

Patents of the Week

The Arcas weather rocket is improved by a coating for its solid fuel that restricts burning, increases structural strength and provides further insulation—By Ann Ewing

➤ AN IMPROVEMENT to the Arcas weather rocket and other solid-propelled military missiles was granted a patent.

The Arcas, a high-altitude research vehicle, is four and a half inches in diameter, weighs about 80 pounds and can carry a 12-pound payload to an altitude of 40 miles. It has been used around the world to explore the upper atmosphere for U.S. military services and the National Aeronautics and Space Administration.

Arcas rockets are also being widely used from many countries to take atmosphere soundings during the International Years of the Quiet Sun, or IQSY, which will last until December 1965. They have also been launched from shipboard and from under water.

The Arcas, as well as the Archer and the Iris, was developed several years ago by Atlantic Research Corporation, Alexandria, Va. Now Drs. Myron G. De Fries and Alvist V. Rice have earned patent 3,144,830 for an improvement in the solid fuel used to propel Arcas and small military missiles, as well as attitude control rockets for missiles and satellites.

The improvement consists of coating the solid fuel with a thin layer of asbestos fibers on top of a base inhibitor coating. The base coating, reinforced with nylon fibers, provides structural strength as well as restricting burning. The second coating provides further high insulation. It is applied as a liquid and then the solvent is volatilized.

Drs. De Fries and Rice assigned patent rights to Atlantic Research Corporation.

Propeller Blade Control

The man who developed the device so sensitive it can detect the first tiny pulsation of an embryonic bird's heart was awarded patent 3,144,999 for a system to control the load on a propeller blade.

Vernon L. Rogallo of the National Aeronautics and Space Administration's Ames Research Center, Moffett Field, Calif., assigned patent rights to NASA. He is the brother of Francis M. Rogallo, who, with his wife, developed the Rogallo wing.

Vernon Rogallo's invention consists of directing a stream of air against the flow down through a propeller by a nozzle system, increasing thrust and decreasing drag at low speeds.

Hydraulic Automatic Gun

A gun that fires automatically a little slower than once every second and a half earned patent 3,144,809 nearly 12 years after patent application was made.

Rights to the invention were assigned to the Government through the Secretary of the Navy. The loading and firing of the gun, of caliber five inches or greater, is not only automatic but mainly hydraulically

controlled. Only the placement of projectiles and powder cases into the loader is done manually.

The breech block operating mechanism was developed by Philias H. Girouard of Washington, D.C., the late Carl V. Hickman of Kensington, Md., Thomas C. Collier of Portsmouth, N.H., and Garold A. Kane, John I. Nelson, Milton C. Neuman and Harrison Randolph, all of Minneapolis, Minn.

Other Interesting Patents

Three methods of making a shortening product, one of which is now commercially available to bakers as Nutex. Norman Bratton Howard of the Miami Valley Laboratories of Procter & Gamble Company, Cincinnati, Ohio, assigned rights to patents 3,145,107 through 3,145,109 to Procter & Gamble.

A superconducting electric switch for which Henry L. Laquer of Espanola, N. Mex., was awarded patent 3,145,284. He assigned rights to the Government through the Atomic Energy Commission.

A calculator for telling the amount of space any particular style of type will take. Anthony J. Evangelista, Boston, assigned rights to patent 3,144,990 to Boston Herald-Traveler Corporation.

A lightweight airfoil that has a high strength-to-weight ratio and is capable of withstanding aerodynamic heating at supersonic speeds, for which William L. Mackie of Ventura, Calif., earned patent 3,145,000. He assigned rights to the Government through the Secretary of the Navy.

The addition of dry clay at the stage called "chill-proofing" during the production of beer. George F. Goerl of Orinda, Calif., assigned rights to patent 3,145,106 to American Tansul Company. San Francisco.

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