanes.
Aero Digest, Vol. 21, No. 2 (Aug. 1932), New York, pp. 61-62, ills.
- La stratosfera e i suoi problemi fisici e aeronautici.
L'Aerotecnica, Vol. 12, N. 10 (Ott. 1932), Roma, pp. 1407-1423, ills.
- See Caria, Ogo de: Airplane flight in the stratosphere.
- See Crocco, G. A.: Flying the stratosphere. A theoretical examination of the possibilities of achieving high speeds at very high altitudes.
- See Guerchais: Le fuselage du monoplan stratosphérique Guerchais.
- See Heathcote, Dudley: Conquest of the stratosphere at hand, by Prof. Auguste Piccard as told to Maj. Dudley Heathcote.
- See Margerit, Ad.: La exploración de la estratosfera. Datos y resultados publicados por el Profesor Piccard.

- STRATOSPHERE.** See Margarit, Ad.: La exploración de la estratosfera. Diario de a bordo del Profesor Piccard.
- See Miller, Frank, M. S.: Up and after the cosmic ray.
- See Piccard, Auguste: La segunda ascensión del Profesor Piccard a la estratosfera.
- See Piccard, Auguste: A stratospherical record. Record ascent by Prof. Piccard. 10½ miles up.
- See Soreau, Rodolphe: L'air moyen et la stratosphère. . . .
- See Soreau, Rodolfo: La stratosfera.
- STRAUSS, EMILE.** Il y a trente ans. Une bibliothèque et un musée a l'Aéro-Club.
L'Aérophile, 40e Année, No. 5 (mai 1932), Paris, p. 136, ill.
- STREAM.** See Prandtl, L.: II. Theoretischer Teil. Zur turbulenten Strömung in Rohren und längs Platten.
- STREAM forces.** See Tomotika, Susumu: The forces on a flat plate placed in a stream of fluid between two parallel walls.
- STREAMLINE.** See Flow.
- See Ower, E.: Interference.
- See Wieselsberger, C.: Zur theoretischen Behandlung der gegenseitigen Beeinflussung.
- STRENGTH.** See Küssner, Hans Georg, and Karl Thalau: Die entwicklung der festigkeitsvorschriften für flugzeuge.
- STRENGTH of construction.** See Bradfield, F. B.: Maximum force on rudders.
- See Bradfield, F. B., and R. A. Fairthorne: Maximum force on the fin and rudder of a Bristol fighter.
- See Finn, E., and A. E. Woodward: Measurements of accelerations on aircraft during manoeuvres.
- See Orr, James: Several cases of noncircular torsion solved by analysis and direct test.
- See Pippard, A. J. Sutton, and W. E. Francis: The stresses in a radially spoked wire wheel under loads applied to the rim. Part II.—Simplified formulae and curves.
- See Wigley, W. C. S.: Mathematical investigation of strength of wooden seaplane hulls of the Linton-Hope type of construction.
- STRESS.** See Schlippe, B. v.: Zusätzliche Biegespannungen bei Doppel-C-Profilan schlüssen.
- STRESS analysis.** See LaSha, S. S.: Comments on stress analysis and design.
- STRESSES.** See Fairbanks, E. U.: Combined stresses.
- STRONG, CHARLES S.** Across Africa from Cairo to Capetown.
Nat. Aer. Mag., Vol. 10, No. 3 (March 1932), Washington, pp. 19-25, ills.
- STROTHER, D. H., and H. B. HENDRICKSON.** Effect of aging on taut rubber diaphragms.
National Advisory Committee for Aeronautics, Technical Notes No. 409, Feb. 29, 1932, Washington, February 1932, pp. 7, ill., diags., tabs.

STRUCTURAL components. See Gerard, I. J.: Mechanical tests of aircraft structural components.

STRUTS. New shock strut for airplanes.

U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 27.

— See Ebner, H.: Über Fachwerke mit gekreuzten Diagonalen.

— See Langer, P., and W. Thomé: Dynamic testing of airplane shock-absorbing struts.

— See Pugsley, A. G.: Torsional instability in struts. A general theory of the failure by twisting of certain types of strut in compression.

— See Robin, Maxime: Note sur une formule de flambage.

— See Shock absorber: Dynamic test of Gruss shock absorber model X-58.

— See Teichmann, Frederick K.: Welded tubing and streamlined struts.

STUBBS, FRANCES. My experiences in learning to fly.

Southern Aviation, Vol. 2, No. 7, 8 (March, April 1931), Atlanta, Ga., pp. 13-14, 17, 19-20, ill.

STUPAR, MAX. Special tools for producing aircraft parts.

Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 27-28, ill.

— Utilization of machine tools in aircraft manufacturing.

Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 18-20, ill.

SUBSIDY. The flying-club subsidy.

Flight, Vol. 24, No. 2 (1202) (Jan. 8, 1932), London, pp. 34-35.

SÜDECK, GÜNTHER. See Heck, Ludwig, and Günther Südeck: Neue Meteorographen für drahtlose Fernübertragung.

SUDLOW, E. W. Airport developments in Miami.

Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., pp. 12-14, 16, ill.

— Constructive work of the Miami Aero Club.

Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 13-14, ill.

— Getting the name on the dotted line. The methods used by a Florida agency in developing plane prospects and closing sales are based on successful automobile sales policies.

Southern Aviation, Vol. 3, No. 4 (Dec. 1931), Atlanta, Ga., pp. 15-16, ill.

— Notable growth of air travel from Miami as revealed by traffic reports.

Southern Aviation, Vol. 2, No. 9 (May 1931), Atlanta, Ga., pp. 9-10, ill.

— They use an airplane for the vacation trips.

Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 17, 20.

SUPERCHARGERS. See Eclipse: Eclipse automatic supercharger regulator.

— See Schey, Oscar W., and Herman H. Ellerbrock, jr.: Comparative performance of powerplus vane-type supercharger and an N. A. C. A. Roots-type supercharger.

SUPERMARINE. Supplement to the Supermarine S. 6. B. racing seaplane (British). A low-wing twin-float monoplane.

National Advisory Committee for Aeronautics, Aircraft Circulars No. 154 (Supplement), Feb. 6, 1932, Washington, February 1932, pp. 6, ill.

SUPF, PETER. Flugtraum.

Die Luftreise, Heft 4, Nov. 1932, Berlin, p. 79, ill.

— Das neue Welterlebnis.

Berlin, Verlag Dietrich Reimer, pp. 223, ill.

- SUPF, PETER, und HEINZ ORLOVIUS. Die welt der flieger.
Berlin, R. Hobbing, 1932, pp. 95, ills.
- SÜRING, R. Wissenschaftliche Freiballonfahrten.
Luftschau, 5. Jahrg., Nr. 8 (24. April 1932), Berlin, p. 121.
- SURVEYING. See Bourne, R.: Air survey in relation to soil survey.
- See Coppellotti, Celestino: Aviazione per l'esercito e topografia.
- See McDaniel, Ruel: Equalizing taxes with aerial surveys.
- See Roberts, W. Norman: Aerial surveying in northern Rhodesia.
- See Salt, J. S. A.: Air survey.
- See Wood, Frank: The largest aerial survey.
- SUTTON, A. J., Miss M. J. WHITE, and W. E. FRANCIS. The stresses in a wire wheel under rim loads. Part I. The stresses in a wire wheel with non-radial spokes under rim loads in the plane of the rim. Part II. The stresses in a wire wheel under side loads on the rim.
Aer. Res. Comm., Rep. Mem. No. 1440, May 1931, London, 1932, pp. 19, ills., diagrs., tabl.
- SUTTON, FRANK W. Mono-spar.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., pp. 27-28.
- SUTTON, H., and L. F. LE BROCCQ. The protection of magnesium alloys against corrosion.
Aeronautics, Techn. Rep. Aer. Res. Comm., 1930-1931, Vol. 2, London, 1932, pp. 852-873, tabs.
Reports and Memoranda No. 1390 (M. 73).
- SUTTON, H. Protection of metal parts of aircraft against corrosion.
Journ. Roy. Aer. Soc., Vol. 36, No. 253 (Jan. 1932), London, pp. 1-23, 11ls.
- SWAN, ANDREW, W. HELMORE, and W. C. CLOTHIER. Reduction of fire risk by induction-pipe flame traps.
Aer. Res. Comm., Rep. Mem., No. 1484 (G. 26.40), August 1932, London, 1932, pp. 16, ills., diagrs., tabs.
- SWAN, J., and A. W. MORLEY. Radial engine tested at reduced mixture strength and with variable ignition timing.
Aer. Res. Comm., Rep. Mem., No. 1485 (I. C. E. 838, 838A and 839), September 1932, London, 1932, pp. 12, ills., diagr., tabl.
- SWEDEN. Bauvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-23, 35, 36-37 (13./20.27. Aug., 10. Sept. 1932), Berlin, pp. 222-227, 232-236, 245-248.
- Flughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, pp. 57-58.
- Försvarsdepartementet. Luftförsvarsutredningens betänkande. Utredning beträffande hemortens och civilbefolkningens skyddande vid luftanfall mot Sverige.
Stockholm, Kungl. boktryckeriet, P. A. Norstedt & Söner, 1932, pp. 139, ills., maps.
- Luftfahrtsleder skola anordnas en för Svensk flygning betydelsefull plan inför sitt förverkligande.
Flygning, Årg. 10, N:R 1 (Jan. 1932), Stockholm, pp. 12-15.
- Kan svensk flygindustri mäta sig med utlandets?
Flygning, Årg. 10, N:R:11 o 12 (Nov., Dec. 1932), Stockholm, pp. 185-190, 201, ills.
- Malmö, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 326.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, p. 70.

- SWIFT. The Gipsy-engined "Swift."
Flight, Vol. 24, No. 23 (1223) (June 3, 1932), London, p. 481, ills.
- SWIFT, COMPER. England-Australien på rekordtid med Världens minsta standardflygplan. Comper Swift flygplanet utrustat med 75 H K R. Pobjoy "R."
Flygning, Årg. 10, N: R 1 (Jan. 1932), Stockholm, pp. 4-5, 15, ills.
- SWITLIK PARACHUTE AND EQUIPMENT CO. Manual for all models of Switlik safety chutes.
Trenton, N. J., 1932, pp. 24, ills., diags.
- SWITZERLAND. Bauvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 12 (19. März 1932), Berlin, pp. 83-88.
- Dübendorf, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 47-48 (26. Nov. 1932), Berlin, p. 320.
- Genf-Cointrin, Flughafen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 49-50 (10. Dez. 1932), Berlin, p. 326.
- St. Gotthard, Sperrgebiet.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 7-8 (20. Feb. 1932), Berlin, p. 57.
- Stand der luftrüstungen ende 1931.
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 23-24.
- Zollflughäfen.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 67.
- SWOBODA, M. G. Le voyage du dirigeable Italia sur l'Europe centrale le 15 avril 1926 du point de vue météorologique. Extrait de "La Météorologie."
Revue mensuelle de Météorologie et de Physique du Globe et Annuaire de la Société Météorologique de France. Nos. 70-72, janvier-mars 1931.
Paris, Société Météorologique de France, 1931, pp. 15, diags.
- SYKES, CLAUD W. See Helders: The war in the air, 1936. Translated from the German by Claud W. Sykes.
- SYNCHRONIZED propellers. See Propellers: How to make a synchronizing mirror for tri-motors.
- SZYMAŃSKI, PIOTR. Un écoulement du fluide visqueux par le tuyau conique.
Prace Instytutu Aerodynamicznego w Warszawie, Zeszyt VI, Warszawa, 1932, pp. 97-105, ill.

T

- TAIL. La ultime ricerche sugli scuotimenti di coda.
L'Aerotecnica, Vol. 12, N. 12 (dic. 1932), Roma, pp. 1612-1625, ills.
- See Rudlicki, Georges: The Rudlicki vee tail. A novel arrangement by which a single set of surfaces operates as both elevators and rudder.
- TAIL buffeting. See Duncan, W. J.: First report on the general investigation of tail buffeting, by W. J. Duncan, D. L. Ellis, and C. Scruton. Experiments on the buffeting of the tail of a model of a low-wing monoplane, by R. A. Frazer, W. J. Duncan and V. M. Falkner.
- TAILLESS airplanes. See Dowd, R. E.: Tailless airplanes.
- TAILLESS. See Dreieck: The Dreieck I tailless airplane (German). A low-wing cantilever monoplane.
- See Lademann, Robert W. E.: Development of tailless and all-wing gliders and airplanes.
- See Lippisch, A.: Das Problem des schwanzlosen Flugzeuges und seine Weiterentwicklung zum Nurflügelflugzeug.

- TAILLESS.** See Lippisch, A.: The tailless aeroplane.
- TAILPLANE.** See Bradfield, F. B.: Slipstream effect on the downwash and velocity at the tailplane.
- See Hirst, D. M., and A. S. Hartshorn: Efficiency of tail plane behind wing of R. A. F. 34 section.
- TAIL skids.** A thousand landings on one tail skid.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, p. 69, ill.
- TAKAMATSU, H.** Japanese military airplanes.
Aero Digest, Vol. 21, No. 6 (Dec. 1932), New York, pp. 48-49, ills.
- TAKE-OFF.** See Diehl, Walter Stuart: The calculation of take-off run.
- See Rolinson, D.: Measurement of take-off and landing runs.
- See Rolinson, D.: Take-off and landing of aircraft.
- TALIAFERRO, A. PENDLETON.** Traffic analysis in airport design.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 43-45, 52, ills.
- TANI, ITRÔ.** See Sanuki, Matao, and Itrô Tani: The wall interference of a wind tunnel of elliptic cross-section.
- TANK.** See Parkin, J. H.: Research equipment in Canada. A description of the wind tunnel and seaplane model tank at Ottawa.
- See Wimperis, H. E.: New methods of research. Details of the new R. A. E. 24 ft. vertical tunnels and seaplane tank.
- See Vibration tests. Testing tanks in vibrating tables.
- TANNER, T.** Movement of smoke in the boundary layer of an aerofoil without and with slot.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 150-151, ills.
- The two-dimensional flow of air around an aerofoil of symmetrical section.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 106-116. diags., tabs.
- TARGETS.** L'entraînement au tir aérien et antiaérien par panneaux remorqués.
L'Aérophile, 40e Année, No. 8 (août 1932), Paris, pp. 233-237, ills.
- TATE, GEORGE.** Recent developments in Pioneer Aircraft Instruments.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 16-17.
- TAUB, JOSEF.** Die auf die Stossstelle der einseitigen Landung reduzierte Masse der Flugzeuge.
Zeitsch. Flugt. Motorluftsch., 23. Jahrg., Nr. 1 (14. Jan. 1932), München und Berlin, pp. 23-24.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. III 15-16, ills., tabs.
- TAUBER, ERNST.** Schadenersatzanspruch bei Betriebsunfall.
Archiv. für Luftrecht, Nr. 1, 1932.
- TAXES.** See McDaniel, Ruel: Equalizing taxes with aerial surveys.
- TAXYING.** See Anderlik, E.: Airplane stability in taxiing.
- See Anderlik, E.: Über die Stabilität des Flugzeugs beim Rollen.
- TAYLOR, C. F.** Bending moments in the master rod of a radial aircraft engine.
Journ. Soc. Automotive Engineers, Vol. 31, No. 6 (Dec. 1932), New York, pp. 488-492, diags.
- TAYLOR, CHARLES FAYETTE.** See Chatfield, Charles Hugh, and Charles Fayette Taylor: The airplane and its engine.

