

## INVENTION

# Patents of the Week

Two methods to keep communications satellites in the proper position, a device to reduce air pollution and a seepage-proof candle holder were awarded patents.

► **TWO METHODS** for keeping earth satellites such as Telstar in the proper position for relaying television and other communications from one continent to another were granted patents by the U.S. Patent Office.

The methods can be used for active satellites, such as Telstar, which receive an incoming radio wave amplify it and then send it on earthward, or for satellites such as Echo I from which radio waves are bounced. To make sure that the radio antenna is pointed in the proper direction, both methods use the earth's magnetic field.

Patents 3,048,350 and 3,048,351 were assigned to Bell Telephone Laboratories, New York, by Cassius C. Cutler and Paul L. Donoho, respectively. For both methods, instruments on the satellite measure the earth's magnetic field, then produce an electric current that varies in frequency with the angular velocity of the satellite in orbit and with the spin velocity of the satellite about the chosen spin axis.

## Air Pollution Reducing Device

A device to reduce air pollution by cutting down on fuel that evaporates from the carburetor float bowl won patent 3,048,157 for James B. Gregory, Charles C. Moore and Howard D. Emerson of Fullerton, Calif., who assigned rights to Union Oil Company of California, Los Angeles.

The float bowl of a conventional carburetor would be provided with a fuel drain line that returns the fuel to the gasoline tank as soon as the engine is stopped. This prevents the gasoline from evaporating due to high temperatures that last from 20 to 40 minutes after an automobile engine is turned off.

## Other Significant Patents

Other interesting patents include:

An improved device for grafting together two blood vessels or other canals of the body after they have been severed. Patent 3,048,177 to Timothy Takaro of Ashville, N. C., who assigned rights to the Government through the Secretary of the Army.

A fragile nose cone for a rocket, bomb or missile, which is designed to enter water and sink to a predetermined depth before exploding. Patent 3,048,110 to Stanley E. West of Silver Spring, Md., who assigned rights to the Government through the Secretary of the Navy.

A contact system for battery-operated electric wrist watches that gives a relatively constant contact pressure and will maintain its initial adjustment. Patent 3,048,004 to the late Harry S. Detwiler of Lancaster County, Pa. Rights were assigned to the Hamilton Watch Co., of Lancaster, Pa.

Equipment for producing a stereophonic effect without having to use as many parts as usual, by changing a portion of the radio waves into reverberative signals, then supplying both the original, unmodified signal and the reverberated signal simultaneously to a loudspeaker or earphones. Patent 3,048,072 to John M. Hanert of Des Plaines, Ill., who assigned rights to Hammond Organ Company, Chicago.

A wing assembly for rockets that gives high strength, yet can be rapidly put together and easily disassembled as needed, Patent 3,048,109 to John R. Feemster of China Lake, Calif., who assigned rights to the Government through the Secretary of the Navy.

A method of producing an electric cable that can be extended by having the electrical conductor in a sheath surrounding a stretchable core. The late Michael L. Kaplan of New Rochelle, N. Y., was granted patent 3,048,078.

A metal holder for candles that is seepage proof, particularly desirable for churches where candles are often snuffed out and then later relighted. Patent 3,048,025 to Alan I. Root of Medina, Ohio, who assigned rights to The A. I. Root Company, also of Medina.

A pump for an artificial heart, electrically operated and regulated, that occupies a small amount of space. Patent 3,048,165 to Samuel H. Norton of University Heights, Ohio, who assigned rights to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio.

• Science News Letter, 82:127 August 25, 1962

## Do You Know?

Asexual *reproduction* in seed plants, in which seed development occurs without normal fertilization, is a phenomenon just beginning to be understood.

Solar flares release clouds of *protons* which temporarily raise the level of radiation dangerous to man in space.

A major *overhaul* of the special dietary food regulations in the U.S. is now underway by the Food and Drug Administration.

A potent new antibiotic, *actinospectacin*, does not have the adverse side effects of several related drugs now in use.

Removal of the *thymus* from some patients with the muscular disease myasthenia gravis results in complete and even permanent remission.

• Science News Letter, 82:127 August 25, 1962



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