

INVENTION

Patents of the Week

A new underwater camera that moves mechanically to film successive adjacent fields makes it possible to photograph panoramic views of the sea—By Ann Ewing

► A NEW TOOL for uncovering the food and mineral resources of the oceans, an underwater camera that will give a panoramic view of the sea, has earned a patent from the U.S. Patent Office.

A prototype of the camera is now being built for testing by the U.S. Navy within the next three or four months. However, the optical system, which is the key part, has been shown to work successfully.

The panoramic camera for underwater photography was developed by Gomer T. McNeil of Bethesda, Md., who assigned rights to patent 3,141,397 to Photogrammetry, Inc., Rockville, Md.

The panoramic view is obtained by taking a picture of a limited field, about 30 degrees as an example, then moving the lens and film system mechanically to view the adjacent 30-degree field. In this way a full circle, or any part of it, can be photographed as desired.

Basic Hydrofoil Patent

One of the basic patents for the hydrofoil craft that skim over water was granted to Dr. Vannevar Bush of Belmont, Mass., retired president of Carnegie Institution of Washington, Paul A. Scherer of Bowie, Md., and Dr. Rudolf X. Meyer of Pacific Palisades, Calif.

Dr. Bush, who headed this nation's scientific program during World War II, started the investigation because he became curious about how to build a sailboat. The patent just granted, 3,141,437, is considered a "grandfather" to others that have been issued in recent years.

Early in this century, patents were granted for types of hydrofoil vehicles, including one to Dr. Alexander Graham Bell, who invented the telephone.

The hydrofoil patented by the three scientists is of the "constant lift" type and gives a very stable ride. In effect, the boat rides on a set of scales.

An improved version of this hydrofoil, on which patents are pending, is now under construction, with tests planned for early in 1965. Drs. Bush and Meyer assigned their patent rights to Mr. Scherer.

Machine Tool for Making Statues

A tool for making large statues from a smaller model or for other operations requiring a long reach for a cutting tool earned patent 3,141,378 for Jacob Rabinow of Bethesda, Md. He assigned rights to Control Data Corporation, Minneapolis.

Mr. Rabinow eliminates the weight of the tool support and of the tool holder itself by submerging either the machine tool or at least its arm in water. This also reduces

vibrations and keeps the temperature of the machine and its product constant.

Mathematicians' Work Practical

Usually the work of mathematicians is so general that there are no specific applications. However, the Patent Office issued patent 3,141,826 to Drs. Kurt O. Friedrichs and Harold Grad of New York University for their method of confining a plasma.

Their mathematical calculations enabled them to suggest some shapes that could be tested in laboratory experiments aimed at controlling the fiery energies of thermonuclear reactions for peaceful purposes. A plasma is the exceedingly hot gas in which these reactions occur.

Drs. Friedrichs and Grad suggested using what is called "cusp geometry" in shaping the magnetic fields that confine the plasma. Scientists at Los Alamos Scientific Laboratory have conducted successful experiments using ideas related to this patent, rights to which were assigned to the U.S. Atomic Energy Commission.

Other Patents of Interest

A method for producing porous tungsten particles that will allow cesium vapor to pass through and at the same time ionize the cesium to produce power for rocket engines. Neal T. Saunders of Olmstead Falls, Ohio, assigned rights to patent 3,141,769 to the Government through the National Aeronautics and Space Administration.

An aquarium raft for turtles molded from lightweight plastic, for which Arthur Harris of New York City earned patent 3,141,442.

• Science News Letter, 86:93 August 8, 1964

SPACE TECHNOLOGY

Air Cushion Makes Riders Weightless

► A GIANT STOOL that walks on air will soon help bring the weightlessness of outer space down to earth.

The stool is held slightly off the floor by compressed air tubes inside each leg that make movement almost friction-free. An "astronaut" will ride the stool in a special cradle that also floats on a film of air. The cradle will allow the rider to tumble in any direction.

The stool will be used to study problems arising in free fall when moving men and supplies between vehicles, doing maintenance and repair work, and using tether lines between men and spacecraft. The device is being built for General Dynamics Corporation, San Diego.

• Science News Letter, 86:93 August 8, 1964

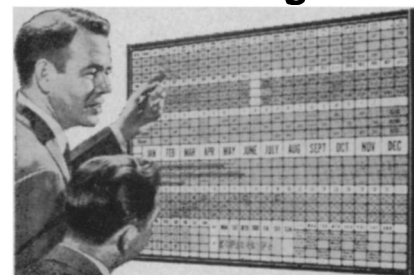
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