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Energy Absorber Uses Expanded Coiled Tube

A mechanical shock-mitigating device, based on working material to its failure point, absorbs mechanical energy by bending or twisting tubing. It will function under axial or tangential loading, has no rebound, is area independent and is easy and inexpensive to build.

Unitary extruded flat tube is formed into decreasing spiral coils and then welded together solidly into a frustoconical or "beehive" shape. Energy absorption results from successive coils of the tube rolling about their weld points under deformation loading. An increasing amount of material undergoes the twisting or deformation action as the beehive collapses and each successive larger diameter coil is put under load. Damping action still results if the tube fractures.

This innovation may be utilized as a shock absorber and as such should be of interest to the aerospace and transportation industries.

Note:

Requests for further information may be directed to:

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Reference: TSP72-10239

Patent status:

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