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## INVENTION

# Patents of the Week

A nuclear reactor that uses inexpensive pellets for fuel, a new type of plasma accelerator and an automatic computing pilot system were among patents awarded.

➤ A NUCLEAR REACTOR that uses inexpensive pellets for fuel was awarded a patent.

The reactor controls fission by forcing a moderating fluid up through a bed of simple, inexpensively constructed fuel pellets.

Other types, such as solid-fuel reactors, are either too complex or too expensive, the patent claimed.

The new reactor relies on the flow of the moderating fluid to actually raise and separate the fuel pellets, with the amount of separation controlled by the degree of fluid flow.

Charles M. Slack of Upper Montclair, N. J., and Walter G. Roman, Pittsburgh, Pa., assigned rights to patent 3,058,897 to Westinghouse Electric Corporation.

## Plasma Accelerator

A new type of plasma accelerator, based on a magnetic wave moving through a series of coils, won patent 3,059,149 for Winfield W. Salisbury of Palo Alto, Calif., who assigned rights to the Zenith Radio Corporation.

The new system consists of a vacuum tube wrapped by a series of magnetic coils. The energizing of the coils is timed in such a way that a magnetic wave is created, moving along the path of the tube and accelerating the plasma.

The method can achieve greater density than before because it does not require the single polarity of previous techniques and therefore, is not subject to interference from atmospheric charges.

## Automatic Pilots

Fighter airplanes can perform any maneuver automatically as a result of an automatic computing pilot system patented by Everett R. Tribken of Garden City, N. Y. Rights of patent 3,058,697 were awarded to Sperry Rand Corporation.

In the system, an electronic computer continuously compares the present position of the aircraft to its position when the autopilot was set, rather than to the earth below.

## Inactivation of Microorganisms

A method to inactivate microorganisms by electrolysis won patent 3,058,894 for Jules V. Hallum, of Pittsburgh, who assigned rights to Columbian Carbon Company, New York.

Disease-causing creatures or particles are made ineffective as disease agents, while still maintaining their immunizing, antigenic properties. The system can be used

on bacteria, though it has been found to be especially effective on viruses.

## A Better Mousetrap

A better mousetrap having a self-contained, long-lasting replaceable lure and a hair-trigger mechanism has been built. Patent 3,058,256 was granted to Spencer C. Wernham and James C. Hendricks, of Marengo, Ill., who assigned rights to McGill Metal Products Company, also of Marengo.

## Other Significant Patents

A rocket engine steering system capable of controlling pitch and yaw with only one main thrust nozzle won patent 3,058,304. Marshall James Corbett of Cleveland, Ohio, assigned rights to Thompson Ramo Wooldridge, Inc., also of Cleveland.

A method of causing controlled fractures in earth formations by drilling holes in the plane of the desired fracture received patent 3,056,521 for inventor Bruce Gilbert, Dallas, Texas, who assigned rights to The Western Company of North America.

A disposable incubator with reusable hardware, designed for animals such as pigs and sheep, was granted patent 3,058,446. Fleming D. Long, of Monmouth, Ill., assigned rights to the patent to the Container Corporation of America, Chicago.

A print recording device in which the record medium is continuously moving, thereby enabling the recording of several lines at once, won patent 3,058,415 for Walter Hoffmann of Adliswil, Zurich, Switzerland. He assigned rights to the International Business Machines Corporation of New York.

• Science News Letter, 82:294 November 3, 1962

## Do You Know?

*Erosion* on the earth's surface can be expected to accelerate if the surface area of the oceans decreases to expose an ever-increasing continental surface to the destructive geological processes.

The Mercury spacecraft were made largely of *titanium*, to withstand temperatures ranging from extreme cold to a high of over 1,000 degrees Fahrenheit.

The horned toad is not a toad, but a *lizard*, which gives birth to living young.

The first *gas light* in the White House was turned on in 1848, during the administration of President James K. Polk.

• Science News Letter, 82:294 November 3, 1962