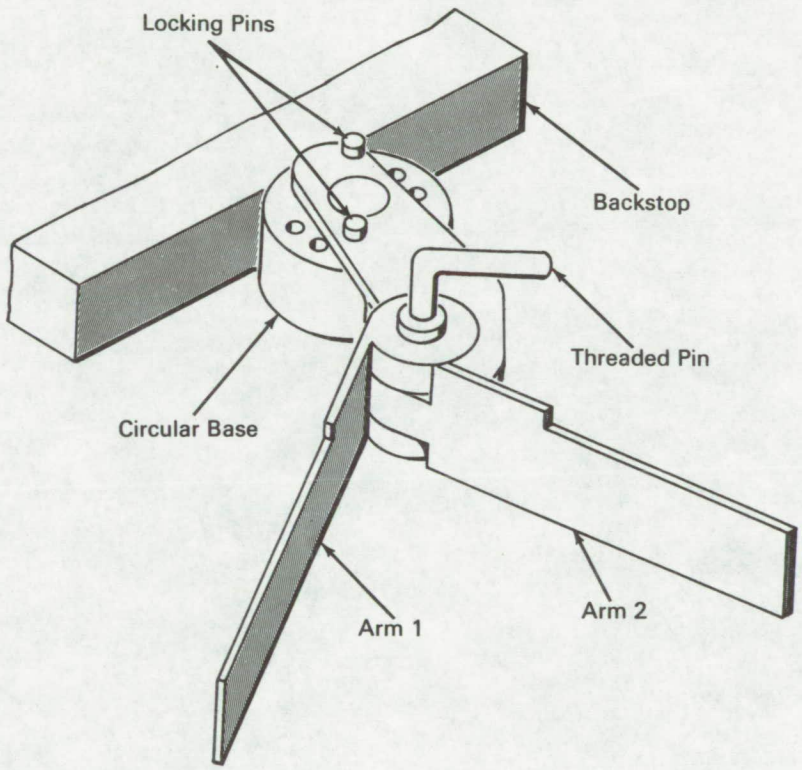
May 1966

Brief 66-10210

NASA TECH BRIEF

Adjustable Cutting Guide Aligns and Positions Stacks of Material



The problem:

To provide a fixture which accurately aligns and positions stacks of material for cutting at various angles. Previous guide tools were not always capable of both aligning and positioning materials, particularly those having corner angles other than 90°. Further, while aligned cuts may have been made on individual stacks of materials, the cutting angle was often lost when a series of stacks was cut.

The solution:

An adjustable aligning and positioning device that adapts its shape to stacks of any corner angle, adjusts to any cutting angle, and quickly aligns the stacks for repeated cutting.

How it's done:

Two guide arms adjust to the corner angle of the material by the pivoting of arm 1 within the socket of arm 2. A threaded pin, extending through both arms

(continued overleaf)

at their joint, tightens to lock the two at the desired angle. Two plates, extensions of arm 2, encompass a circular base in a sandwich arrangement, connecting to it by a pin. A backstop is bolted tangentially to the base. The arms, locked to form a particular angle, may be rotated as a unit about the pin through the base, allowing various cutting angles with reference to the backstop. A locking pin is inserted through aligning holes in the plates and base to lock the device at the cutting angle. The backstop is placed against a mating stop on the machine to complete positioning.

Notes:

1. Cutting angles available from this fixture are determined by the position and number of the locking holes in the base.
2. With this device, an operator need not place his hands under the knife during alignment.
3. The device could be used in the paper, printing, or textile industries where materials of various shapes are cut.
4. Inquiries concerning this invention may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas, 77058
   Reference: B66-10210

Patent status:

This is the invention of a NASA employee and a patent application has been filed. Inquiries concerning license rights may be made directly to the inventor, Mr. Alphonse M. Thiel, at Manned Spacecraft Center.

Source: (MSC-321)