

## INVENTION

# Patents of the Week

**A simple cheat-proof teaching machine to be sold at book prices and invented by the president of the New York Institute of Technology was granted a patent.**

► A CHEAT-PROOF teaching machine that is intended to be distributed nationwide at a price competitive with books won a patent.

The device was invented by Dr. Alexander Schure, a 41-year-old physicist who is president of New York Institute of Technology in New York.

The planned low price for the teaching machine, Dr. Schure told SCIENCE SERVICE, is to make sure "no penalty" is attached to this modern, fast-growing method of classroom study.

A teaching machine presents a question or other stimulus to a student, provides a way for response and then informs the student of the correctness of his response immediately thereafter.

In the patented machine the student is prevented from cheating since his answer to a question must be written on a response sheet, of which a copy is made at the same time, before the correct response can be rolled into view.

The device developed by Dr. Schure is simple and therefore inexpensive to make by mass-production techniques. It can be made from paper, plastic, cardboard, or other inexpensive material. Dr. Schure, who lives in Bell Harbor, N. Y., assigned rights to patent 3,046,675 to Educational Aids Publishing Corporation, Carle Place, Long Island N. Y., which will distribute the teaching machine.

Teaching machines have made a dramatic impact upon the educational process and promise to greatly increase the efficiency of teaching.

## Atomic Reactors on Shipboard

A method of ensuring safety of atomic reactors powering nuclear ships won patent 3,047,485 for Cecil B. Ellis of White Plains, N. Y., who assigned rights to the Foster Wheeler Corporation, New York.

Ship collisions, groundings, fires, explosions or other emergencies could cause a blow-up of nuclear reactors, spreading dangerous radiation. To prevent this, Mr. Ellis devised a system for immediately flooding the reactor with sea water in case of any disaster.

## Device for Circulating Blood

A device for circulating blood in an emergency when a person's heart cannot do the job won patent 3,046,903 for George W. Jones of Winchester, Va.

Mr. Jones told SCIENCE SERVICE that he is now working to perfect the device, use of which, when it becomes available, will be free to the public. The portable apparatus

can be operated by hand or mechanical power.

Its aim is to maintain the oxygen system in humans by simulating the heart's pulsating action. An elastic bag, such as those used for storage and shipment of small quantities of blood, is used as the pump. Hormones, drugs or other chemicals can be added to the circulating blood as required.

## Other Significant Patents

Other interesting patents include:

A method of trapping the magnetic field energy of a pinched plasma, one of the ways being investigated to tap the hydrogen-bomb's fusion reactions for peaceful purposes. Patent 3,047,480 to Ralph H. Lovberg and Louis C. Burkhardt of Los Alamos, N. Mex., who assigned rights to the Government through the Atomic Energy Commission.

A photographic process in which the developing fluid is spread between two sheets of paper to form a direct print in a short time. Patent 3,047,387 to Edwin H. Land of Cambridge, Mass., who assigned rights to Polaroid Corporation, also of Cambridge.

A way for stabilizing a package containing maps or photos so that they remain horizontal while dropping to the ground from a low-flying airplane. Patent 3,047,260 to Harold S. Jones of Framingham, Mass.,

## MEDICINE

# Doctors Are Reading

## Arteriosclerosis Treatment

► MODIFYING the type and amount of fat in the diet as an experimental means of treating hardening of the arteries now has approval from the American Medical Association's Council on Foods and Nutrition.

Reduction of high concentrations of cholesterol and other fats in the blood is recommended to physicians as a guide to their treatment of patients. This is the first official AMA statement on the cholesterol question and culminates more than three years of consideration.

Studies have established, at least in experimental conditions, that substitution of polyunsaturated vegetable oils for animal fats and saturated vegetable fats in the diet of man resulted in a reduction of blood cholesterol, the report in the Journal of the American Medical Association, 181:411, 1962, said.

Alteration of dietary fat is usually not

who assigned rights to the Government through the Secretary of the Army.

A hydrofoil vehicle stabilized by means of a depth control for the hydrofoil, in order to provide a smooth ride even in a rough sea. Patent 3,046,927 to Reinhard N. Lahde of Tarzana, Calif., who assigned rights to Lockheed Aircraft Corporation, Burbank, Calif.

A foldable stairway for airplanes, also assigned to Lockheed by Edward S. Cruz of Van Nuys, Calif. The stairway, awarded patent 3,047,093, is designed to be carried aboard the plane, instead of being wheeled up to the door after landing.

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## CHEMISTRY

# Rare "Creature" of Atomic World Made

► A RARE "creature" of the atomic world, radioactive rhenium-189, has been made for the first time.

Studies of the nucleus, or core, of rhenium-189 are expected to help scientists decide between two theories on how nuclei vibrate and rotate. The radioactive isotope was made by Dr. Bernd Crasemann of the University of Oregon, Eugene, using a cyclotron at Brookhaven National Laboratory on Long Island.

Rhenium-189 is rare because it has an uneven number of protons and neutrons and is in the so-called "transition region," where nuclei change from being odd-shaped to being round and smooth.

Because this transition is sudden, physicists believe that knowledge of nuclear structure of atoms in this region should help in understanding atomic structure.

Rhenium is a heavy, silver-white metal, one of the "rare earths," with a melting point of 3,100 degrees centigrade.

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necessary in the treatment of obesity on the basis of current scientific evidence, the council reported. The basic cause of obesity is an intake of calories in excess of what the body needs. Treatment consists of reducing total caloric intake.

## Doctors Are Also Reading—

Fluids administered to severely burned patients have to be varied according to the individual patient's needs—Drs. Irving Feller and M. S. DeWeese, Ann Arbor, Mich. (p. 361).

More young physicians should be trained to become general practitioners or family doctors—Dr. Kurt W. Deuschle, Lexington, Ky. (p. 389).

A man remained conscious for 35 minutes during the time his heart was massaged externally to restart its beating—Dr. George M. Bernier, University Hospitals, Cleveland, Ohio (p. 446).

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