- TAYLOR, EDWARD S. Balancing a four-cylinder aircraft engine.
Western Flying, Vol. 12, No. 1 (July, 1932), Los Angeles, pp. 43-44.
- Balancing the four-cylinder aircraft engine.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 129.
- Valve timing of engines having intake pressures higher than exhaust.
National Advisory Committee for Aeronautics, Technical Notes No. 405, Feb. 11, 1932, Washington, February 1932, pp. 7, ill., diags.
- TAYLOR, G. I. Applications to aeronautics of Acheret's theory of aerofoils moving at speeds greater than that of sound.
Aer. Res. Comm., Rep. Mem. No. 1467, April 26, 1932, London, 1932, pp. 7, ill., diags.
- The flow of air at high speeds past curved surfaces.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 213-226, ill., diags.
- Some cases of flow of compressible fluids.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 90-105, diags., tabs.
- TAYLOR, JAMES B., jr. Where is the executive?
Aviation, Vol. 31, No. 7 (July 1932), New York, pp. 295-296.
- TAYLOR, RICHARD F. See Ladd, William F., and Richard F. Taylor: Two views on aviation in the national guard . . . Additional observation squadrons, by William F. Ladd. Develop air force units, by Richard F. Taylor.
- TAYLOR, W. L. Aero engine accessories.
Journ. Roy. Aer. Soc., Vol. 36, No. 262 (Oct. 1932), London, pp. 828-860, ill.
- TCHAPLIGIN. See Lousine, N. N.: On the Acad Tchaplign's method of approximate integration of different equations.
- TCHAPLIGIN, S. A. A new method of the approximate integration of differential equations.
U. S. S. R. People's Commissariat of Heavy Industry. The Main Board of Aircraft Industry. Transactions of the Central Aero-Hydrodynamical Institute, No. 130, Moscow, Leningrad, 1932, pp. 52, diags.
- TCHERANOWSKY. L'Avion Tcheranowsky "Parabole B. I. Tch. 7" (U. R. S. S.).
L'Aérophile, 40e Année, No. 2 (fév. 1932), Paris, p. 52, ill.
- TEICHMANN, ALFRED. Zur Berechnung auf Knickbiegung beanspruchter Flugzeugholme.
Luftfahrtforschung, Band 9, Heft 3, 1932, München und Berlin, R. Oldenbourg, pp. 50, ill., tabs.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. III 53-61, ill., diags., tabs.
- Zur Berechnung auf Knickbiegung beanspruchter Flugzeugholme.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 17 (14. Sept. 1932) München und Berlin, pp. 511-519, diags., tabs.
- Methods for the calculation of wing spars subjected to axial compression.
Luftfahrtforschung, Band 9, Heft 3, München und Berlin.
- TEICHMANN, FREDERICK K. Welded tubing and streamlined struts.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1931), Washington, N. J., pp. 20-21, diags., tabl.
- TEISSIÉ, M. See Camichel, C., P. Dupin et M. Teissié: Hydrodynamique.—Sur le régime non turbulent au delà du critérium des tourbillons alternés.
- TEISSIÉ-SOLIER, M. See Dupin, P., et M. Teissié-Solier: Mécanique des fluides.—Sur les tourbillons produits par des obstacles de révolution autour d'un axe parallèle à la direction générale de l'écoulement.

- TELEPHONE.** A wireless telephone for air taxis.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, p. 285, ills.
- See Parlett, R. A.: Ingenious telephone system aboard the U. S. S. Akron.
- TERMINOLOGY.** See Nomenclature.
- TESTING.** See Atkin, E. H.: Applications of the polar diagram.
- See Block, Walter: Die DVL-Geräte zur Untersuchung von Luftbildkammern und ihren Teilen.
- See Gerard, I. J.: Mechanical tests of aircraft structural components.
- See Gerard, I. J.: The testing of aircraft components.
- See Germany: Das luftfahrtprüfwesen in Deutschland.
- See Teichmann, Alfred: Zur Berechnung auf Knickbiegung beanspruchter Flugzeugholme.
- See Vázquez-Garriga, J.: Nuevos métodos de análisis aplicables a los materiales empleados en la aviación.
- TETENS, H.** Betrachtungen zur frage "Internationale Luftfahrt."
Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 35-38.
- TEXAS.** Aerial maps of Texas county effect great savings.
Southern Aviation, Vol. 2, No. 6 (Feb. 1931), Atlanta, Ga., pp. 17-18, ills.
- THAIN, W. A.** Drop forgings and stampings. The technique of the process explained with a description of the plant used.
Aircraft Engineering, Vol. 4, No. 38, 39 (April, May 1932), London, pp. 96-97, 120-122, ills., diags:
- THALAU, KARL.** See Blenk, Hermann, Heinrich Hertel, and Karl Thalau: Die deutsche Untersuchung des Unfalls bei Meopham (England).
- See Blenk, Herman, Heinrich Hertel, and Karl Thalau: The German investigation of the accident at Meopham (England).
- See Küssner, Hans Georg, and Karl Thalau: Die entwicklung der festigkeitsvorschriften für flugzeuge.
- See Küssner, H. G., und Karl Thalau: Die Entwicklung der Festigkeitsvorschriften für Flugzeuge von den Anfängen der Flugtechnik bis zur Gegenwart.
- THANET.** The Thanet air race.
Flight, Vol. 24, No. 39 (1239) (Sept. 23, 1932), London, pp. 893-895, ills.
- THARAUD, JÉRÔME.** Paris, Saïgon, dans l'azur.
Paris, Plon, 1932, pp. 246.
- THELEN, OTTO.** Les possibilités d'utilisation militaire des autogires.
L'Aérophile, 40e Année, No. 11 (nov. 1932), Paris, pp. 329-330, ills.
- THEODORIDES, PH.** Einführung in das Segelflugwesen. (Greek).
Athens, Herausgegeben vom Zentralen Luftfahrt-Committee von Griechenland, 1932, pp. 24, ills.
- THEODORSEN, THEODORE, and IRA M. FREEMAN.** Elimination of fire hazard due to back fires.
National Advisory Committee for Aeronautics, Report No. 409, March 28, 1932, Washington, U. S. Government Printing Office, 1931, pp. 9, ills., diags.
- THEODORSEN, THEODORE, and WM. C. CLAY.** Ice prevention by engine heat.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, p. 58.

- THEODORSEN, THEODORE.** The theory of wind-tunnel-wall interference.
National Advisory Committee for Aeronautics, Report No. 410, March 24, 1932, Washington, U. S. Government Printing Office, 1931, pp. 11, diagrs.
- Theory of wing sections of arbitrary shape.
National Advisory Committee for Aeronautics, Report No. 411, April 20, 1932, Washington, U. S. Government Printing Office, 1931, pp. 13, diagrs., tabs.
- THIN plates.** See Kármán, Theodor von, Ernest E. Sechler, and L. H. Donnell:
The strength of thin plates in compression.
- THIOKOL.** Thiokol.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 28-29, ill.
- THOM, A.** Arithmetical solution of problems in steady viscous flow.
Aer. Res. Comm., Rep. Mem., No. 1475 (T. 3264), May 1932, London, 1932, pp. 6, diagrs.
- Experiments on the flow past a rotating cylinder.
Aer. Res. Comm., Rep. Mem. No. 1410 (Ae. 531), March 1931, London, 1931, pp. 13, ills., diagrs., tabs.
- The pressure on the front generator of a cylinder.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1931-1931, Vol. 1, London, 1932, pp. 199-212, ills., diagrs., tabs.
- The strength and position of the eddies behind a circular cylinder.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 178-185, diagrs., tabs.
- THOMÉ, W.** See Langer, P., and W. Thomé: Dynamic testing of airplane shock-absorbing struts.
- THOMPSON, A. J.** See Sprigg, T. Stanhope, and A. J. Thompson: Who's who in British aviation, 1932.
- THOMPSON, CHARLES E.** Speed and air races.
Aviation, Vol. 31, No. 9 (Sept. 1932), New York, pp. 367-368.
- THOMPSON, JAMES G.** Engine service and maintenance.
Western Flying, Vol. 11, No. 1-2 (Jan.-Feb. 1932), Los Angeles, Calif., pp. 34-36 and 30-32.
- Engine service and maintenance.
Western Flying, Vol. 11, Nos. 5, 6, Vol. 12, Nos. 2, 4, 12 (6) (May, June, Aug., Oct., Dec., 1932), Los Angeles, pp. 31-32, 28-29, 56, 26-28, 28-30, 23-24, ills.
- Engines of 1932.
Western Flying, Vol. 11, No. 4 (Apr. 1932), Los Angeles, p. 26.
- Servicing a magneto.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, Calif., p. 32.
- THOMPSON, M. J.** A note on the discontinuous potential.
Prace Instytutu Aerodynamicznego w Warszawie, Zeszyt VI, Warszawa, 1932, pp. 106-117, diagrs., tabs.
- THOMPSON, RAY.** Wonders of air currents.
Western Flying, Vol. 11, No. 1 (Jan., 1932), Los Angeles, Calif., pp. 27-28.
- THOMSON effect.** See Endô, Yositosi: Thomson effect of crystalline substances.
- THORNBLED.** El paracaídas sistema Thornblad.
Icaro, Núm. 5, mayo 1928, Madrid, pp. 157-158, ills.
- THORNYCROFT, O., and B. C. CARTER.** Diesel connecting-rod stresses. The effect of rapid rise of cylinder pressure on connecting-rod loading.
Aircraft Engineering, Vol. 4, No. 37 (March 1932), London, pp. 69-70, diagrs.
- TICHENOR, FRANK A.** Air—hot and otherwise.
Aero Digest [Vol. 20, No. 1] (Jan. 1932), New York, pp. 28, 100.
- Air—hot and otherwise. Organize properly.
Aero Digest, Vol. 21, No. 1 (July 1932), New York, p. 29.

- TICHENOR, FRANK A.** Air—hot and otherwise. Jealousy in the ranks.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, p. 29.
- Air—hot and otherwise. Moffett knows. Federal airways.
Aero Digest [Vol. 20, No. 2] (Feb. 1932), New York, pp. 23, 86.
- Air—hot and otherwise. "Oh, I say, C. G. G. ! are you there?"
Aero Digest, Vol. 20, No. 4 (April 1932), New York, p. 30.
- Air—hot and otherwise. Stop the chiseling.
Aero Digest, Vol. 20, No. 6 (June 1932), New York, p. 21.
- Air—hot and otherwise. Take politics out of research.
Aero Digest, Vol. 20, No. 3 (March 1932), New York; pp. 30, 86, 88.
- TILLING.** See Heinze, Edwin P. A.: The Tilling rocket.
- TIMBER.** British standard nomenclature of timber for aircraft purposes.
London, British Standards Institution.
- TINSON, CLIFFORD W.** Ceiling capacity as a measure of performance.
Aircraft Engineer, suppl. to Flight, Vol. 24, No. 53 (1253) (Dec. 29, 1932), London, pp. 1232f-1232g (94-95).
- TIRES.** New airplane tire.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., p. 34, ill.
Firestone Tire & Rubber Company.
- See Hem, L. W.: Resistance and interference of large size tires. A study of the parasite drag of parts of the airplane and the use of fenders and fairings.
- See Michael, Franz: Zur Frage der Abmessungen von Luftreifen für Flugzeuglaufräder.
- See Michael, Franz: The problem of tire sizes for airplane wheels.
- TITANIUM tetrachloride.** See Rosenhain, W., and J. D. Grogan, and T. H. Schofield: The influence of titanium tetrachloride on the gas content and grain size of aluminium and some alloys.
- TIZARD, H. T.** The aircraft industry and chemical engineering.
Nature, Vol. 130, No. 3288 (Nov. 5, 1932), London, pp. 691-692.
- TÖNNIES, E.** Der Boden-Effekt beim Fluge in Erdnähe.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 6 (29. März 1932), München und Berlin, pp. 157-164, ills., diagrs.
- Effect of the ground on an airplane flying close to it.
National Advisory Committee for Aeronautics, Technical Memorandums No. 674, June 23, 1932, Washington, June 1932, pp. 16, ills., diagrs., tabs.
- TÖPFER, CARL.** Flugzeuggröße und Dickenverhältnis des Flügelwurzel profiles.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 6 (29. März 1932), München und Berlin, pp. 165-167, diagr.
- TOMOTIKA, SUSUMU.** The forces on a flat plate placed in a stream of fluid between two parallel walls.
Proceedings, Physico-Mathematical Society of Japan, 3rd Ser., Vol. 14, No. 4 (April 1932), Tōkyō, pp. 139-167, ills.
- TOMOTIKA, SUSUMU, and MIDUHO INANUMA.** On the moment of the force acting on a flat plate placed in a stream between two parallel walls.
Proc. Physico-Math. Soc. Japan, 3rd. Ser., Vol. 14, No. 10 (Nov. 1932), Tōkyō, pp. 543-569, ills., diagr.

- TOOLS.** Small tools for the industry. The production of twist drills, broaches and hacksaws suitable for use in aircraft factories.
Aircraft Engineering, Vol. 4, No. 43 (Sept. 1932), London, pp. 235, 238, ills.
- See Stupar, Max: Special tools for producing aircraft parts.
- See Stupar, Max: Utilization of machine tools in aircraft manufacturing.
- TORPEDOPLANE.** See Vickers: Vickers "Vildebeest" torpedoplane.
- TORQUE reaction.** See Constant, Hayne: Torque reaction and vibration. An investigation of the effect on aircraft structures of engine torque variations.
- TORRES MENIER, MARIO, Y FELIPE PRIETO Y FACCILOLO.** Aviación y mecánica; tratado teórico-práctico que explica la manera de resolver los problemas más importantes que se presentan a los pilotos aviadores comerciales. Contiene además informaciones de interés general para pilotos y estudiantes de aviación.
Habana, Cultural, s. a., 1932, pp. 142, ills., maps.
- TORSION.** See Davies, H.: Torsion calculations for a rear fuselage with two or more "unknowns."
- See Lüranbaum, Karl: Praktische Dreh-Schwingungs-Untersuchung von Luftfahrzevg-Triebwerken.
- See Orr, James: Several cases of noncircular torsion solved by analysis and direct test.
- TOURING.** Le challenge de tourisme international 14-28 août 1932.
L'Aérophile, 40e Année, No. 9 (sept. 1932), Paris, pp. 259-270, ills.
- International touring competition.
Flight, Vol. 34, No. 34 (1234) (Aug. 19, 1932), London, pp. 771-773, ills.
- See Heinze, Edwin P. A.: The International touring competition.
- See Simmer, F.: Über tourenfluge.
- TOWING.** See Massenet, Pierre: Le vol remorqué et le lancement par treuil.
- TOWING tests.** See Schröder, P.: Towing tests of models as an aid in the design of seaplanes.
- TOWNEND, H. C. H.** An automatic variable pitch airscrew.
Journ. Roy. Aer. Soc., Vol. 36, No. 254 (Feb. 1932), London, pp. 111-126, ills., diagrs.
- Hot wire and spark shadowgraphs of the airflow through an airscrew.
Aer. Res. Comm., Rep. Mem. No. 1434, September 1931, London, 1932, pp. 10, ills.
- On rendering airflow visible by means of hot wires.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 155-159, ills.
- A study of slots, rings and jet control of the boundary layer.
Aeronautics, Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 1, London, 1932, pp. 250-280, ills., diagrs., tabs.
- See Fage, A., and H. C. H. Townend: The distribution of turbulence over the central region of a pipe.
- TOWNEND, ring.** See Engines: The cowling of air-cooled engines. A note from Messrs. Boulton and Paul shows the Townend ring in a favourable light.
- TRAFFIC.** See Beck, H. W.: Traffic man and his job.
- TRAILING edge.** See Schmeidler, Werner, und Gerhard Neumann: Ein Versuchsflugzeug mit veränderlicher Tragfläche.
- TRAINING.** Flight training started at the South's "West Point of the Air."
Southern Aviation, Vol. 3, No. 6 (Feb. 1932), Atlanta, Ga., pp. 13-14, 16, ills.

