

# Patents of the Week

A device which allows a space satellite to choose and maintain its own course in outer space by tracking the stars with no human help received a patent.

► A SUN TRACKER that enables a satellite to set its own course by the stars, much in the same way a sea captain uses a sextant to guide his ship, received a U.S. patent.

The solar telescope may be part of the new Mobile Medium Range Ballistic Missile (MMRBM) program, which will include a stellar inertial guidance system. By tracking the sun or a star, the satellite corrects any mistakes in its course.

Previous guidance systems have tracked the missile's course from the ground by radar and then radioed corrections. However, if radio antennas on earth were wiped out by enemy attack, the missile would have no way of correcting its own course.

The sun tracker, granted patent 3,098,934, was assigned to General Precision, Inc., in Little Falls, N. J., which has charge of the guidance system for the MMRBM program.

Although much of the information on the sun tracker is secret, the device is known to have undergone extensive testing and is believed to be part of this MMRBM program.

One of the key features of this patent is a flashing neon light arrangement to re-align or center the sun or star with the tracking telescope. The light keeps the photo cells equal at all times.

This was one of the major problems in building the sun tracker, since photo cells tend to change their electrical output in response to outer space effects.

The device was invented by Donald K. Wilson of North Caldwell, N. J., and Robert L. Willes of Glen Rock, N. J.

## Assist Submarine Detection

To help track submarines by relaying ocean information to planes, a system called a "sonobuoy-bathythermograph" received U.S. patent 3,098,993.

Invented by Jesse J. Coop of Willow Grove, Pa., and assigned to the U.S. Navy, the device relays such factors as depth, vertical temperature and pressure back to the airplane. In the same way that light splits as it penetrates water, an anti-submarine airplane must know how a sonar wave will deflect as the sound wave enters the water to search for submarine.

The patent includes both a separate sonobuoy and bathythermograph. In earlier such models, the bathythermograph or deep sea thermometer was lowered by a cable from the sound buoy after the whole apparatus was dropped from an airplane or ship.

In the newly patented device, the two are dropped separately. The battery of the bathythermograph is activated by sea water, which causes the chambers of the thermometer to open, flood and descend at a constant rate to the sea floor. The thermometer rapidly transmits sound waves as it sinks to the ocean floor, indicating depth

and temperature factors to the underwater hydrophone transmitter dangling from the sonobuoy. This in turn relays data to the airplane.

## Other Significant Patents

Other patents include:

A snowplow, to be attached to the bumper of automobiles, that automatically frees itself when it encounters obstructions while moving snow, granted U.S. patent 3,098,309. The plow was invented by John E. Koch of Minneapolis.

To enable cattle to curry themselves and apply their own insecticides, a cattle scratcher and oiler. It was invented by Leslie D. O'Donnell, Benkelman, Nebr., who received patent 3,098,466.

A device for removing the wear and tear on golf balls caused by grass, sand, bark and other foreign matter. Victor J. Sundquist of Detroit earned patent 3,098,252 for a portable sphere consisting of two spongelined cups fitting the golf ball snugly and applying a liquid that does not seep through to the golfer's hands.

A fluorescent gunsight for twilight hunters, for which Leonard N. Plisk of Hilton, N. Y., earned patent 3,098,303. Patent rights to the luminous directional sighting means, which fits easily on gun barrels, was assigned to Bausch and Lomb, Inc. of Rochester, N. Y.

Remotely controlled kitchen cooking utensils with built-in heaters that can be immersed in water. Patent rights to 3,098,918 were assigned to Sunbeam Corporation, Chicago. The utensils were invented by Ludvik J. Koci, Hinsdale, Ill.; Robert D. Andersen, Elmhurst, Ill., and Ivar Jepson of Oak Park, Ill.

• Science News Letter, 84:95 Aug. 10, 1963

## Do You Know?

Chemists have isolated the elementary molecular unit responsible for the *oxidation* of foods and manufacture of the molecular "storage batteries" known as ATP.

*Fishermen* can guard against hook accidents by shielding the hook with a small cork.

Peripheral *vision*, the ability to see objects approaching from the side, is substantially affected by age.

Painting pavements with reflectorizing material definitely helps *motorists* detect exit ramps on freeways.

• Science News Letter, 84:95 Aug. 10, 1963

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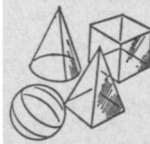
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