INVENTION

Patents of the Week

Two methods for starting liquid-fuel rockets, a system for improving satellite communications and a device to enable blind persons to operate a switchboard were awarded patents.

➤ TWO METHODS for starting liquid-fuel rockets were awarded patents.

One system is designed to eliminate ignition when there is either too much or too little fuel in the combustion chamber. This is done by timing the ignition spark in accordance with the amount of fuel in the chamber.

Previous devices have triggered the ignition spark by some outside device that does not respond to the amount of fuel in the combustion chamber. The new system fires the spark only when there is a sufficient amount of fuel in a predetermined balance of fuel and oxidizer.

Clarence L. Leinweber, Fort Worth, Texas, and Howard E. Corbitt, Arcadia, Calif., assigned patent 3,057,149 to Aerojet-General Corporation, Azusa, Calif.

The other system earned patent 3,057,159 for Marcus C. Benedict of Glastonbury, Conn., who assigned rights to United Aircraft Corporation, East Hartford, Conn.

Mr. Benedict's device consists of an electrode at the center of two cylinders, one within the other. The gases to be ignited flow between the two cylinders and are mixed at the spark gap, and the igniting spark is set off there.

Satellites for Radio Relay

A system for improving satellite communications won patent 3,058,106 for Cassius C. Cutler, Gillette, N. J., who assigned rights to Bell Telephone Laboratories, Inc., New York City.

His method attempts to eliminate reception difficulties due to polarization when radio waves are transmitted to a satellite and then re-transmitted to a receiving station.

Mr. Cutler's system involves making the ground-based receiving and transmitting antennas point so that their radio waves are polarized in one plane with respect to the satellite.

Telephone Switchboard for Blind

Patent 3,057,965 is a simplified device to enable blind persons to operate private branch exchange telephone switchboards.

The device consists of a series of "identification pins" that can be felt by the operator to show the condition of the switchboard, such as recall, disconnect, trunk line, etc. Harry R. Banks and Charles Nickerson of Portland, Ore., assigned rights to the American Telephone and Telegraph Company, New York City.

Other Significant Patents

A test scoring, recording and teaching apparatus in which a person makes holes with an electric stylus won patent 3,057,082 for Arthur M. Wellington and James W. Bruce of State College, Pa., and Thomas C. Wellington of Boalsburg, Pa. They assigned rights to HRB-Singer, Inc., also of State College.

A sensory device that indicates to instruments atmospheric conditions likely to cause formation of ice was awarded patent 3,057,198. Alan John Crouchman of Enfield, England, assigned rights to Sangamo-Electric Company, Springfield, Ill.

A method of reducing the cholesterol level of the blood by using a compound of diiodobenzoic acid in tablet or capsule form won patent 3,057,777 for Earle M. Van Heyningen of Indianapolis, who assigned rights to Eli Lilly and Company, also of Indianapolis.

A method of protecting niobium and similar metals from surface oxidation was awarded patent 3,057,048. Emanuel C. Hirakis of East Haddam, Conn., assigned rights to Horizons Incorporated of Cleveland.

Fluorescent crayons won patent 3,057,806 for Joseph L. Switzer, Gates Mills, Ohio, who assigned rights to Switzer Brothers, Inc., of Cleveland.

A stamp and envelope moistener that prevents its self-contained water supply from evaporating received patent 3,056,999. Geoffrey Cheadle Myddelton, Henley-on-Thames, England, assigned rights to Carbonaire S. A., Vaud, Switzerland.

A fishing float that lowers the hook to a predetermined depth after it strikes the water won patent 3,057,107 for Roy A. Finnicum of Indianapolis.

Patent 3,057,061 was awarded to Paul H. Blackly of Fort Worth, Texas, for an attachment for an electric shaver that blows air on the face or body of the user, drying and cooling the area near the shaver.

• Science News Letter, 82:270 October 27, 1962

MILITARY SCIENCE

Huge Antennas Being Erected In England

See Front Cover

➤ THREE ANTENNAS to be used in the U.S. Air Force's Ballistic Missile Early Warning System are being erected at Fylingdales Moor, England.

The 84-foot diameter antenna seen on this week's front cover is being checked out by engineers of Goodyear Aircraft Corporation, Akron, Ohio. It is one of the three antennas designed and built by Goodyear for the Radio Corporation of America.

The antennas will be protected from weather by 140-foot-diameter spherical radomes capable of withstanding winds up to 130 miles an hour. The radomes also are made by Goodyear Aircraft.

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