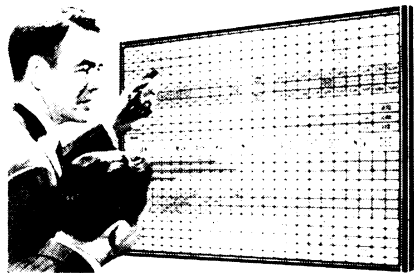


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## INVENTION

# Patents of the Week

A "sea sled" that will be used as a moving platform for taking sharp underwater films has earned a patent for French undersea photographer Jacques Cousteau.

► THE FRENCH undersea photographer, Jacques Yves Cousteau, earned patent 3,082,731 for an underwater "sea sled."

Mr. Cousteau expects to use the sled as a platform from which to make undersea films that will be sharper in quality than any he has taken before.

The towed vehicle is pulled along the bottom at an angle to one side. The underwater vehicle is made of curved sheet metal, strongly built so that the photographic equipment and the sled itself are not damaged if the sled happens to turn over when being pulled along the bottom. A viewing window built into the front of the sled contains a liquid-tight box with the photographic equipment.

### Nuclear Reactor Simulator

A nuclear reactor simulator designed primarily for educational purposes and for low cost gained patent 3,082,546 for Frederic Charles Gerard van Baerle, The Hague, Netherlands.

In order to picture how the reactor works, the invention has a transistor in a circuit with small heat stability. The transistor is so exposed to the heat of an adjustable heat source that its output is shown on a meter. The entire emphasis is upon illustrating what takes place in a reactor.

The invention is based upon the concept that the behavior of a transistor in a heat-unstable circuit bears a marked similarity to the behavior of a nuclear reactor.

### Undersea or Surface Craft

A unique craft that can operate either 20 feet below the surface or above the surface as a hydrofoil boat has earned patent 3,082,975 for Dick Cardwell and Adolph F. Von Soden, San Diego, Calif.

The vessel can carry cargo or passengers. It utilizes stabilizers and hydrofoils to lift the hull out of water.

The hull is elongated and tapers toward the end. The fuselage is composed of a pair of wings, extended to the side and retractable, that can be used for either surface or underwater operations. Portholes along either side allow visual observation during surface or underwater operations.

### Other Patents

Other U. S. patents granted include:

A boat storage hangar suspending boats in cradle-like slings, one atop another, which gained patent 3,082,887 for Hugh Brooks, Alhambra, Calif.

An automatic tilting dump truck stabilizer that shifts the center of support to the rear and stabilizes the truck's body, which earned patent 3,083,059 for Fred Bisantz, Galion, Ohio, who assigned rights to the Hercules Galion Products Inc. of Delaware.

A folding rocking chair that can be compressed into a very small space, for

which Benjamin K. Milbourne, San Jose, Calif., gained patent 3,083,051.

A traffic speed computer that offers a way of determining the speed variations of cars going in one direction past a sampling point, which earned patent 3,082,949 for John L. Barker, Norwalk, Conn.

• Science News Letter, 83:238 April 13, 1963

## TECHNOLOGY

### Electrical Model Tests How Human Ears Hear

► AN ELECTRICAL MODEL of the human ear is helping scientists determine how human ears hear.

Tests so far support the theory that each tone received by the ear causes two waves to travel along the membrane of the cochlea at different speeds. The ear is so sensitive it can detect the difference between a tone of 1,000 cycles per second and another of 1,003 cycles per second.

The cochlea transforms sound waves into nerve responses. It is believed to contain approximately 30,000 miniature antennas. When one wave catches up with the other along the cochlea membrane, the two waves combine, the tests showed.

This step toward understanding the sensitivity of the human ear was reported to the Air Force's Bionics Symposium in Dayton, Ohio, by Dr. Lucio M. Vallese and Louis A. deRosa of International Telephone and Telegraph Corporation.

• Science News Letter, 83:238 April 13, 1963

## ENGINEERING

### Technique for Doubling Wireless Power Reported

► THE EFFICIENCY of microwave energy has been more than doubled by a new technique, developed by two professors, for converting it into electric power at the receiving end.

Prof. R. H. George and E. M. Sabbagh of Purdue University, Lafayette, Ind., have been able to convert 70% of the wireless power, received through space, into direct-current electricity, an improvement over their previously attained 60% efficiency and approaching the ultimate of over 90% which they envision. The highest efficiency achieved up to now by other researchers in this field has been less than 30%.

The Purdue achievement could be important in future space exploration as a method of insuring that large amounts of useful power could be transmitted to spaceships in flight and to colonies on the moon.

• Science News Letter, 83:238 April 13, 1963

*Planktonic Foraminifera* are minute marine animals whose skeletal remains cover about 40% of the world's ocean floors.