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INVENTION

Current U.S. Patents

The flash of light from an ordinary photo flash bulb has been used to ignite the solid propellant in military rockets and guns with increased safety—By William McCann.

➤ A METHOD of firing rockets using the burst of light from a regular flash bulb was awarded a patent by the U.S. Patent Office.

The method, which was kept secret for more than 12 years, was invented in 1948 and has been licensed for use by the U.S. Navy.

Light from a photo flash bulb, sealed in a special glass container, is directed at a solid propellant in a rocket motor. The energy that is radiated ignites the propellant.

This method is safer than the use of explosive igniters such as black powder, which often presents hazards in handling, storing and assembling the motors, reported inventors Bernard Smith and Clarence E. Weinland, both of Inyokern, China Lake, Calif.

The novel method, developed at the Naval Ordnance Test Station, China Lake, has been used with both military rockets and guns and with meteorological sounding rockets. It earned patent 3,167,015.

Rocking Wheelchair

A wheelchair that rocks has been awarded a patent.

The rocking wheelchair has the advantage of giving an invalid some needed exercise, reported the inventor, Mrs. Louise A. Kiel of Newton, Iowa. In addition, the occupant can sit in the chair for a longer period of time without getting tired.

The chair, which earned patent 3,167,350, has a spring centering rocking mechanism connected between the seat and base of the chair. An invalid can thus rock to and fro with only a slight movement of body.

Nickel-Base Alloy

A nickel-base alloy that can hold heavy loads at temperatures hotter than 1800 degrees Fahrenheit may be used in building parts of future space vehicles.

The alloy, called Taz-8, has specific application in turbojet engine buckets, liquid propellant rocket motor parts, such as the turbo-pump, and various structural members of aerospace vehicles, reported inventors John C. Freche, Parma, Ohio, Thomas J. Riley, Lexington, Ky., and William J. Waters, Cleveland, Ohio.

The alloy, which contains from about two-thirds to three-fourths nickel, was developed at NASA's Lewis Research Center, Cleveland. It can be readily cast without elaborate casting facilities, the inventors report. In addition, it has good oxidation and impact resistance characteristics.

The invention earned patent 3,167,426 and patent rights were assigned to the U.S. Government through the National Aeronautics and Space Administration.

Disneyland Ride

A bobsled ride that has whizzed more than 15 million persons down the slopes of a man-made mountain in Disneyland has been awarded a patent.

The sleds are equipped with nylon wheels to simulate the sound of a bobsled on ice or snow.

The ride, which takes a little more than two minutes, is equipped with a series of boosters and brakes on the track to give the passengers an exciting but safe ride. The cars, built by Aero Development Company, Mountain View, Calif., were first put into operation in June, 1959.

Karl W. Bacon, Mountain View, and Edgar O. Morgan, Palo Alto, Calif., were awarded patent 3,167,024 for the ride. Patent rights were assigned to Walt Disney Productions, Burbank, Calif.

Pigeon-Like Convertiplane

An airplane that takes off and lands in the same way as a pigeon does has been designed by Shao-tang Lee of Taichung, China (Taiwan). A pigeon gathers its wings close to its body, then leaps into the air, after which the wings are spread and fluttered.

A pigeon lands by elevating its wings into a "V" shape to reduce the tendency to glide and to cause a quick descent. Just prior to landing the wings are fluttered in a forward direction to produce a braking effect and allow for a smooth landing.

Mr. Lee's convertiplane is designed to mechanically mimic such actions. It can leap vertically into the air, then stretch its wings for horizontal flight, and fold its wings and descend vertically in landing. The aircraft earned patent 3,165,280.

Other Interesting Patents

A reentry system that will control the path along which a space vehicle reenters the atmosphere, was invented by James M. Cooper, Schenectady, N.Y., and Joseph D. Welch, Troy, N.Y., and earned patent 3,164,338. Patent rights were assigned to the General Electric Company, Schenectady.

Vincent E. Lally of King of Prussia, Pa., and Charles F. Campen Jr., Wayland, Mass., were awarded patent 3,164,674 for a method of electronic transmission and reproduction of weather maps and charts. Rights were assigned to the Government through the Secretary of the Air Force.

For a list of registered patent attorneys and other Patent Office information, write the Commissioner of Patents, Washington, D.C. 20231, or call 202-967-4058 for specific information.

• Science News Letter, 87:110 February 13, 1965