

INVENTION

Patents of the Week

The bell-shaped Mercury capsule that successfully protected six astronauts in space in Project Mercury, now terminated, has been awarded a patent.

► THE MERCURY space capsule that successfully protected six astronauts in space officially received U.S. patent 3,093,346 from the U.S. Patent Office as the Project Mercury itself was terminated.

In the Mercury space project, two men were placed in suborbital flight and four in orbit. The only major mishap occurred when the space capsule was not recovered after Virgil Grissom's suborbital flight.

The seven inventors of the capsule received the National Aeronautics and Space Administration's Inventions and Contributions Award of \$4,200 last December, and several received awards for the survival couch, the escape device and the parachute ejection system.

The bell-shaped capsule consists of an air-tight, man-sized compartment protected by a heat shield at its base. The patent includes an attitude control unit that places the capsule in orbit automatically and a manual control panel by which the astronaut can direct his course.

Inventors of the space capsule are Maxime A. Faget, Andre J. Meyer Jr., Jerome B. Hammack and Caldwell C. Johnson Jr., all of Newport News, Va.; Robert G. Chilton of Seaford, Va., and Willard S. Blanchard Jr. and Alan B. Kehlet of Hampton, Va. Rights are assigned to NASA.

Satellite Motion Simulator

A device that simulates the motions of a space vehicle earned patent 3,092,918 for Walter Haeussermann and Adolf L. Herrmann of Huntsville, Ala., who assigned rights to the Secretary of the Army.

The device has a wide range of motion to simulate the disturbing effects of outer space on a satellite and its instruments. Its mounted support is designed to maintain stable positions against the motion of roll, pitch and yaw.

The satellite motion simulator will be used in the laboratory to test motions of attitude-controlled space vehicles.

Bowling Scorekeeping Machine

An automatic bowling scorekeeping machine received patent 3,093,374 from the U.S. Patent Office.

Invented by Jack L. Rothberg and Alton R. Melcher of Hayward, Calif., the machine automatically computes and displays a running total of the scores made by one or more players. It includes both the basic scores made for each ball and the extra scores won by strikes and spares.

The machine may also be adapted for use in pairs when two teams of bowlers are alternating each frame on two different bowling lanes. The two machines are connected by a lane transfer means for this

purpose. Patent rights are assigned to Scoremaster, Inc.

Other Significant Patents

Patents also include:

An expendable ammonia noisemaker that generates underwater sounds and is also useful as a countermeasure against underwater torpedoes and mines, for which Joseph A. Grand and Roman R. Miller of the Naval Research Laboratory in Washington, D.C., were awarded patent 3,093,107.

A walking robot, for which Salvatore Girami of Flushing, N.Y., received patent 3,093,372. It holds one or two people and is designed to be used as an amusement ride.

An improved hypodermic projectile used in hunting large animals or fish underwater, which earned patent 3,093,077 for Lucile B. Harris of Clearwater, Fla., and John A. Mease Jr. of Dunedin, Fla.

A new high-altitude balloon and an improved method of launching it earned patent 3,093,351 for Edward P. Ney, Rudolph B. Thorness and John R. Winckler of Minneapolis, Minn. The balloon can be launched vertically, in brisk winds and in less space than before. Rights are assigned to the Secretary of the Navy.

• Science News Letter, 83:409 June 29, 1963

CHEMISTRY

Official U-235 Amount in Natural Uranium Lower

► THE ATOMIC ENERGY Commission announced a reduction in the official value to be used for the amount of the scarce uranium isotope, U-235, in natural uranium.

U-235 is the naturally occurring fissionable isotope of uranium. Because of its readily fissionable nuclei, U-235 is used as basic fuel in most reactors now operating in this country.

On the basis of early experiments in the atomic energy program it was believed that U-235 constituted 0.7115 weight percent of the material in natural uranium, with the balance composed of an isotope of uranium known as U-238 and trace amounts of a third isotope of uranium called U-234. Later studies have shown the value for U-235 to be incorrect.

Beginning July 1, 1963, therefore, the official value for the U-235 content of natural uranium will be changed from 0.7115 weight percent to 0.711 weight percent unless the actual, measured value of the U-235 is known. No change has been made in the estimated trace amount of U-234 present in natural uranium.

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