

INVENTION

Patents of the Week

Part of a missile launch system that provides blast doors to protect personnel and equipment from spray and fumes during take-off earned a U.S. patent.

► PART OF A SYSTEM for launching surface-to-air guided missiles against approaching enemy missiles or aircraft received U.S. patent 3,095,780 from the U.S. Patent Office.

The invention provides for blast doors that protect personnel and equipment from sea spray, gases and fumes during take-off. It also covers an arrangement for feeding weapons to a twin missile launcher on the aft deck of the cruiser, carrier or destroyer.

Developed by Myron J. Bauer of St. Paul, Minn., and Richard C. Wilson of Champlin, Minn., the automatic missile handling and launching system is located above deck, with storage space for 30 missiles and attached boosters. The missiles are held in steel trays, protecting them from ship vibrations and are carried by automatic rail to the blast doors.

The blast doors open, and a span-track arrangement automatically feeds two missiles at a time into the twin launchers. The system can also be adapted for use on land.

Rights were assigned to the Navy, and the entire launching system, including the span track and blast doors, is now in use on three cruisers. The system was originally developed for use on older cruisers which were not built to carry missiles.

New Freeze-Drying Process

An apparatus for freeze-drying blood, food and other materials at atmospheric pressure earned U.S. patent 3,096,163 for Harold T. Meryman of Sandy Spring, Md., who assigned rights to the Secretary of the Navy.

Frozen granules of the material are placed in a pressure chamber, where a drying gas changes the ice crystals directly to water vapor without liquefying the material. The gas flows through the frozen granules, which are never shielded from the source of heat as in conventional freeze-drying methods.

This improved freeze-drying process will dry a wide variety of materials, such as blood plasma and its components, and food-stuffs including milk, juices, soups, coffee extract, meats and vegetables.

Dispensing Apparatus

A dispensing device that will eject radar chaff and other objects from airborne rockets received patent 3,095,814.

Developed by Tor W. Jansen of Southampton and William B. Walker of Hatboro, Pa., the apparatus provides a radar target by automatically dispensing reflecting particles or chaff along the missile's flight path as an anti-radar measure. The chaff creates target confusion. It can also be used to

determine the flight path, wind velocity and air density as it drifts.

Fish Scaler and Cleaner

A fish scaler and cleaner device that trails in the water behind the boat and automatically scales and cleans the fish by the time the fishermen reach shore, for which Harvey J. Wier Sr. of Opelousas, La., received patent 3,095,601.

The fish are slit open along their stomachs and placed in a hollow, cylindrical mesh drum behind the boat. The drum rotates by the force of the prop wash from the propeller and the resistance of the water against the mesh drum. Sharp projections inside the container remove scales as the fish are thrown against them, and the vacuum created by the prop wash removes the inside.

Other Significant Patents

Patents also included:

A method for testing students via television. The student's answer to an examination question is flashed to the teacher from any remote location and the correct answer is flashed immediately back to the student. Robert E. Corrigan of Garden Grove, Calif., received patent 3,095,653 and assigned patent rights to Corrigan Communications, Inc.

A floating, electric thermostatic heater for use in a livestock watering tank, for which Maurice H. Keating and John J. Kubinski of Rockford, Ill., earned patent 3,096,425. The heater maintains a drinking water temperature of 45 to 48 degrees Fahrenheit during the winter months and prevents the water from freezing in the tank.

A device for launching water skiers which reclines the skier at a 45-degree angle from the water and holds his skis in the proper position for a successful start when he is jerked forward by the boat. William O. Dawson of Exeter and Roland K. Fraser of Amherst, N. H., earned patent 3,095,845.

• Science News Letter, 84:45 July 20, 1963

Answers to the problem of turbulence could greatly improve the design of airplanes, submarines, pipelines and other fluid-carrying structures.

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TECHNOLOGY

New Device Now Uncaps Honeycombs

► A MACHINE is now doing a bear's work—decapping honeycombs at the rate of 20 per minute.

As all bears and some men know, wax of a honeycomb should be removed before savoring the sweet golden essence. This wax is made by the industrious bees to cover and protect each hexagonal cell of honey in the comb. Some bears are not too fussy about removing the wax, but men have invented one tool after another to help with the sticky job.

Latest machine has a pair of heated, aluminum rollers with teeth that punch holes in the wax capping when the honeycombs are passed between the rollers.

After the comb has been uncapped, either a second pair of rollers or a set of metal fingers roughens the wax surface so the bees can fill the comb again with honey, stated C. D. Owens, inventor of the machine, working at the Arizona Agricultural Experiment Station at Tucson, part of the U.S. Department of Agriculture.

Because the frames surrounding the honeycombs are usually made of wood, moisture sometimes causes them to swell and jam the uncapping machine. Mr. Owens is developing a plastic frame to overcome this problem.

• Science News Letter, 84:45 July 20, 1963



With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

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