- TRAINING.** See Baldwin, J. E. A.: Training of pilots and instructors.
- See Beatty, William H.: The U. S. Air Corps tactical school at Maxwell Field, Montgomery.
- See Kratz, W. W.: Training a pursuit flyer.
- See Lee, T., jr.: Training the air mail pilot.
- See Oklahoma: Training at the Spartan School and Oklahoma Military Academy.
- See Riverside Military Academy: Successful aviation experiment at a Southern preparatory school.
- TRANS-OCEANIC FLYERS.** See Weems, P. V. H.: The first International Convention of Trans-Oceanic Flyers.
- TRANSPORT.** Air-transport manual.
London, Temple Press.
- Air-transport operations for 1931 compared with 1930.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, p. 44, ill.
- Air transportation grows. 86,000 passengers carried on American transport planes in first quarter of 1932—Increases also noted in amount of mail and express matter carried.
Aviation Engineering, Vol. 6, No. 6 (June 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 50-51, diags.
- The business advantages of air travel.
Southern Aviation, Vol. 3, No. 5 (Jan. 1932), Atlanta, Ga., pp. 16-18, ill.
- Interline express service inaugurated by seven major airlines.
Southern Aviation, Vol. 4, No. 1 (Sept. 1932), Atlanta, Ga., pp. 3-4, ill.
- See Banks, Charles A.: Carrying machinery by air. An interesting experiment in the transport of mining equipment in New Guinea.
- See Benkendorff, Rudolf: Air transport. The organization of air routes for night flying.
- See Bryant, Presley: Bowen's formula for making a profit from air transport service.
- See Clark, V. E.: The engineer and the transport airplane.
- See Coburn, F. G.: Air transportation continues in steady expansion.
- See Curtis, Arthur E.: Air-transport development and its effect on foreign trade.
- See Damon, Ralph S., George A. Page, jr., and Kendall Parkins: The economic aspects of transport-airplane design.
- See Europe: Air transport. European air-transport operations in 1931.
- See Foster, Fred E.: Some developments we may expect in air transportation.
- See Greece: Air transport. The commercial airlines of Greece.
- See Hardin, Glenn: Air travel as the public sees it.
- See Heinze, Edwin P. A.: German transport airplanes (Part VII concluded) Rohrbach.
- See Jeffreys, W. Rees: Transport problems of the Empire.
- See Jernigin, J. D. (Duke): The prospects for greater air-transport growth.

- TRANSPORT.** See Johnson, P. G.: Why air transportation is forging ahead.
- See Jouett, John H.: Progress of air transport during the depression period.
 - See Laird, Cody: New rating for transport pilots.
 - See Post, George B.: Seaplane transportation vs. the airport bus and cab.
 - See Southern Air Transport Lines: The amazing two-year development of Southern air-transport lines.
- TRANSPORTATION.** Carri per trasporto di aerovelieri.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 407-410, ills.
- Development of scheduled air travel in comfort and convenience.
Southern Aviation, Vol. 3, No. 12 (Aug. 1932), Atlanta, Ga., pp. 13-14, ill.
 - International transport.
Aviation, Vol. 31, No. 9 (Sept. 1932), New York, pp. 374-377, ills.
 - Southern transcontinental line is inaugurated.
Southern Aviation, Vol. 2, No. 3 (Nov. 1930), Atlanta, Ga., pp. 4-6, ills.
 - See Education: Traffic via education.
 - See Hay, T. Park: Airlines form new system of general express.
 - See Hyzer, Leland: The regulation and encouragement of air transportation.
 - See Kennedy, Thomas H.: Common carriers.
 - See Molfese, Manlio: Considerazioni sull'economia dei trasporti aerei.
 - See United States Department of Commerce. Aeronautics Branch: Scheduled air transportation. July 1, 1932.
 - See Warner, Edward P.: Transport airplanes, then and now.
 - See Warner, Edward P.: What way, air transport?
 - See Watkins, Myron W.: Air-transport rate-making.
 - See Wilson, George Lloyd: Traffic control—truck and airplane traffic.
- TRAINING.** See Civil training: Civil primary training.
- TRAVERSA, ATTILIO.** Cenni sul calcolo grafico dei coefficienti B e C della deviazione semicircolare.
Rivista Aeronautica, Anno 8, N. 11 (nov. 1932), Roma, pp. 305-308.
- TREATIES and Conventions.** Accordo aeronautico fra il Regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13 e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932, n. 254. (Ministero dell'Aeronautica; aviazione civile e traffico aereo.)
Roma, Istituto poligrafico Stato, Libreria edit. tip., 1932, pp. 23.
- See Allied and associated powers: Protocol amending articles 3, 5, 7, 15, 34, 37, 41, 42 and the final clauses of the Convention for the Regulation of Aerial Navigation of October 13, 1919. Paris, June 15, 1929. Irish ratification deposited on April 9, 1930.
 - See Allied and associated powers: Protocol relating to amendments to articles 34 and 40 of the Aerial Navigation Convention of October 13, 1919. Signed at Paris, December 11, 1929. Canadian ratification deposited September 19, 1930.

- TREATIES and Conventions. *See* Great Britain: Convention between His Majesty, in respect of the United Kingdom, and the President of the Hellenic Republic respecting air transport services. Athens, April 17, 1931. Ratifications exchanged at Athens, April 16, 1932.
- *See* Great Britain. Foreign Office: Exchange of notes between His Majesty's governments in the United Kingdom, Canada, and the Commonwealth of Australia, New Zealand, and the Union of South Africa and the Government of India and the Italian government respecting documents of identity for aircraft personnel. London, April 13, 1931.
- *See* South Africa: Exchange of notes between His Majesty's Government in the Union of South Africa and the Government of the United States of America respecting certificates of airworthiness for aircraft. Pretoria, October 12–December 1, 1931.
- TREMBLOT, R. Application des méthodes interférentielles à l'étude de l'écoulement des gaz aux grandes vitesses.
Publ. Scient. Techn. Min. Air Serv. Rech. Aér., No. 10, Paris, 1932.
- TRUSCH VON BUTTLAR-BRANDENFELS, HORST. Zeppelins over England . . . translated from the German by Huntley Paterson.
New York, Harcourt, Brace and Company, 1932, pp. 320, ills.
- TRIGONA DELLA FLORESTA, ERCOLE. Sull'impiego di profili per alta portanza.
L'Aerotecnica, Vol. 12, N. 9 (sett. 1932), Roma, pp. 1175–1203, 1306, ills., diags.
- TRIPLEX glass. *See* Abraham, Martin: Prüfung von Sicherheitsglas.
- TRIPODI, ANTON RICCARDO. Macchina per le prove di durata dei cavi e delle carrucole d'aviazione.
Rivista Aeronautica, Anno 8, No. 11 (nov. 1932), Roma, pp. 292–304.
- TROLLER, TH. *See* Kármán, Theodor v., und C. Weiselsberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 11: Zur Frage der schräg angeblasenen Propeller, von Fr. Misztal. Aerodynamische Theorie und Entwurf von Luftschrauben, von Th. Troller.
- *See* Misztal, Fr., und Th. Troller: Zur Frage der schräg angeblasenen Propeller, von Fr. Misztal. Aerodynamische Theorie und Entwurf von Luftschrauben, von Th. Troller.
- TROPHIES. *See* Hart: The Hart trophy.
- TRUSS stresses. *See* Pellett, D. L.: The application of photoelasticity to the study of indeterminate truss stresses.
- *See* Pellett, D. L.: Photo-elasticity, and its application to the study of indeterminate truss stresses.
- TSCHERMAK-SEYSENEGG, ARMIN. Physiologisch-optische Beobachtungen im Flugzeug und im Rotatorium.
Forschungen und Fortschritte, 8. Jahrg., Nr. 6 (20 Feb. 1932), Berlin, pp. 72–73.
- TUBES. Allowable shear from combined bending and torsion in round, elliptical, and streamlined tubes and allowable normal stress from bending in thin walled tubes.
Air Corps Information Circular, Vol. 7, No. 669 (June 30, 1932), Washington, pp. 24, ills., diags., tabs.
Air Corps Technical Report No. 3471.
- Construcciones aeronáuticas de tubos de acero.
Icaro, Año 5, Núm. 57 (sept. 1932), Madrid, p. 15.
- *See* Duncan, W. J.: The torsion and flexure of cylinders and tubes.

- TUBES.** See Gabrielli, G.: Sul comportamento dei tubi sottili in dural assoggettati a flesso-torsione e sulle loro applicazioni nella costruzione degli aeromobili.
- See Lock, C. N. H., F. C. Johansen, and H. L. Nixon: Thrust integrating tubes: Wind tunnel experiments.
- See Pippard, A. J. Sutton: Note on the distortion of thin tubes under flexure.
- TUBING.** Petro-flex tubing.
Flight, Vol. 24, No. 1 (1201) (Jan. 1, 1932), London, p. 17, ill.
- Stainless steel tubes for aircraft.
Flight, Vol. 24, No. 50 (1250) (Dec. 8, 1932), London, pp. 1170-1171, ill.
- See Bendix: Flexible metallic tubing.
- See Redmond, John C.: Rapid chemical test for the identification of chromium-molybdenum steel aircraft tubing.
- See Teichmann, Frederick K.: Welded tubing and streamlined struts.
- TUBULAR fuselages.** See Stipa, Luigi: L'efficienza aerodinamica di fusoliere tubolari.
- TULASNE, GIUSEPPE.** Eine neue kriegslehre (Duhetsche theorie).
Die Luftwacht, Heft 10, 11, Okt., Nov. 1932, Berlin, pp. 422-426, 444-447.
- Una nuova dottrina di guerra (L'opera del generale Douhet).
Rivista Aeronautica, Anno 8, N. 7 (luglio 1932), Roma, pp. 1-22.
- TULSA, OKLAHOMA.** McIntyre airport Tulsa, Oklahoma.
Aero Digest, [Vol. 20, No. 2] (Feb. 1932), New York, pp. 44, 46.
- See Short, C. W., jr.: The Tulsa municipal airport.
- TUNIS.** Verkehrsvorschriften.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 43 (22 Okt. 1932), Berlin, p. 292.
- See Eredia, Filippo: Le condizioni anemologiche nella rotta Cagliari-Tunisi.
- TURBINES.** See Capetti, Antonio: Prospettive della turbina a combustione interna nell'impiego aeronautico.
- TURBULENCE.** See Ahlborn, Fr.: Turbulence and mechanism of resistance on spheres and cylinders.
- See Bateman, H.: The k -function, a particular case of the confluent hyper-geometric function.
- See Dryden, Hugh L.: Turbulence in wind tunnels. A non-mathematical summary of modern views with results of U. S. A. experiments.
- See Fage, A., and H. C. H. Townend: The distribution of turbulence over the central region of a pipe.
- See Jennings, W. G., R. P. Alston, and C. Howarth: Investigation of atmospheric turbulence by aircraft carrying accelerometers.
- See Prandtl, L.: II. Theoretischer Teil. Zur turbulenten Strömung in Rohren und längs Platten.
- See Vortex theory. Cavitation.
- TURKEY.** Einflug.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 28-29 (16. Juli 1932), Berlin, p. 196.
- Landing in Turkey.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, p. 46.

TURNBULL. Il propulsore a passo variabile Turnbull.

Rivista Aeronautica, Anno 8, No. 9 (sett. 1932), Roma, pp. 608-609, ills.

— The Turnbull V. P. propeller.

Flight, Vol. 24, No. 20 (1220) (May 13, 1932), London, pp. 419-420, ills.

U

UDET, ERNST. Fremde Vögel über Afrika.

Bielefeld und Leipzig, Verlag Velhagen & Klasing, 1932, pp. 80, ills., map.

UHDE, SOFIE VON. Fliegen wurde luftreisen.

Die Luftreise, Heft 4, Nov. 1932, Berlin, pp. 77-78, ills.

UNDERCARRIAGES. See Landing gear.

UNITED AIR LINES. United Air Lines' unique three-way radio demonstration at night.

U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., p. 13.

UNITED STATES. Accordo aeronautico fra il Regno d'Italia e gli Stati Uniti d'America.

Riv. Dir. Aer., N. 2, aprile 1932-X, Roma, pp. 218-223.

— Amerikanischer flugzeugbau.

Zeitschr. Ver. deutscher Ing., Bd. 76, Nr. 33 (13. Aug. 1932), Berlin, pp. 807-809, ills., diagrs., tabs.

— Entwicklung und stand des planmässigen luftverkehrs in den Vereinigten Staaten von Nordamerika. Nach einer bearbeitung der luftfahrtabteilung des amerikanischen handelsdepartment.

Die Luftwacht, Heft 11, Nov. 1932, Berlin, pp. 452-455, tabl.

— Luftfahrtforschung in den Vereinigten Staaten von Nordamerika.

Die Luftwacht, Heft 4, April 1932, Berlin, pp. 148-151.

— Monoplaces de chasse Américains.

L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 21.

— Reciprocal recognition of certificates of airworthiness for imported aircraft. Arrangement between the United States of America and the Union of South Africa. Effected by exchange of notes signed October 12 and December 1, 1931. Effective December 1, 1931.

Washington, United States Government Printing Office, 1932, pp. 3.

United States Department of State. Publication No. 231. Executive agreement series No. 23.

— Vereinigte Staaten von Amerika. Bauvorschriften.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 40. 41. 45-46. 47-48. 51-52 (1. 8 Okt., 5. 26. Nov., 10. 24. Dez. 1932), Berlin, pp. 268, 274-276, 306-312, 320-323, 328-335, 340-344.

— Vereinigte Staaten von Amerika. Einflug. Verordnung vom 6. Oktober 1931 über eingangsflyghäfen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 9 (27. Feb. 1932), Berlin, p. 68.

— Vereinigte Staaten von Nordamerika. Stand der luftrüstungen ende 1931.

Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 28-29.

