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INVENTION

Patents of the Week

A low-cost air conditioning system that heats a house in winter and cools it in summer by infrared heat radiation earned a patent.

► A NEW SUMMER-WINTER air conditioning system heats and cools at half the cost of conventional systems.

The U.S. Patent Office issued patent 3,120,866 for this system, developed by Dr. Clarence A. Mills of Cincinnati, Ohio, an expert on the effects of climate on man, who holds some 30 patents.

Dr. Mills describes his invention as a split system in which the air environment and radiant heat environment are separate. A constant stream of air enters the house through an inlet duct where it is filtered, warmed or cooled and dehumidified depending on the season.

This current increases air pressure inside the house, Dr. Mills told SCIENCE SERVICE. Any time a window or door is opened, no outside air will enter, but the air inside will flow out. The air is not recirculated as in conventional systems.

The temperature within the house is not controlled by the incoming current of air, but by infrared heat radiation from plate coils that are suspended from the ceiling in ornamental valences. A liquid brine solution that is heated or cooled by a hot water heater or chiller circulates inside the coil, which radiates infrared heat rays in winter and absorbs heat radiation in summer.

In a home conditioned by this system exterior infrared reflective wall coverings and window draperies are used to prevent heat loss or entry. With this system, a person can be as comfortable when the air temperature is 60 degrees as when a conventional thermostat registers 80 degrees. Winter heating costs are reduced 40% and the summer air conditioning load cut in half.

"The system is so different that it has a long way to go before people accept it," said Dr. Mills, who assigned patent rights to his corporation, Reflectotherm, also of Cincinnati. "However, its successful testing through severe summer moist heat and sub-zero cold in Munster, Ind., has proved its worth, and it will eventually be accepted."

New Bluegrass Variety

A new variety of bluegrass, S-2 Kentucky bluegrass, reduces the amount of time spent mowing the lawn during the growing season. Its vertical growth is slow and its high density provides a cushion-like resilience while at the same time suppressing weeds.

The grass is most noted for the deep, rich color it retains despite drought, pesticides and extremely cold seasons. It is resistant to such leaf ailments as leaf spot disease, stem-rust disease, and dollarspot disease, among others. Victor A. Renner of Marysville, Ohio, assigned rights on plant patent 2,364 to O. M. Scott and Sons Co., also of Maryville.

Shav-O-Mat

A coin-operated shave yourself establishment in which electric shavers are automatically available at any time of the day or night earned patent 3,120,886 for Harry Thalheim of New York City.

This shaving emporium is efficient, sanitary and burglar-proof at the same time. The shavers are kept in transparent coin-operated cabinets, where a constant stream of filtered air keeps them clean of hairs. If at any time the cord providing the electric current is cut, a burglar alarm sounds instantly.

Other Significant Patents

An electrical safety system which prevents accidents when the spring in back of the accelerator and leading to the carburetor breaks—patent 3,121,214 to Charles A. Frederick, Pittsburgh, Pa.

A jet balloon aircraft that diverts the exhaust from jet nozzles into the gas bag of a balloon to provide a vertical takeoff—patent 3,120,932 to Bernhardt Stahmer of Omaha, Nebr.

A method and apparatus for protecting the ventilation systems of naval vessels against airborne contamination damage resulting from atomic, bacteriological and chemical attacks—patent 3,120,796 to Charlie N. Clark and David Lum, both of San Francisco, Calif.

A needleless method for injecting antibiotics, vitamins, enzymes, nutrients and other substances into a poultry egg—patent 3,120,834 to Tevis M. Goldhaft and Nathan E. Wernicoff, Vineland, N.J.; assigned to Vineland Poultry Laboratories.

• Science News Letter, 85:142 Feb. 29, 1964

Do You Know?

A new device measures the temperature of the brain with sound waves.

Ellipsometry is an extremely sensitive technique for exploring unknown areas in surface chemistry and surface physics.

Suffocation and *choking* are the most frequently reported causes of accidental deaths of children less than one year old in the United States.

Esquimos call strange mounds of vegetation-covered ice "pingos."

Frozen blood samples are being exchanged by the U.S. and Russia.

• Science News Letter, 85:142 Feb. 29, 1964

