

ENGINEERING

## Rotating Parachute Resembles Helicopter

See Front Cover

➤ A NEW PARACHUTE, equipped with four cloth blades that spin like a helicopter's rotor, could take much of the danger out of jumping.

Known as the Vortex Ring parachute, it is intended for use in military paratroop and cargo air drop operations, in missile recovery and for braking of high-speed aircraft.

Designed by David T. Barish, a New York engineering consultant, it will be produced by Pioneer Parachute Company, a subsidiary of Reliance Manufacturing Company. The design is said to mark the first major change in parachutes in 50 years.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows the parachute being used as a ground brake to slow down aircraft after it has landed.

Tests, which are still being conducted by the military services and two jet aircraft manufacturers, indicate that the shock effect on opening is greatly reduced because less material is exposed to wind blast, and that there is almost no oscillation or glide. This latter characteristic makes it possible to drop personnel or cargo vertically without a pendulum swinging effect. This, in turn, improves target-hitting accuracy.

The Vortex Ring 'chute has less bulk and weight than an equivalent conventional parachute, and, when packed, can fit into a standard brief case. A standard 32-foot size weighs eight pounds with swivel.

The rate of descent of the parachute is about the same as that of conventional ones, although the new design utilizes 60% less cloth area. Ground injuries with the parachute are minimized because it collapses on the ground more readily than former parachutes.

Rotation of the four cloth blades creates a vortex ring of air around the tips, increasing drag area and, in effect, enlarging the parachute's size. The rate of spin is one revolution every two seconds. The corners of the blades are attached to nylon suspension lines drawn together at a swivel below the 'chute. The swivel has a point of attachment for cargo, personnel, missiles or aircraft.

Science News Letter, December 13, 1958

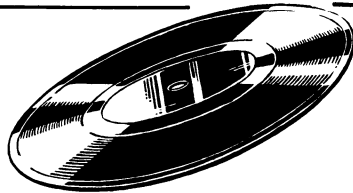
## Questions

**ASTRONOMY**—How could the "leaky bucket" theory explain the existence of auroral lights? p. 371.

**BIOLOGY**—How long does ferritin synthesis take? p. 377.

**PHYSICS**—What are two problems involved in supporting the theory that organized irregularity is the key to the structure of liquids? p. 375.

Photographs: Cover, Pioneer Parachute Company; p. 371, State University of Iowa; p. 373, American-Swedish News Exchange; p. 378, International Geophysical Year; p. 384, Edwin Jay Inc.



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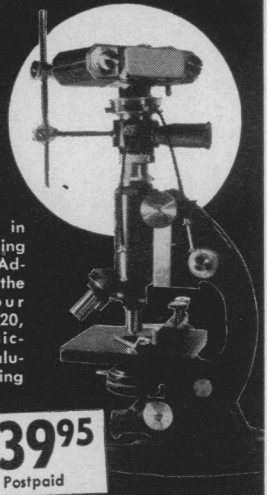
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