— Vereinigte Staaten von Amerika. Vorschriften betr. den Luftverkehr in der Panama-Kanal-zone.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 30-31 (30. Juli 1932), Berlin, pp. 202-208.

— Vereinigte Staaten von Amerika. Vorschriften betr. den Luftverkehr in der Panama-Kanal-zone.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 32 (6. Aug. 1932), Berlin, pp. 215-216.

— See Doering, Hermann: Le assicurazioni aeronautiche negli Stati Uniti di America ed in Europa.

UNITED STATES. *See* Italy. Ministero dell'Aeronautica: Accordo fra il regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13 e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932.

— *See* South Africa: Exchange of notes between His Majesty's Government in the Union of South Africa and the Government of the United States of America respecting certificates of airworthiness for aircraft. Pretoria, October 12–December 1, 1931.

— *See* Treaties and Conventions: Accordo aeronautico fra il Regno d'Italia e gli Stati Uniti d'America. Concluso con scambio di note in data del 13 e del 14 ottobre 1931. Approvato con regio decreto 25 gennaio 1932, n. 254.

UNITED STATES ARMY. *See* Love Field: The unique lighting system at Love Field.

UNITED STATES COAST GUARD. New Coast Guard flying boat.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 35, ill.

— *See* Hall, Norman B.: Life boats in the sky.

— *See* Kalinowski, Ludwig B.: General aviation's "Antares." New flying boat for U. S. Coast Guard embodies many new features of design.

— *See* Lewis, H. Latané, II: Flying lifeboats of the Coast Guard.

— *See* Newton, Byron R.: From sail to steam to aircraft in the Coast Guard. And the greatest of these is aircraft, of which more are needed now.

UNITED STATES CONGRESS. Conference committees. Amelia Earhart Putnam . . . Conference report. To accompany S. J. Res. 165.
Washington, United States Government Printing Office, 1932, pp. 2.

— House. Committee on Foreign Affairs. International technical committee of aerial legal experts . . . Report to accompany H. J. Res. 193 . . .
Washington, United States Government Printing Office, 1932, pp. 5. 72d Congress, 1st Session. House. Report 800.

— House. Committee on Rules. Transoceanic merchant airship bill. Hearings before the Committee on Rules, House of Representatives, Seventy-second Congress, first session, on H. Res. 224 and H. R. 8681. May 19 and 24, 1932.
Washington, U. S. Government Printing Office, 1932, pp. 12.

— House. Committee on Interstate and Foreign Commerce. Merchant airship bill. Hearing before the Committee on Interstate and Foreign Commerce, House of Representatives, Seventy-second Congress, First Session, on H. R. 8681, a bill to develop American air transport, services overseas, to encourage the construction in the United States by American capital of American airships for use in foreign commerce and to make certain provisions of the maritime law applicable to foreign commerce by airship, March 10 and 11, 1932.
Washington, United States Government Printing Office, 1932, pp. iii, 64.

— House. Committee on Interstate and Foreign Commerce. Transoceanic merchant airship service. . . . Report and minority views. To accompany H. R. 8681 . . .
Washington, United States Government Printing Office, 1932, pp. 15. 72 Congress, 1st session. House. Report 1308.

— House. Committee on the Post Office and Post Roads. Air mail. Hearings before the Committee on the Post Office and Post Roads, House of Representatives, Seventy-second Congress, first session, on H. R. 8390 and 9841. March 1, 2, 3, 4, 23, 1932.
Washington, United States Government Printing Office, 1932, pp. iii, 207, tabs.

- UNITED STATES CONGRESS. House. Committee on Rivers and Harbors. Miami Harbor, Florida. Hearing before the Committee on Rivers and Harbors, House of Representatives, Seventy-second Congress, first session, on the subject of improvement of Miami Harbor, with a view of securing a seaplane channel in Biscayne Bay, leading to Dinner Key, Florida. May 27, 1932. Washington, United States Government Printing Office, 1932, pp. ii, 14.
- Senate. Committee on Appropriations. Proposed federally equipped airway between Puget Sound, Washington, and Minneapolis-St. Paul, Minn. Letter from the Assistant Secretary of Commerce to the chairman of the Committee on Appropriations, United States Senate, transmitting a report of an engineering survey of a proposed federally equipped airway between Puget Sound, Wash., and Minneapolis-St. Paul, Minn. . . . Washington, United States Government Printing Office, 1932, pp. iii, 24, diags., tabs., map. 72d Cong., 1st sess. Senate Doc. 24.
- Senate. Committee on Commerce. The Merchant airship bill . . . Report. To accompany H. R. 8681. Washington, United States Government Printing Office, 1932, pp. 14. 72d Congress, 1st session. Senate. Report 874.
- Senate. Committee on Commerce. The Merchant airship bill . . . Report. To accompany H. R. 8681. Washington, United States Government Printing Office, 1932, pp. 2. 72d Congress, 1st session. Senate. Report 874.
- Senate. Committee on Commerce. The merchant airship bill. Report to accompany S. 4262. Washington, United States Government Printing Office, 1932, pp. 14. 72d Cong., 1st session. Senate. Report 670. Calendar No. 709.
- Senate. Committee on Naval Affairs. Amend the Act to authorize construction and procurement of aircraft and aircraft equipment with reference to the number of enlisted pilots in the Navy. Report. To accompany H. R. 6599. Washington, United States Government Printing Office, 1932, pp. 3. 72d Congress, 1st session. Senate. Report 864.
- UNITED STATES DEPARTMENT OF AGRICULTURE. Weather Bureau. Instructions for airways observers . . . 1932. Washington, United States Government Printing Office, 1932, pp. iv, 70, ills.
- UNITED STATES DEPARTMENT OF COMMERCE. Aeronautics Branch. Airworthiness requirements for aircraft components and accessories. Effective March 1, 1933. Washington, United States Government Printing Office, 1932, pp. ii, 13, ills., diags., tabs. Aeronautics Bulletin No. 7-F.
- Aeronautics Branch. Airworthiness requirements for aircraft. Effective as amended Jan. 1, 1933. Washington, 1932. Aeronautics Bulletin No. 7a.
- Aeronautics Branch. Civil aircraft accidents and casualties. July 1, 1932. Washington, United States Government Printing Office, 1932, pp. ii, 51, diags., tabs. Aeronautics Bulletin No. 13.
- Aeronautics Branch. Description of airports and landing fields in the United States. Sept. 1, 1932. Washington, United States Government Printing Office, 1932, pp. 183. Airway Bulletin No. 2.
- Aeronautics Branch. General airway information. United States Department of Commerce, Aeronautics Branch, Airway Bulletin No. 1, Sept. 1, 1932, Washington, pp. 214, ills., maps.

- UNITED STATES DEPARTMENT OF COMMERCE. Aeronautics Branch. Report of Committee on Airport Drainage and Surfacing. Representing Aeronautics Branch, Department of Commerce, American Engineering Council, American Road Builders' Association. December 1, 1931.
Washington, United States Government Printing Office, 1932, pp. ii, 38, ills.
- Aeronautics Branch. Scheduled air transportation. July 1, 1932.
Washington, U. S. Government Printing Office, 1932, pp. ii, 12, maps, tabs.
- Bureau of Foreign and Domestic Commerce. Functions of the Aeronautics Trade Division.
Washington, United States Government Printing Office, 1932, pp. 8.
- See United States: Entwicklung und stand des planmässigen luftverkehrs in den Vereinigten Staaten von Nordamerika. Nach einer bearbeitung der luftfahrtabteilung des amerikanischen handelsdepartment.
- UNITED STATES DEPARTMENT OF STATE. International technical committee of aerial legal experts. Message from the President of the United States.
Washington, 1932.
- UNITED STATES DEPARTMENT OF THE NAVY. See Debham, W. E.: Servicing Naval airplanes in the Hampton Roads shops.
- See Lincke, Jack: Servicing the Navy's airplanes.
- UNITED STATES NAVY. Eight lives saved in Pacific by Navy flotation gear.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 38.
- Over \$30,000,000 for naval aviation in 1932.
Southern Aviation, Vol. 2, No. 8 (April 1931), Atlanta, Ga., p. 20.
- Routine work of the Navy flight test section.
Southern Aviation, Vol. 3, No. 3 (Nov. 1931), Atlanta, Ga., pp. 15-16, ills.
- See Moffett, William A.: Naval aviation.
- See United States Department of the Navy.
- See Webb, L. D.: Building a flying fleet.
- UNITED STATES POST OFFICE DEPARTMENT. Air mail contracts. Letter from the Postmaster General transmitting in response to Senate Resolution No. 53 certain information relative to air mail contracts . . .
Washington, United States Government Printing Office, 1932, pp. iii, 1256, tabs., maps.
72d Cong., 1st sess. Senate. Doc. 70.
- UNITED STATES. Treaties. Air navigation. Arrangement between the United States of America and Germany. Effected by exchange of notes signed May 27, 30, and 31, 1932. Effective June 1, 1932.
Washington, U. S. Government Printing Office, 1932, pp. 12.
Department of State. Publication No. 354. Executive agreement No. 38.
- UPMAN, FRANK, jr. Developing an airport. Part 1 In a small city. Part 2 In a large city.
Western Flying, Vol. 11, No. 6, Vol. 12, No. 1 (June, July, 1932), Los Angeles, pp. 23-24, ills., diagr.
- Greeters at airports.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 18-19.
- UPSON, RALPH H., and W. A. KLIKOFF. Application of practical hydrodynamics to airship design.
National Advisory Committee for Aeronautics, Report No. 405, April 8, 1932, Washington, U. S. Government Printing Office, 1931, pp. 20, diagrs.

- UPSON, RALPH H. Blind flight for amateurs.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, p. 15.
- Engineering from the flyer's standpoint.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 24-25.
- Engineering from the flyer's standpoint.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 23-24.
- Flight control by air visualization.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 128.
- Flight cruising. With some incidental reflections on private flying of today.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 20-22.
- Seeing the air.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, pp. 34, 36, ill.
- URBACH, EGON. Höchstdruckmesser für schnelllaufende Verbrennungsmotoren.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. IV 45-46, ill., diagr.
- URUGUAY. Abfertigungsscheine.
Nachrichten für Luftfahrer, 13. Jahrg., Nr. 33-34 (13. 20. Aug. 1932), Berlin, p. 228.
- USCHAKOV, K. A. Beitrag zur Prüfung des Normalflügels des ZAH1.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 10 (28. Mai 1932), München und Berlin, pp. 283-285, diagrs., tabs. Zentrales Aero-Hydrodynamisches Institut in Moskau.
- UTTERGÅRD, NILS. See Lindner, K. G.: Fallna på sina poster.
- UWINS, C. F. Aeroplane height record.
Nature, Vol. 130, No. 3283 (Oct. 1, 1932), London, p. 501.
On Sept. 16, 1932, attained a height of 43,976 ft. Officially confirmed as the absolute height record.
- V
- VACUPLANE. Le "Vacuplane" Lanier.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, p. 85, ill.
- VALENSI, JACQUES. Aérodynamique.—De l'utilisation d'hélices ventilateurs à pales orientables pour le réglage de la vitesse du vent dans une soufflerie système Eiffel.
C. R. Acad. Sci., T. 195, No. 1 (4 juil. 1932), Paris, pp. 28-30, diagrs.
- VALETTA. Short "Valetta" as a landplane.
Flight, Vol. 24, No. 21 (1221) (May 20, 1932), London, pp. 436-437, ill.
- VALVES. See Stieber, W.: Ventilsteuerung mit Ölgestänge.
- VALVE timing. See Taylor, Edward S.: Valve timing of engines having intake pressures higher than exhaust.
- VAN LUVEN, F. D. Successful tests of plane parachute.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., p. 43, ill.
- VAUGHAN, GUY V. Fuels and lubricants in relation to engine design.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., p. 26, port.
- VAUGHN, GUY W. Production—Not subsidy.
Aviation Engineering, Vol. 6, No. 4 (April 1932), Washington, N. J., p. 7.
- VÁZQUEZ-GARRIGA, J. Nuevos métodos de análisis aplicables a los materiales empleados en la aviación.
Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 79-81, ill., diagrs.
- VEE tail. See Rudlicki, Georges: The Rudlicki vee tail. A novel arrangement by which a single set of surfaces operates as both elevators and rudder.
- VELOCITY. See Houghton, R.: Note on the velocity distribution in the neighbourhood of a corrugated sheet.

- VENTILATOR brake.** See Serpi, Luigi: Un nuovo freno-ventilatore per motori d'aviazione raffreddati ad aria.
- VENTILATORS.** See Schrenk, Oskar: III. Versuchsergebnisse. 17. Untersuchung von Dachlüftern.
- VENTURI airplane.** See Caproni: L'avion-tube de venturi Stipa-Caproni.
- VENTURI tube.** See Betz, A., und H. Peters: III. Versuchsergebnisse. 18. Untersuchung eines Staudruckmultiplikators. (Brunsche Doppel-Venturi-düse.)
- VERDEAU, Ch.** Le grand marin de l'air. Jean du Plessis, commandant du Dixmude.
Paris, 1931.
- VERDUZIO, RUDOLFO.** Stresses developed in seaplanes while taking off and landing.
National Advisory Committee for Aeronautics, Technical Memorandums No. 677, July 29, 1932, Washington, July 1932, pp. 47, ill., diags.
- VERNOTTE, PIERRE.** See Brun, Edmund, et Pierre Vernotte: Aérodynamique.— Mesure du coefficient d'échange thermique entre une paroi solide et un courant gazeux.
- VERTOPLANE.** See Herrick, Gerard P.: The Herrick vertoplane.
- VIBRATION.** See Constant, H.: Aircraft vibration.
- See Constant, Hayne: Torque reaction and vibration. An investigation of the effect on aircraft structures of engine-torque variations.
- See Liebers, Fritz: Resonance vibrations of aircraft propellers.
- See Morris, J.: A note on the solution of difference equations in certain vibration problems.
- See Pobedonoszew, J. A.: Capacity method of pressure vibration recording.
- VIBRATION tests.** Testing tanks in vibrating tables.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 32, 34, ill.
- VIBROMETERS.** Vibrometers.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., p. 29, ill.
- VICKERS.** Vickers duplex air compressor. It gives pressure up to 200 lb. per sq. inch for engine starting.
Flight, Vol. 24, No. 3 (1203) (Jan. 15, 1932), London, pp. 58-59, ill.
- Vickers "Jockey" interceptor fighter.
Flight, Vol. 24, No. 6 (1206) (Feb. 5, 1932), London, pp. 103-110, ill.
- Vickers Vespa altitude plane.
Aero Digest, Vol. 21, No. 5 (Nov. 1932), New York, p. 34.
- Vickers "Vildebeest" torpedoplane.
Flight, Vol. 24, No. 15 (1215) (April 8, 1932), London, pp. 297-298, ill.
- See Altitude record: The new altitude record. Some technical details of the Vickers Vespa biplane and the Bristol Pegasus engine.
- See Pumps: Pompe a air comprimé Vickers pour le démarrage des moteurs.
- VICTOR.** Guerra aerea e guerra terrestre.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 461-476.
- VICTOR, MAURICE.** I freni aerodinamici.
Rivista Aeronautica, Anno 8, N. 12 (dic. 1932), Roma, pp. 615-618, ill.

- VICTORY, JOHN F. Eleventh annual N. A. A. convention.
Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 13-15, ills.
- VIEHMANN, Heinrich. *See* Brintzinger, Wilhelm, und Heinrich Viehmann:
Das Rauschen von Empfängern.
- VIGILANT. German war-birds.
London, John Hamilton, Ltd., 1932, pp. 364, ills.
- VINCENT, B. H. Pioneer flier is now a plane distributor.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., pp. 8-10.
- VIRGIN, ERIC. 1. Flygeskaderns besök i Köpenhamn den 10-12 September 1932.
Flygning, Årg. 10, N: R 9 (Sept. 1932), Stockholm, pp. 149-151, port., ill.
- VISCOSITY. *See* Hatschek, Émile: La viscosité des liquides, traduction de
l'anglais par Georges Arçay.
- VISCOUS flow. *See* Thom, A.: Arithmetical solution of problems in steady
viscous flow.
- VISIBILITY. *See* Douglas, C. K. M.: Smoke and visibility.
- VISUAL acuity. *See* Lythroe, R. J., Dorothy E. Corkill and E. S. Pearson:
The measurement of visual acuity.
- VIVENT, JACQUES. Exposé sur "les dispositions concernant les garanties à
fournir par l'exploitant" introduites dans l'avant-projet relatif à la respon-
sabilité pour dommages causés aux tiers à la surface.
Riv. Dir. Aer., N. 4, dicembre 1932-X, Roma, pp. 477-482.
- VIVENT, JACQUES, et ÉTIENNE RICHÉ. L'organisation generale des aérodromes
en France et aux colonies.
L'Aérophile, 40e Année, No. 3 (mars 1932), Paris, pp. 75-79, ills., maps.
- VOCATIONAL training. Vocational training for aviation mechanics. Suggestions
relative to the organization and operation of training courses.
Federal Board for Vocational Education, Bulletin No. 142, Trade and Industrial Series,
No. 40, Revised 1932, pp. 286, ills.
- VOCCA, OTTAVIO. Un tachimetro a cella fotoelettrica.
Rivista Aeronautica, Anno 8, N. 11 (nov. 1932), Roma, pp. 309-
- VOISIN, ANDRÉ PAUL. La doctrine de l'aviation française de combat au cours
de la guerre (1915-1918).
Paris, Berger-Levrault, 1932, pp. ix, 172, ills., map.
- VOLCKMANN. *See* Pritschow, W.: Volckmanns Baupläne flugfähiger Flugmo-
delle. Herausgegeben im Auftrage des Deutschen Luftfahrt-Verbandes
E. V. 4. Bauplan: Hochdecker-Rumpfmödel mit textlichen Erläuterungen.
Von W. Pritschow.
- *See* Schelhasse, H. F. A.: Volckmanns Baupläne flugfähiger Modelle.
- VOLLA, FERNANDO, e FELICE PORRO. Fotografia aerea negli usi civili e mili-
tari; fotografare, interpretare, misurare la terra dall'aeroplano.
Milano, U. Hoepli, 1932, pp. xv, 454, ills., diags.
- VON GRONAU. Von Gronau's Atlantic flight.
Flight, Vol. 24, No. 33 (1233) (Aug. 12, 1932), London, p. 755.
- VORTEX theory. *See* Cavitation. Turbulence.
- *See* Klemin, Alexander: Vortex theory and the tapered wing.
- *See* Kuzmin, G. I.: Airscrew design by vortex theory.
- *See* Roy, Maurice: Contribution à la theorie des ailes sustentrices.

- VORTEX theory.** See Serragli, Giovanni: Le deformazione di un vortice in stato di dissipazione.
- VORYS, JOHN M.** The ground work of aeronautics.
Nat. Aer. Mag., Vol. 10, No. 1 (Jan. 1932), Washington, p. 5.
- VOSS, FRED.** See Gerrish, Harold C., and Fred Voss: Influence of several factors on ignition lag in a compression-ignition engine.
- VOUGHT.** A new Vought "Corsair" with a new engine.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 44, 46, ill.

W

- W. M.** Vom Brandenburger tor bis zur Akropolis.
Die luftreise, Heft 4, Nov. 1932, Berlin, pp. 80-81, ill.
- WACKETT.** See Glauert, H.: Drift due to engine torque. Some reasons for reconsideration of the conclusions arrived at by Wing Commander Wackett.
- WACKETT, L. J.** Drift due to engine torque. Some experiments confirming theoretical view of the importance of the effect on navigation.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 32-33, 44, ill.
- WACO.** Waco model a sportsman.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, p. 56, ill.
- WAKE, J. H. C.** See Maitland, C. E., and J. H. C. Wake: Comparative handling tests of three Bristol Fighter aircraft with different types of slots.
- WALDRON, C. D.** See Rothrock, Addison M., and C. D. Waldron: Effect of engine operating conditions on the vaporization of safety fuels.
- See Rothrock, Addison M., and C. D. Waldron: Fuel vaporization and its effect on combustion in a high-speed compression-ignition engine.
- WALKER, C. C.** Some observations on the King's Cup race. Handicapping.
The Aeroplane, Vol. 43, No. 3 (July 20, 1932), London, p. 134.
- WALKER, P. B.** Experiments on the growth of circulation about a wing with a description of an apparatus for measuring fluid motion.
Aer. Res. Comm., Rep. Mem. No. 1402 (Ae. 523), January 1932, London, 1932, pp. 75, ill., diagrs.
- WALL.** See Dowd, R. E.: Wall junior engine.
- WALLACE, ARCHER.** Adventures in the air.
New York and London, Harper & Brothers, 1932, pp. ix, 110, ill.
- WALTER.** I motori d'aviazione "Walter" a tre cilindri.
Rivista Aeronautica, Anno 8, N. 8 (agosto 1932), Roma, pp. 419-421, ill.
- WALTER, FRANZ.** Deutsche Luftsport-Ausstellung 1932 (DELA).
Luftschau, 5. Jahrg., Nr. 12 (24. Juni 1932), Berlin, pp. 192-193.
- Entwicklung des Motorflugsportes im Deutschen Luftfahrt-Verband e. V.
Luftschau, 5. Jahrg., Nr. 9 (10. Mai 1932), Berlin, pp. 130-135, ill., diagrs., tabs.
- WALTER, RICHARD.** Aus der tätigkeit der Deutsch-Chinesischen luftverkehrsgesellschaft "Eurasia."
Die Luftwacht, Heft 5, Mai 1932, Berlin, pp. 179-180.
- WALWAARDT SACRÉ, HENDRIK.** Vijf-en-twintig jaar luchtvaart in Nederland. . .
Uitgegeven ter gelegenheid van het zilveren jubileum der kon. Ned. vereniging voor luchtvaart.
Amsterdam, A. J. G. Strengholt, 1932, pp. 328, ill., maps.

- WAPITI.** See Hartshorn, A. S., D. M. Hirst and G. F. Midwood: Wind tunnel tests on a model of the "Wapiti" including the effect of the slipstream on certain derivatives.
- WARD, KENNETH E.** Characteristics of an airfoil as affected by fabric sag.
National Advisory Committee for Aeronautics, Technical Notes No. 423, Aug. 19, 1932, Washington, August 1932, pp. 5, ills., diags.
- See Jacobs, Eastman Nixon, and Kenneth E. Ward: Tests of N. A. C. A. airfoils in the variable-density wind tunnel, series 24.
- WARD, N. F.** See Younger, John E.: Airplane construction and repairs; for airplane mechanics. With a chapter on heat treatment by N. F. Ward.
- WARLETA, I.** Pilotaje sin visibilidad. El banco W. E. S. para entrenamiento en tierra.
Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, pp. 70-71, ills.
- WARNER, EDWARD P.** Air-armament standards in the melting pot.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 66-69.
- The economics of weight-saving. The price that would have to be paid for lightening various components in an aeroplane.
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, pp. 289-290.
- The equipment of air forces. Parts 1, 2, 3, 4, 5.
Aviation, Vol. 31, Nos. 6, 7, 9, 10, 11 (June, July, Sept., Oct., Nov. 1932), New York, pp. 247-253, 290-294, 369-373, 411-415, 440-443, ills.
- How much is lightness worth?
Aviation, Vol. 31, No. 9 (Sept. 1932), New York, pp. 382-384.
- The International Convention for Air Navigation: And the Pan American Convention for Air Navigation: A comparative and critical analysis.
Air Law Review, Vol. 3, No. 3 (July 1932), New York, pp. 221-308.
- Is there a limit on speed?
Aviation, Vol. 31, No. 11 (Nov. 1932), New York, pp. 431-433, diags., tabl.
- The rational specification of aeroplane load factors.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 128.
- Transport airplanes, then and now.
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 323-327, ills.
- What way, air transport?
Aviation, Vol. 31, No. 8 (Aug. 1932), New York, pp. 340-343.
- WARREN, CECIL R.** The Arrowhead safety plane. A Florida development differing radically from usual design.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., pp. 13-14, 16, ill.
- WARRENDER, LEE D.** Material control in chain airport operation.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 37-38, port., ill.
- WARSAW.** The Warsaw convention.
Flight, Vol. 24, No. 52 (1252) (Dec. 22, 1932), London, p. 1217.
- WARWICK.** No. 605 County of Warwick bomber squadron.
Flight, Vol. 24, No. 14 (1214) (April 1, 1932), London, pp. 274-277, ills.
- WASHINGTON.** See Aero Club of Washington: The Aero Club of Washington. District of Columbia Chapter, National Aeronautic Association, 1932.

- WASHINGTON, D. C. Public Library. Books on aeronautics, a reading list, compiled by Olive Chase . . .
Washington, U. S. Government Printing Office, 1932, pp. 59. Reference list No. 27.
- WASHINGTON MONUMENT. See Cost, L. W.: Illuminating the Washington Monument.
- WASP. The twin Wasp Junior. Double banked cylinders show Pratt & Whitney in most interesting development in air-cooled field.
Aviation Engineering, Vol. 6, No. 5 (May 1932), East Stroudsburg, Pa., formerly Washington, N. J., pp. 28-29, ills.
- WASP engines. See Willgoos, A. V. D.: The "Twin Wasp Junior" engine.
- WATERMAN, WALDO D. Professional pilots association.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., p. 12.
- The Professional Pilots Association.
Western Flying, Vol. 11, No. 5 (May, 1932), Los Angeles, p. 14.
- WATKINS, H. G. The British Arctic air route expedition. Continuation from the May Journal of a paper read at the special evening meeting of the Society on 12. December 1931 by H. G. Watkins.
The Geographical Journal, Vol. 79, No. 6 (June 1932), London, pp. 446-501, ills.
- The British arctic air route expedition. To investigate possibilities of an air route between England and Canada across the Arctic via the Faroes, Iceland, Greenland, Baffin Island, and Hudson Bay.
The Geographical Journal, Vol. 79, No. 5 (May 1932), London, pp. 353-367, ill.
- WATKINS, MYRÓN W. Air-transport rate-making.
Air Law Review, Vol. 3, No. 2 (April 1932), New York, pp. 127-134.
- WATSON, GEORGE H. Lighting the Birmingham airport.
Southern Aviation, Vol. 3, No. 9 (May 1932), Atlanta, Ga., pp. 13-14, ills.
- WATTER, MICHAEL. Biplane effect in nose-dive analysis. Some aerodynamic considerations in nose-dive structural calculations.
Aero Digest, [Vol. 20, No. 1] (Jan. 1932), New York, pp. 34-35, 96, diags., tabs.
- Descriptive geometry in structural analysis.
Aero Digest, Vol. 20, No. 6, Vol. 21, No. 1 (June, July 1932), New York, pp. 26-28, 32-34, ills.
- Graphical solution of a beam under combined compression and transverse load.
Aero Digest, Vol. 20, No. 3 (March 1932), New York, pp. 33-35, diags.
- Metal airplane construction. Part 1—The wings.
Aero Digest, Vol. 20, No. 4 (April 1932), New York, pp. 32-34, ills.
- Metal airplane construction. Part 2—Body and tail groups.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 26-28, 102, ills.
- A simplified method of climb and ceiling calculation.
Aero Digest, [Vol. 20, No. 2] (Feb. 1932), New York, pp. 36-38, diags.
- WEATHER. See Gregg, Willis Ray: Recent advances in weather service in relation to aerial navigation.
- See Marvin, Charles F.: Weather service in aid of air navigation.
- See Reed, Thomas R.: What the Weather Bureau does to make air travel safe.
- WEBB, L. D. Building a flying fleet.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., pp. 23-32, ill.
- Correcting your air speed indicator.
U. S. Air Services, Vol. 17, No. 5 (May 1932) Washington, D. C., pp. 27-28, diagr.

- WEBB, L. D. The Diesels take the air.
U. S. Air Services, Vol. 17, No. 3 (March 1932), Washington, D. C., pp. 20-23, ills.
- The fan on the front end.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., pp. 16-20.
- Ferrying.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., pp. 16-20.
- The life of Floyd Bennett, told by his wife. Reviewed by Lieut-Comdr. L. D. Webb, U. S. N.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 11.
- Pounds per horsepower.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., pp. 12, 14-16.
- WEDELL, JAMES. Wedell makes new record in 3-Capital flight.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 23.
- WEEMS, P. V. H. The first International Convention of Trans-Oceanic Flyers.
Nat. Aer. Mag., Vol. 10, No. 8 (Aug. 1932), Washington, pp. 18-19, ills.
- See Ceccotti, Giuseppe: Un metodo Americano per determinare di notte il punto mediante osservazioni di stelle.
- WEESE, WOLFGANG. 5 Jahre Deutsche luftfahrt G. m. b. H.
Die Luftwacht, Heft 6, Juni 1932.
- 5 Jahre Deutsche Luftfahrt G. m. b. H.
Luftschau, 5. Jahrg., Nr. 9 (10. Mai 1932), Berlin, pp. 135-138, ills., diagrs., tables.
- WEICK, FRED E., and THOMAS A. HARRIS. The aerodynamic characteristics of a model wing having a split flap deflected downward and moved to the rear.
National Advisory Committee for Aeronautics, Technical Notes No. 422, June 8, 1932, Washington, May 1932, pp. 7, ills., diagrs., tabl.
- WEICK, FRED E., and CARL J. WENZINGER. The characteristics of a Clark Y wing model equipped with several forms of low-drag fixed slot.
National Advisory Committee for Aeronautics, Report No. 407, March 19, 1932, Washington, U. S. Government Printing Office, 1932, pp. 9, ills., diagr., tabs.
- Effect of length of Handley Page tip slots on the lateral-stability factor, damping in roll.
National Advisory Committee for Aeronautics, Technical Notes No. 423, July 12, 1932, Washington, July 1932, pp. 6, diagrs., tabs.
- WEICK, FRED E., and JOSEPH A. SHORTAL. The effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil.
National Advisory Committee for Aeronautics, Report No. 427, Aug. 10, 1932, Washington, U. S. Government Printing Office, 1932, pp. 8, ill., diagrs., tabs.
- WEICK, FRED E. Preliminary investigation of modifications to conventional airplanes to give nonstalling and short landing characteristics.
National Advisory Committee for Aeronautics, Report No. 418, April 30, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., diagrs., tabs.
- WEICK, FRED E., and CARL J. WENZINGER. Preliminary investigation of rolling moments obtained with spoilers on both slotted and plain wings.
National Advisory Committee for Aeronautics, Technical Notes No. 415, April 23, 1932, Washington, April 1932, pp. 11, diagrs.
- Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings.
National Advisory Committee for Aeronautics, Report No. 419, May 20, 1932, Washington, U. S. Government Printing Office, 1932, pp. 26, diagrs., tabs.

- WEICK, FRED E., and RICHARD W. NOYES.** Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. II—Slotted ailerons and Firse ailerons.
National Advisory Committee for Aeronautics, Report No. 422, July 5, 1932, Washington, U. S. Government Printing Office, 1932, pp. 16, ills., tabs.
- WEICK, FRED E. and CARL J. WENZINGER.** Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. III—Ordinary ailerons rigged up 10° when neutral.
National Advisory Committee for Aeronautics, Report No. 423, Ju'y 11, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ills., diagrs., tabs.
- WEICK, FRED E., and THOMAS A. HARRIS.** Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. IV—Floating tip ailerons on rectangular wings.
National Advisory Committee for Aeronautics, Report No. 424, Aug. 17, 1932, Washington, U. S. Government Printing Office, 1932, pp. 25, ills., diagrs., tabs.
- WEICK, FRED E., and JOSEPH A. SHORTAL.** Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. V—Spoilers and ailerons on rectangular wings.
National Advisory Committee for Aeronautics, Report No. 439, Oct. 24, 1932, Washington, U. S. Government Printing Office, 1932, pp. 18, ills., diagrs., tabs.
- WEICK, FRED E., and THOMAS A. HARRIS.** Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. VI—Skewed ailerons on rectangular wings.
National Advisory Committee for Aeronautics, Report No. 444, Nov. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 13, ills., tabs.
- WEICK, FRED E., and MILLARD J. BAMBER.** Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions.
National Advisory Committee for Aeronautics, Report No. 428, Aug. 24, 1932, Washington, U. S. Government Printing Office, 1932, pp. 14, ill., diagrs., tabs.
- WEICK, FRED E., and ROBERT SANDERS.** Wind-tunnel tests of a Hall high-lift wing.
National Advisory Committee for Aeronautics, Technical Notes No. 417, June 22, 1932, Washington, May 1932, pp. 4, ills., diagrs.
- WEICK, FRED E., and ROBERT C. PLATT.** Wind-tunnel tests of the Fowler variable-area wing.
National Advisory Committee for Aeronautics, Technical Notes No. 419, June 30, 1932, Washington, May 1932, pp. 6, ills., diagrs.
- WEIDINGER, HANS.** German experiments with chemical cooling of aircraft engines.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., pp. 34-35, diagrs.
- WEIGHT.** See Wood, K. D.: Weight reduction versus drag reduction in design.
- WEIGHT saving.** See Warner, Edward P.: The economics of weight-saving. The price that would have to be paid for lightening various components in an aeroplane.
- WEISS, PIERRE THEODORE.** CIDNA; ou, L'express d'Istanbul.
Paris, L. Querelle, 1932, pp. 185.
- WEISS, STANISLAW.** Uzupełnienie do artykułu "Połączenia nietowe duraluminjowe." St. Weissa w Sprawozdaniu IBTL Nr. 7.
Instytut Badań Technicznych Lotnictwa, Sprawozdanie, Bulletin No. 8 (Nr. 37), Warszawa, 1932, p. 163.

- WEITZMANN, LUDWIG. Flugzeug-Unfallstatistik 1930.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 1 (14. Jan. 1932), München und Berlin, pp. 13-23, diagrs., tabs. Bericht der Deutschen Versuchsanstalt für Luftfahrt.
Jahrb. 1932 Deutsch. Versuchsanstalt für Luftfahrt, Berlin-Adlershof, München und Berlin, [1932], pp. IX 23-33, ills., diagrs., tabs.
- German aircraft accident statistics 1930.
National Advisory Committee for Aeronautics, Technical Memorandums No. 664, March 30, 1932, Washington, March 1932, pp. 25, diagrs., tabs.
- WELDING. Shielded electrode for welding.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., p. 46, ill.
- A "shot-welded" aircraft.
Flight, Vol. 24, No. 50 (1250) (Dec. 8, 1932), London, pp. 1169-1170, ills.
- Shot welding.
Flight, Vol. 24, No. 44 (1244) (Oct. 27, 1932), London, pp. 1014-1016, ills.
- The strength of welded joints.
Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 129.
- Tests for welding. A discussion of the various methods applicable in a determination of effective welds.
Aviation Engineering, Vol. 7, No. 4 (Oct. 1932), East Stroudsburg, Pa., pp. 18-19, ills.
- See Ragsdale, E. J. W.: Stainless steel and shot-welding.
- WELLS, HART. A. E.
U. S. Air Services, Vol. 17, No. 6 (June 1932), Washington, D. C., p. 14.
- WENZINGER, CARL J., and THOMAS A. HARRIS. The U. S. vertical wind tunnel. A full description with details of calibration tests and some preliminary experiments.
Aircraft Engineering, Vol. 4, No. 36 (Feb. 1932), London, pp. 29-31, ills., diagrs.
- WENZINGER, CARL J. See Weick, Fred E., and Carl J. Wenzinger: The characteristics of Clark Y wing model equipped with several forms of low-drag fixed slots.
- See Weick, Fred E., and Carl J. Wenzinger: Effect of length of Handley-Page tip slots on the lateral-stability factor, damping in roll.
- See Weick, Fred E., and Carl J. Wenzinger: Preliminary investigation of rolling moments obtained with spoilers on both slotted and plain wings.
- See Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings.
- See Weick, Fred E., and Carl Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. III—Ordinary ailerons rigged up 10° when neutral.
- WERDER, MARKUS. Ferdinand v. Zeppelin und sein werk.
Langensalza, Julius Beltz, 1932, pp. 110.
- WERNER, JOHANNES. Böelcke, der mensch, der flieger, der führer der deutschen jagdfliegerei; ein lebens- und heldenbild aus seinen briefen gestaltet.
Leipzig, K. F. Koehler, [1932] pp. 225, ills., maps., ports.
- WESTINGHOUSE ELECTRIC AND MANUFACTURING Co. Aviation lighting equipment. Catalogue 219-D, December 1932. (Superseding Catalogue 218-FA).
Cleveland, Ohio, 1932, pp. 48, ills., diagrs.
- WESTLAND. The Westland P. V. 6.
Flight, Vol. 24, No. 10 (1210) (March 4, 1932), London, pp. 192-193, ills.

- WESTLAND AIRCRAFT Co.** See Handasyde, G. H.: Duralumin and steel construction. Essentially practical methods of production mark the Westland works at Yeovil.
- WETHERILL, RICHARD W.** The autogiro goes to work.
Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, pp. 6-12, ills.
- WEYL, ALFRED RICHARD.** Triebwerkanordnungen bei Mehrmotorenflugzeugen.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 8 (28. April 1932), München und Berlin, pp. 213-219, ills.
- Der Wettbewerb um den "Schneider-Pokal."
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 15, 16 (12. 27. Aug. 1932), München und Berlin, pp. 442-454, 477-483, ills., diagrs., tabs.
- WHEAT, GEORGE S.** Present opportunities to improve the status of aviation.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., p. 6.
- WHEATLEY, JOHN BROOKS.** Lift and drag characteristics and gliding performance of an autogiro as determined in flight.
National Advisory Committee for Aeronautics, Report No. 434, Oct. 14, 1932, Washington, U. S. Government Printing Office, 1932, pp. 10, ills., diagrs., tabs.
- See Soulé, Hartley Akin, and John B. Wheatley: A comparison between the theoretical and measured longitudinal stability characteristics of an airplane.
- WHEEL brakes.** See Focacetti, C.: Esperienze sui velivoli con ruote frenate.
- WHEELS.** Comparative speed tests of wheels.
Air Corps Information Circular, Vol. 7, No. 676 (June 30, 1932), Washington, pp. 6, ills.
Air Corps Technical Report No. 3564.
- See Bradfield, F. B., and G. F. Midwood: Wheels, fairings, and mudguards.
- See Pippard, A. J. Sutton, and W. E. Francis: The stresses in a radially spoked wire wheel under loads applied to the rim. Part II.—Simplified formulae and curves.
- WHITE, MISS M. J.** See Sutton, A. J., and Miss M. J. White: The stresses in a wire wheel under rim loads. Part I. The stresses in a wire wheel with non-radial spokes under rim loads in the plane of the rim.
- WHITE, W. W.** The petroleum industry and aviation.
Aviation, Vol. 31, No. 2 (Feb. 1932), New York, pp. 60-61.
- WHITE pine.** See Kozanecki, Stefan: Badanie świerka z Wisły.
- WHITLET.** The Whitlet Hoverplane.
Flight, Vol. 24, No. 13 (1213) (March 25, 1932), London, p. 262.
- WHO'S WHO.** Who's who in British aviation.
London, Airways Publications.
- WIEN, W., und F. HARMS.** Handbuch der Experimental-physik. Unter Mitarbeit von H. Lenz. Band 4: Hydro- und Aerodynamik. Teil 2: Widerstand and Auftrieb. Herausgegeben von Ludwig Schiller:
Leipzig, Akademische Verlagsgesellschaft m. b. H., 1932, pp. viii, 443.
- WIEN, WILHELM CARL WERNER OTTO FRITZ, und F. HARMS, unter Mitarbeit VON H. LENZ.** Handbuch der Experimentalphysik, Band 4, Hydro- und Aerodynamik, 4. Teil, Rohre, Offene Gerinne, Zähigkeit. Herausgegeben von L. Schiller, F. Eisner, S. Erk.
Leipzig, Akademische Verlagsgesellschaft m. b. h., 1932, pp. viii, 719.

- WIESELSBERGER, C. Zur theoretischen Behandlung der gegenseitigen Beeinflussung.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 18 (28. Sept. 1932), München und Berlin, pp. 533-535, illus., diagrs.
- See Kármán, Theodor von, und C. Wieselsberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen.
- WIESINGER, KURT. Zur Prioritätsfrage bezüglich der Propellerschnellbahn.
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 8 (28 April 1932), München und Berlin, p. 223.
- WIGLEY, W. C. S. Mathematical investigation of strength of wooden seaplane hulls of the Linton-Hope type of construction.
Aeronautics. Techn. Rep. Aer. Res. Comm. 1930-1931, Vol. 2, London, 1932, pp. 604-621, diagrs., tabs.
- WILBUR WRIGHT MEMORIAL LECTURE. The Wilbur Wright lecture. The director of scientific research provides a stimulating contribution.
Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 137-138.
- See Wimperis, H. E.: New methods of research in aeronautics.
- WILEY, FRANK. The art of ice bombing.
Western Flying, Vol. 12, No. 5 (Nov. 1932), Los Angeles, pp. 16-17.
- WILFORD. The Wilford gyroplane.
Aero Digest, Vol. 20, No. 2 (Feb. 1932), New York, pp. 56-57, illus.
- WILFORD, E. BURKE. The wilford gyroplane.
Western Flying, Vol. 11, No. 3 (Mar. 1932), Los Angeles, p. 56, ill.
- WILLGOOS, A. V. D. Model R-1535 Pratt & Whitney "Twin Wasp Junior" engine.
Aero Digest, Vol. 20, No. 5 (May 1932), New York, pp. 68, 67, illus.
- P. & W. fuel injection system.
Western Flying, Vol. 11, No. 2 (Feb. 1932), Los Angeles, Calif., pp. 56-57.
- Pratt and Whitney fuel injection system.
U. S. Air Services, Vol. 17, No. 2 (Feb. 1932), Washington, D. C., pp. 35-36.
- Pratt and Whitney's new fuel injection system.
Aviation Engineering, Vol. 6, No. 2 (Feb. 1932), Washington, N. J., pp. 22-23, 43, illus.
- The "Twin Wasp Junior" engine.
U. S. Air Services, Vol. 17, No. 5 (May 1932), Washington, D. C., pp. 29-30, illus.
- WILLIAMS, D. C. HOLLIS. The design of airscrews. A review of the present position from an engineering aspect.
Aircraft Engineering, Vol. 4, No. 46 (Dec. 1932), London, pp. 310-314, illus., diagrs.
- WILLIAMS, D. H. See Bryant, L. W., and D. H. Williams: The application of the method of operators to the calculation of the disturbed motion of an aeroplane.
- WILLIAMS, EDWIN M. How Phoebe Omlie won the 1931 Air Derby.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., pp. 15-16, 31, port.
- The thrilling experiences of a pioneer woman flyer.
Southern Aviation, Vol. 3, No. 11 (July 1932), Atlanta, Ga., pp. 7-9, illus., port. Phoebe Fairgrave Omlie.
- WILLIAMS, W. D. He has flown his first million miles.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, D. C., pp. 37-38, port.
- WILLIAMSON. Williamson "Eagle" III camera.
Flight, Vol. 24, No. 4 (1204) (Jan. 22, 1933), London, p. 83, illus., diagr.

- WILSON, GEORGE LLOYD.** Traffic control—truck and airplane traffic. Scranton, Pa., International Textbook Company, 1932, pp. vi, 55, 42, 37, 44, ills., maps. International Textbook Company. Bluebloods, M. 104 B.
- WILSON, GILL ROBB.** How New Jersey regulates aeronautical activities. Aero Digest, Vol. 20, No. 5 (May 1932), New York, p. 40, map.
- WILSON, J. A.** See Canada: Quarterly Civil Air Liaison Letter Nos. 18–21.
- WIMPERIS, H. E.** Flight tests on an aeroplane with a control column giving warning of dangerous wing loads. Aer. Res. Comm., Rep. Mem. No. 1446, July 1931, London, 1932, pp. 6, ills.
- High speed flying. Nature, Vol. 129, No. 3244 (Jan. 2, 1932), London, p. 31.
- New methods of research. Flight, Vol. 24, No. 23 (1223) (June 3, 1932), London, pp. 482–486, ills.
- New methods of research. Details of the new R. A. E. 24 ft. and vertical tunnels and seaplane tank. Aircraft Engineering, Vol. 4, No. 40 (June 1932), London, pp. 151–156 ills.
- New methods of research in aeronautics. Journ. Roy. Aer. Soc., Vol. 36, No. 264 (Dec. 1932), London, pp. 991–1012, ills.
- WIND.** See Bryant, L. W.: Note on the change of wind with height.
- See Eredia, Filippo: Le condizioni anemologiche nella rotta Cagliari-Tunisi.
- See Galante, Nicolò: Nota sul calcolo grafico della velocità economica di un aeroplano tenendo conto del vento.
- See Giblett, M. A.: Structure of wind over level country.
- See Immler: Misuratore del vento e di deriva Immler.
- See Magnan, Antoine: Methods of recording rapid wind changes.
- See Musella, F.: Frequenza dei venti forti e velocità media e massima dei venti a Napoli alle ore 8 e 19.
- WIND brakes.** See Langer, R.: III. Versuchsergebnisse. 21. Bremswirkung von Windschutzgittern.
- WIND indicator.** A new American wind indicator. A wind-T that indicates both direction and velocity to the pilot. Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 114, ill.
- WIND pressure.** See Flachsbart, O.: III. Versuchsergebnisse. 19. Winddruck auf geschlossene und offene Gebäude.
- See Flachsbart, O.: III. Versuchsergebnisse. 20. Winddruck auf Gasbehälter.
- WIND tunnels.** Another vertical wind tunnel. The Sikorsky Aircraft Corporation's tunnel for spinning experiments at Bridgeport. Aircraft Engineering, Vol. 4, No. 41 (July 1932), London, p. 181, ills.
- The study of flow phenomena. A special small wind tunnel of high accuracy built in France described. Aircraft Engineering, Vol. 4, No. 39 (May 1932), London, p. 127, ills.
- Un tunnel aérodynamique vertical. L'Aérophile, 40e Année, No. 1 (Jan. 1932), Paris, p. 25, ill.
- See Bailey, A., and S. A. Wood: Development of a high-speed induced wind tunnel.

- WIND tunnels. *See* Baoulin, K. K., S. T. Astabatian, and F. N. Krascheninnikow: Investigation of open jet-wind tunnels.
- *See* Betz, A.: I. Neue Versuchseinrichtungen. 2. Die Sechskomponenten-Waage des grossen Windkanals.
- *See* Bradfield, F. B.: The 5-foot open-jet wind tunnel, R. A. E.
- *See* Bradfield, F. B., K. W. Clarke, and R. A. Fairthorne: Measurement of maximum lift in closed tunnels of different sizes, and in open jet tunnel.
- *See* Bradfield, F. B., and W. G. A. Perring: The validity of drag tests on a large-scale model in a small closed wind tunnel. Drag of one-fifth scale nacelle installed on the upper surface of a monoplane.
- *See* Dryden, Hugh L.: Turbulence in wind tunnels. A non-mathematical summary of modern views with results of U. S. A. experiments.
- *See* Focke, Heinrich: The Focke-Wulf wind tunnel. A description of a new commercial experimental apparatus installed in Germany.
- *See* Focke, Heinrich: Der Windkanal der Focke-Wulf Flugzeugbau A. G.
- *See* Glauert, H.: Wind tunnel interference on aerofoils.
- *See* Great Britain: A British full-scale wind tunnel.
- *See* Great Britain: Studi e ricerche in Gran Bretagna.
- *See* Harris, Thomas A.: The 7 by 10 foot wind tunnel of the National Advisory Committee for Aeronautics.
- *See* Hoerner, S.: Der Windkanal im Flugtechnischen Institut der TH Braunschweig.
- *See* Jacobs, Eastman Nixon, and Ira H. Abbott: The N. A. C. A. variable-density wind tunnel.
- *See* Jones, R., and A. H. Bell: Experiments on models of a compressed air wind tunnel.
- *See* Joukowsky, N. E.: Il laboratorio aerodinamico N. E. Joukowsky di Mosca.
- *See* Kármán, Theodor v., und C. Wieselsberger: Abhandlungen aus dem Aerodynamischen Institut an der Technischen Hochschule Aachen. Heft 12: Windkanalversuche an einem Zeppelin-Luftschiff-Modell, von Wolfgang Klemperer.
- *See* Lockspeiser, B.: Ventilation of 24-foot tunnel.
- *See* Mitchell, Gordon S.: Wind tunnels.
- *See* Parkin, J. H.: Research equipment in Canada. A description of the wind tunnel and seaplane model tank at Ottawa.
- *See* Perring, W. G. A., and C. Callen: On the validity of large scale tests on an open jet wind tunnel. Tests on one-fifth scale Bristol Fighter (7.9-ft. span) in a 5-foot open jet tunnel.
- *See* Rebuffet, P.: Soufflerie aérodynamique à dynamomètres électrométriques du service des recherches de l'aéronautique.
- *See* Ruffner, Benjamin F.: Performance computation from atmospheric wind tunnel tests.
- *See* Sanuki, Matao, and Itiro Tani: The wall interference of a wind tunnel of elliptic cross-section.

- WIND tunnels. See Stanton, T. E.: The variation of velocity in the neighborhood of the throat of a constriction in a wind channel.
- See Theodorsen, Theodore: The theory of wind-tunnel wall interference.
- See Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I—Ordinary ailerons on rectangular wings.
- See Wenzinger, Carl J., and Thomas A. Harris: The U. S. vertical wind tunnel. A full description with details of calibration tests and some preliminary experiments.
- See Wimperis, H. E.: New methods of research. Details of the new R. A. E. 24-foot vertical tunnels and seaplane tank.
- WIND wheels. See Seiferth, R.: III. Versuchsergebnisse. 16. Untersuchung von vier Windrädern.
- See Serragli, Giovanni: Teoria di uno schermo aerodinamico per le route a vento. (Elica ad induzione variabile.)
- WINDLASS. See Helbig, Hans: Die Universalseilwinde des DLV.
- WINDLER, RAY. Drag tests of 4 9-scale model engine nacelles with various cowlings.
National Advisory Committee for Aeronautics, Technical Notes No. 432, Oct. 15, 1932, Washington, October 1932, pp. 11, ills., diags., tabs.
- The effect of propellers and nacelles on the landing speeds of tractor monoplanes.
National Advisory Committee for Aeronautics, Technical Notes No. 420; June 15, 1932, Washington, May 1932, pp. 13, ills., diags., tabs.
- WINES, JAMES P. The national races in retrospect.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 11-15, diagr.
- WING construction. Ply-covered cantilever planes. A detailed description of the method of laying out and building wooden wings:
Aircraft Engineering, Vol. 4, No. 45 (Nov. 1932), London, pp. 279-281, ills., tabl.
- See Stieger, H. J.: Wing construction.
- WING flutter. See Lockspeiser, B., and C. Callen: Wind-tunnel tests of recommendations for the prevention of wing flutter.
- WING loads. See Wimperis, H. E.: Flight tests on an aeroplane with a control column giving warning of dangerous wing loads.
- WING spars. See Teichmann, Alfred: Methods for the calculation of wing spars subjected to axial compression.
- WING structures. See Russell, A. F.: "Wires cut" cases in wing structures.
- WINGS. L'ala a superficie ed a profilo variabile Schmeidler.
Rivista Aeronautica, Anno 8, N. 9 (sett. 1932), Roma, pp. 607-608, ills.
- Aviones con planos de superficies variables.
Icaro, Año 5, Núm. 55 (julio 1932), Madrid, pp. 5-6, ills.
- The Ugo Antoni variable wing.
Flight, Vol. 24, No. 22 (1222) (May 27, 1932), London, pp. 472-473, ills.
- Wing construction.
Flight, Vol. 24, No. 16 (1216) (April 15, 1932), London, pp. 333-336, 331, ills.
- See Amstutz, E.: Die Berechnung von Flügelstreben unter Berücksichtigung der Luftkräfte.
- See Betz, A., and J. Lotz: Reduction of wing lift by the drag.

- WINGS. See Brown, C. Anderton, and A. W. Morley: Estimation of wing-surface area for evaporative cooling.
- See Carafoli, E.: Recherches expérimentales sur les ailes monoplanes.
- See Cox, H. Roxbee: Cases of purely torsional loading on stripped airplane wings.
- See Cuno, Otto: Experimental determination of the thickness of the boundary layer along a wing section.
- See Cuno, Otto: Experimentelle Untersuchung der Grenzschichtdicke und Verlauf längs eines Flügelschnittes.
- See Egoroff, B. N.: Influence of a thick wing on airscrew performance.
- See Gardner, Grandison: Wing tip vortices observed in flight.
- See Gerard, I. J.: A method of testing the strength and stiffness of a large wing.
- See Guerbilsky, A.: Navigation aérienne. Enregistrement des déformations et des vibrations d'une aile d'avion en vol.
- See Guglielmetti, Aldo: Considerazioni sulle strutture alari monoplane a sbalzo e in particolare su quella denominata "Mono-Spar."
- See Handasyde, G. H.: Strip-steel wing construction. The Gloster Aircraft Company's works at Brockworth visited and described.
- See Heinze, Edwin P. A.: Increasing the speed range. German plane with variable wing area and profile.
- See Kirste, Léon: Flexion et torsion des ailes cantilever.
- See Klemm, Alexander: Vortex theory and the tapered wing.
- See Kramer, Max: Increase in the maximum lift of an airplane wing due to a sudden increase in its effective angle of attack resulting from a gust.
- See Kramer, Max: Die Zunahme des Maximalauftriebes von Tragflügeln bei plötzlicher Anstellwinkelvergrößerung (Böeneffekt).
- See Krassilshchikoff, P. P.: Influence of the length of slats and flaps on the slotted wing work.
- See Kuhn, Paul: Working charts for the determination of the lift distribution between biplane wings.
- See Küssner, Hans Georg: Stresses produced in airplane wings by gusts.
- See Langer, R.: III. Versuchsergebnisse. 1. Neuere Profiluntersuchungen.
- See Langer, R.: III. Versuchsergebnisse. 5. Untersuchung von zwei Flugzeugmodellen.
- See Lift: In search of high lift.
- See Lippisch, A.: Das Problem des schwanzlosen Flugzeuges und seine Weiterentwicklung zum Nurflügelflugzeug.
- See Lotz, J.: Theorie von Flügeln mit Ausschnitten.
- See Łuczyński, Zbigniew: Badania doświadczalne nad współpracą dźwigarów w skrzydłach wolnonośnych.
- See Makhonine, M.: El avion de superficie variable del ingeniero Makhonine.

- WINGS. See Malavard, L.: Aérodynamique—Sur le problème fondamental concernant l'aile d'anvergure finie.
- See Muttray, H.: III. Versuchsergebnisse. 6. Neuere Messungen an Flügeln mit Ausschnitten.
- See Muttray, H.: III. Versuchsergebnisse. 7. Messungen an einem Flügel mit versetztem Mittelteil.
- See Muttray, H.: III. Versuchsergebnisse. 8. Versuche über die Ausbildung der Flügelwurzel von Tiefdeckern.
- See Muttray, H.: III. Versuchsergebnisse. 9. Der Einfluss des Flügelumrisses auf die Polare eines Tiefdeckers.
- See Muttray, H.: III. Versuchsergebnisse. 10. Untersuchung eines Tiefdeckers bei verschiedenem Abstände des Flügels von der Rumpfspitze.
- See Ormerod, A.: Full scale measurements of lift coefficients of a Bristol Fighter with R. A. F. 34 wings and slots.
- See Pugsley A. G.: Aerodynamic characteristics of a semi-rigid wing.
- See Reid, Elliott Gray: Applied wing theory.
- See Rhode, Richard V., and Henry A. Pearson: A method for computing leading-edge loads.
- See Rhode, Richard V.: The pressure distribution over a long elliptical wing tip on a biplane in flight.
- See Rhode, Richard V.: The pressure distribution over a standard and a modified Navy elliptical wing tip on a biplane in flight.
- See Roy, Maurice: Contribution à la théorie des ailes sustentrices.
- See Sängler, Eugen: Accurate calculation of multispar cantilever and semicantilever wings with parallel webs under direct and indirect loading.
- See Sängler, Eugen: Approximate calculation of multispar cantilever and semicantilever wings with parallel ribs under direct and indirect loading.
- See Sängler, Eugen: Zur genäherten Berechnung vielholmig-parallelstegiger, ganz- und halbfreitragender, mittelbar und unmittlebar belasteter Flugelgerippe.
- See Schrenk, Oskar: III. Versuchsergebnisse. 2: Untersuchung weiterer Joukowsky-Profile.
- See Schrenk, Oskar: III. Versuchsergebnisse. 4. Profileigenschaften eines Absaugeflügels.
- See Schrenk, Oskar: III. Versuchsergebnisse. 3. Untersuchung einiger verallgemeinerter Joukowsky-Profile. (Verallgemeinerung nach Betz.)
- See Schwam, Morton: Design of wing panels for incidence and dihedral.
- See Slotted wings: Ranura de ala y seguridad de vuelo.
- See Theodorsen, Theodore: Theory of wing sections of arbitrary shape.
- See Thompson, M. J.: A note on the discontinuous potential.
- See Walker, P. B.: Experiments on the growth of circulation about a wing with a description of an apparatus for measuring fluid motion.
- See Watter, Michael: Metal airplane construction. Part 1—The wings.
- See Weick, Fred E., and Thomas A. Harris: The aerodynamic characteristics of a model wing having a split flap deflected downward and moved to the rear.

- WINGS. *See* Weick, Fred E., and Carl J. Wenzinger: The characteristics of Clark Y wing model equipped with several forms of low-drag fixed slots.
- *See* Weick, Fred E., and Carl J. Wenzinger: Effect of length of Handley-Page tip slots on the lateral-stability factor, damping in roll.
- *See* Weick, Fred E., and Joseph A. Shortal: The effect of multiple fixed slots and a trailing-edge flap on the lift and drag of a Clark Y airfoil.
- *See* Weick, Fred E., and Carl J. Wenzinger: Preliminary investigation of rolling moments obtained with spoilers on both slotted and plain wings.
- *See* Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. I. Ordinary ailerons on rectangular wings.
- *See* Weick, Fred E., and Richard W. Noyes: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. II—Slotted ailerons and Frise ailerons.
- *See* Weick, Fred E., and Carl J. Wenzinger: Wind-tunnel research comparing lateral control devices, particularly at high angle of attack. III—Ordinary ailerons rigged up 10° when neutral.
- *See* Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices, particularly at high angles of attack. IV—Floating-tip ailerons on rectangular wings.
- *See* Weick, Fred E., and Joseph A. Shortal: Wind-tunnel research comparing lateral control devices, particularly, at high angles of attack. V—Spoilers and ailerons on rectangular wings.
- *See* Weick, Fred E., and Thomas A. Harris: Wind-tunnel research comparing lateral control devices particularly at high angles of attack. VI—Skewed ailerons on rectangular wings.
- *See* Weick, Fred E., and Millard J. Bamber: Wind-tunnel tests of a Clark Y wing with a narrow auxiliary airfoil in different positions.
- *See* Weick, Fred E., and Robert Sanders: Wind-tunnel tests of a Hall high-lift wing.
- *See* Weick, Fred E., and Robert C. Platt: Wind-tunnel tests of the Fowler variable-area wing.
- WINNY, H. F. Graphical solutions for inviscid flow.
Aer. Res. Comm., Rep. Mem., No. 1473 (T. 3250), April 1932, London, 1932, pp. 16, illus., diagrs., tabs.
- WINSTON-SALEM. *See* Carmichael, R. C.: Reduced fares multiply flights at Winston-Salem airport.
- WINTER, H. T. *See* Monk, F. V., and H. T. Winter: Great exploits in the air.
- WINTERS, S. R. Testing the safety belt for tensile strength.
Southern Aviation, Vol. 2, No. 1 (Sept. 15, 1930), Atlanta, Ga., p. 6, ill.
- WIRE wheels. *See* Sutton, A. J., and Miss M. J. White: The stresses in a wire wheel under rim loads. Part I. The stresses in a wire wheel with non-radial spokes under rim loads in the plane of the rim.
- WIRELESS. Wireless and night flying. The Marconi-Adcock direction finder.
Flight, Vol. 24, No. 8 (1208) (Feb. 19, 1932), London, pp. 154-155, illus.
- *See* Eisner, Franz: Neue Funkgeräte im deutschen Luftverkehr.
- WIRES. *See* Bassi, Silvio: Un particolare modo di attacco per i cavetti d'acciaio nelle costruzioni aeronautiche.
- *See* Russell, A. F.: "Wires cut" cases in wing structures.

- WISCONSIN. Aviation laws of Wisconsin.
Madison, Published by the Wisconsin Legislative Interim Committee on Aviation. February 1932, pp. 8.
- WISSENSCHAFTLICHE GESELLSCHAFT FÜR LUFTFAHRT. 20 Jahre Wissenschaftliche Gesellschaft für Luftfahrt.
Zeitschr. Ver. deutscher Ing., Bd. 76, Nr. 36 (3. Sept. 1932), Berlin, pp. 871-873.
- XXI. Ordentliche Mitglieder-Versammlung der Wissenschaftlichen Gesellschaft für Luftfahrt E. V. (WGL).
Zeitschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 14 (28. Juli 1932), München und Berlin, pp. 401-410.
- See Carganico, V.: 20 Jahre Wissenschaftliche Gesellschaft für Luftfahrt. E. V. (WGL).
- WOBBLERMETER. The Wobblemeter.
Aviation Engineering, Vol. 6, No. 1 (Jan. 1932), Washington, N. J., p. 50, ill.
- WOLFE, RAY. Cowboy shows a profit.
Western Flying, Vol. 12, No. 3 (Sept. 1932), Los Angeles, pp. 25-26.
- WOMEN. Women flyers set new endurance record of 196 hours.
U. S. Air Services, Vol. 17, No. 9 (Sept. 1932), Washington, D. C., p. 30.
- See Earhart, Amelia: The fun of it; random records of my own flying and of women in aviation.
- WOOD. See Bourakov, N. N.: Tests of spar-type samples of spruce.
- See Brenner, Paul, und Otto Kraemer: Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen.
- See Chulitzky, N. N.: Investigation of essential physico-mechanical properties of wood.
- See Chulitzky, N. N.: An investigation of the kiln-drying of aircraft pine.
- See Chulitzky, N. N.: Investigation of the water absorption and water permeability of different kinds of wood.
- See Grzędzielski, Aleksander: O spólczynnikach sprężystości sklejk.
- See Hertel, Heinrich: Die Schubmoduln von Furnier and Sperrholz, von Heintr. Hertel. Holzvergütung durch Tränken und Aufteilen in dünne Einzellagen, von Paul Brenner und Otto Kraemer.
- See Kozanecki, Stefan: Badanie świerka z Wisły.
- WOOD, DONALD H. Tests of nacelle-propeller combinations in various positions with reference to wings. Part I. Thick wing—N. A. C. A.-cowled nacelle—tractor propeller. Part II—Thick wing—various radial-engine cowlings—tractor propeller.
National Advisory Committee for Aeronautics. Part I. Report No. 415, June 15, 1932, Washington, U. S. Government Printing Office, 1932, pp. 30, ill., diags., tabs. Part II—Report No. 436, Nov. 7, 1932, pp. 42, ill., diags., tabs.
- WOOD, FRANK. The largest aerial survey.
Southern Aviation, Vol. 2, No. 4 (Dec. 1930), Atlanta, Ga., p. 12, ill.
- WOOD, K. D. Weight reduction versus drag reduction in design.
Aviation Engineering, Vol. 6, No. 3 (March 1932), Washington, N. J., pp. 18-20, ill., diagr.
- WOOD, R. MCKINNON. The use of models in research and design.
Journ. Roy. Aer. Soc., Vol. 36, No. 263 (Nov. 1932), London, pp. 975-982.
- WOOD, S. A. See Bailey, A., and S. A. Wood: Development of a high-speed induced-wind tunnel.

- WOODMAN, J. EDMUND. Flying weather of New York. A statement of the problem.
New York, 1932, pp. 17.
N. Y. Univ. Coll. engin. Guggenheim School of Aeronautics. Contrib. from laboratory aeron. Met'y. Prelim. studies on the flying weather of New York, No. 1. [Manifolded.]
- WOODS, BALDWIN M. See Younger, John E., and Baldwin M. Woods: Dynamics of airplanes and airplane structures.
- WOODWARD, A. E. See Finn, E., and A. E. Woodward: Measurements of accelerations on aircraft during manoeuvres.
- WORLD flight. See Froelich, Michael H.: Engineering deductions of a flight around the world.
- WORLD WAR. See Fechet, James E.: Have we forgotten the World War.
- WRIGHT. New Wright cyclone R-1820-F engine.
U. S. Air Services, Vol. 17, No. 10 (Oct. 1932), Washington, D. C., pp. 21-23, ill.
- Wright cyclone R-1820-F engine.
Aero Digest, Vol. 21, No. 4 (Oct. 1932), New York, pp. 40-41, ill.
- See Cyclone: The Cyclone R-1820-F. 700 horsepower Wright radial air-cooled engine approved by Department of Commerce.
- WRIGHT, ELSIE N. Famous flyers and their famous flights.
Cleveland, O., New York, N. Y., The World Syndicate Publishing Company, 1932, pp. 243.
By Capt. J. J. Grayson [pseud.]
- WRIGHT, K. V. See Hardy, J. K., and K. V. Wright: A system for the automatic timing of aircraft over a speed course.
- WRIGHT, ORVILLE. See Daniel Guggenheim Medal Fund: The Daniel Guggenheim Medal for achievement in aeronautics. Biographies of Orville Wright, medalist for 1929; Ludwig Prandtl, medalist for 1930; Frederick William Lanchester, medalist for 1931; Juan de la Cierva, medalist for 1932.
- WRIGHT, WILBUR. The twentieth Wilbur Wright memorial lecture.
The Aeroplane, Vol. 42, No. 22 (June 1, 1932), London, pp. 980, 982, 984.
- WRIGHT BROTHERS. The monument to the Wright Brothers, at Pau, France.
U. S. Air Services, Vol. 17, No. 4 (April 1932), Washington, pp. 42-43, ill.
- Orville Wright talking with Captain Gilman, construction quartermaster in charge of erecting Federal memorial to the Wright Brothers on top of Kill Devil Hill, North Carolina.
U. S. Air Services, Vol. 17, No. 8 (Aug. 1932), Washington, D. C., p. 13, ill.
- See Newton, Byron S.: They said it was neither fact nor fiction and promptly turned it down.
- WRIGHT memorial. Government memorial for aviation's birthplace.
Southern Aviation, Vol. 2, No. 12 (Aug. 1931), Atlanta, Ga., p. 6, ill.
- Wright Memorial dedicated.
U. S. Air Services, Vol. 17, No. 12 (Dec. 1932), Washington, D. C., pp. 20-21, ill.
- Wright Memorial to be dedicated this month.
U. S. Air Services, Vol. 17, No. 11 (Nov. 1932), Washington, D. C., p. 25.
- See Wyly, Richard: Skyroad to the South.
- WRIGHTS. France remembers the Wrights.
Nat. Aer. Mag., Vol. 10, No. 5 (May 1932), Washington, pp. 16-18, ill.
- See Sharp, Edward R.: A Nation's tribute to the Wrights.
- WRIST pins. See Angle, Glenn D.: Positioning of link rod wrist pins in articulated connecting rods.

- WRONSKY, MARTIN. Luftbrücken von continent zu continent.
Die Luftreise, Heft 3, 1. Okt. 1932, Berlin, pp. 55-58, ills.
- Tráfico aereo Alemán.
Icaro, Núm. 9, Sept. 1928, Madrid, pp. 252-264, ills., diagrs., maps.
- Weltluftverkehr.
Zeltschr. Flugt. Motorluftsch., 23. Jahrg., Nr. 12 (24. Juni 1932), München und Berlin, pp. 334-341, diagrs., maps.
- WÜSTENDÖRFER, HANS. Principii ed organizzazione del traffico aereo sui mari.
Rapporto del prof. Hans Wüstendörfer al 57° Congresso del Deutscher Nautischer Verein di Kiel, 21 maggio 1931.
Riv. Dir. Aer., N. 3, luglio 1932-X, Roma, pp. 301-321.
- WYLLY, RICHARD. Skyroad to the South.
Nat. Aer. Mag., Vol. 10, No. 10 (Oct. 1932), Washington, pp. 18-24, ills.
- WYMAN, E. E. Marine aircraft operators. An outline of present-day over-water air transport and the most recent developments in flying boats.
Aviation Engineering, Vol. 7, No. 1 (July 1932), East Stroudsburg, Pa., pp. 39-41, ills.

X

- X-ray. See Matthaes, Kurt: Röntgenuntersuchung von Flugzeugbauteilen bei der DVL.

Y

- YAMAMOTO, MINEO. An improved form of jack for use in the load test of aeroplanes.
Rep. Aer. Res. Inst., Tôkyô Imperial University, No. 78 (Vol. 6, 12), July 1932, Tôkyô, pp. 341-359, ills., diagrs.
- YOSIDA, YAHEI. See Obata, Juichi, Sakae Morita and Yahei Yosida: Studies on the sounds emitted by revolving airscrews. Part 1.
— See Obata, Juichi, Yahei Yosida, and Sakae Morita: Studies on the sounds emitted by revolving airscrews. Parts I and II.
- YOUNG, ALFRED W. See McAvoy, William H., Oscar W. Schey and Alfred W. Young: The effect on airplane performance of the factors that must be considered in applying low-drag cowling to radial engines.
— See Schey, Oscar W., and Alfred W. Young: The use of large valve overlap in scavenging a supercharged spark-ignition engine using fuel injection.
- YOUNG, CLARENCE M. An industry weathers a storm.
Western Flying, Vol. 11, No. 1 (Jan. 1932) Los Angeles, Calif., pp. 12-14.
— Progress of civil aeronautics.
Southern Aviation, Vol. 3, No. 8 (April 1932), Atlanta, Ga., pp. 5-6, port.
- YOUNGER, JOHN E. Airplane construction and repair; for airplane mechanics. With a chapter on heat treatment by N. F. Ward.
New York, McGraw-Hill Book Co., Inc. London, McGraw-Hill Publishing Co., Ltd., 1932, pp. 441.
- YOUNGER, JOHN E., and BALDWIN M. WOODS. Dynamics of airplanes and airplane structures.
London, Chapman and Hall, 1931, New York, John Wiley & Sons, pp. 263.
- YOUNGSTEADT, R. W. Chattanooga's modern airport and how it was acquired.
Southern Aviation, Vol. 2, No. 2 (Oct. 1930), Atlanta, Ga., pp. 5-7 47, ills.
- YSENBURG, GRAF. Rhön-segelflug-wettbewerb 1932.
Die Luftwacht, Heft 10, Okt. 1932, Berlin, pp. 428-431, ill.

YUGOSLAVIA. Stand der lufrüstungen ende 1931.

Die Luftwacht, Heft 1, Jan. 1932, Berlin, pp. 24-25.

— Zollflughäfen.

Nachrichten für Luftfahrer, 13. Jahrg., Nr. 10-11 (12. März 1932), Berlin, p. 70.

Z

ZAHM, ALBERT FRANCIS, and CECIL ALURED ROSS. Bibliography on skin friction and boundary flow, compiled by A. F. Zahm and C. A. Ross.

Library of Congress, Division of Aeronautics, November 1933, Washington, 1932 [i. e. 1933] pp. 46.

ZALESSKIN, G. (G. Zalessky, French). Observation sur la nervation des ailes des libellules et des éphémères et sur leur évolution phylogénétique.

Bulletin de l'Académie des Sciences de l'Union des Républiques Socialistes, VII Ser., Class Sciences Math., Nat., 1932, No. 5, pp. 713-733, ill.

ZAND, STEPHEN J. Captain Zand.

U. S. Air Services, Vol. 17, No. 7 (July 1932) Washington, D. C., p. 34, port.

ZEPPELIN. Descripción del dirigible LZ 127.

Icaro, Núm. 11, nov. 1928, Madrid, pp. 319-321, ill.

— La línea regular aérea Friedrichshafen-Pernambuco.

Ibérica, Año 19, Núm. 928 (14 mayo 1932), Barcelona, pp. 305, 310, ill.

— El nuevo Zeppelin "L. Z. 129."

Ibérica, Año 19, Núm. 928 (14 mayo 1932), Barcelona, pp. 310-311.

— El nuevo Zeppelin LZ. 129.

Revista de Aeronautica, Año 1, Núm. 2 (mayo 1932), Madrid, p. 78.

— See Klemperer, Wolfgang: Windkanalversuche an einem Zeppelinluftschiff-modell.

— See Louis, Richard: 30 jahre Zeppelinluftschiffahrt, bearbeitet im auftrage des Luftschiffbau Zeppelin.

— See Marben, Rolf: Zeppelin adventures.

— See Penck, Albrecht: Geographische ergebnisse des Zeppelinfluges.

— See Treusch von Buttler-Brandenfels, Horst: Zeppelins over England.

ZEPPELIN, FERDINAND v. See Werder, Markus: Ferdinand v. Zeppelin und sein werk.

ZHUKOVSKI, NIKOLAÏ YEGOROVICH. Bases théoriques de l'aéronautique. Aérodynamique; cours professé à l'École Impériale Technique de Moscou, par N. Joukowski. . . Traduit de russe par S. Drzewiecki. . . Deuxième édition, revue et annotée par W. Margoulis. . .

Paris, Gauthier-Villars et Cie., 1931, pp. 254, ill., diags.

ZIMMERMAN, C. H. Characteristics of Clark Y airfoils of small aspect ratios.

National Advisory Committee for Aeronautics, Report No. 431, Sept. 27, 1932, Washington, U. S. Government Printing Office, 1932, pp. 12, ill., diags., tabs.

ZINC coating. See Gambioli, Mario: Protezione dell'alluminio e duralluminio con rivestimenti elettrolitici di zinco e di cadmio.

ZINNECKER. Jungfliegertreffen und Modellwettbewerb Pfingsten auf der Wasserkuppe.

Luftschau, 5. Jahrg., Nr. 11 (10. Juni 1932), Berlin, p. 173, ill.

ZINNECKER, BRUNO. Segelfliegen; vorschläge für die einrichtung von segelfluggruppen.

Leipzig, Quielle & Meyer, 1932, pp. 68, ill.

ZOLLMANN, CARL FREDERICK GUSTAV. Cases on air law, covering aviation and radio. 2d edition.

St. Paul, West Publishing Co., 1932, pp. xvi, 612.

ZULOAGA, ANGEL MARIA. Arte y ciencia de volar.

Buenos Aires, Talleres gráficos Argentinos L. J. Rosso, 1932, pp. xii, 582, ill.

ZURICH. Internationella flygmötet i Zürich.

Flygning, Årg. 10, N:R 9 (Sept. 1932), Stockholm, pp. 158-160, ill.

