

Current U.S. Patents

► A GLEAMING fluorescent light that shows where teeth have not been properly brushed is the idea behind a patent granted by the U.S. Patent Office.

The toothbrush and dye-containing toothpaste to accomplish this earned patent 3,261,978 for Dr. Henry Brenman of Philadelphia, Pa.

The teeth are brushed in approved manner as usual. The difference is that any spots inadvertently missed or not entirely clean are coated with the invisible dye contained in the toothpaste. When ultraviolet light illuminates the teeth, the dye fluoresces, giving a bright picture of any unclean surfaces.

The ultraviolet light is built into the toothbrush, which has a white light source and a filter that removes all the radiation except that with a wavelength of 3650 Angstroms. Two nontoxic dyes that fluoresce at this wavelength are fluorescein and erythrosine, both of which have been approved by the U.S. Food and Drug Administration.

After a first brushing, it is necessary to brush again only those teeth or areas that show signs of fluorescing in order to complete the cleaning operation.

The toothbrush and toothpaste should be available commercially within a year, Dr. Brenman said.

Rigid-Rotor Helicopter

A light, less expensive method by which the rotating blades of a rigid-rotor helicopter are maintained in an essentially fixed position, instead of flapping a bit as they otherwise would, earned patent 3,261,407.

Irven H. Culver, who won the 1966 Dr. Alexander Klemens award of the American Helicopter Society for the rigid-rotor system, assigned rights to Lockheed Aircraft Corporation, Burbank, Calif. Co-inventors are Thomas F. Hanson and Lance G. Look, also at Lockheed.

In the rigid-rotor system developed by Lockheed, the helicopter blades are attached rigidly to the hub instead of being hinged. The patent covers the virtually instantaneous method by which the changes in both chord angle and flap angle are detected, measured and compensated for by a gyroscope.

Since the signals relaying the measured changes are combined before being fed into the gyro, the gyro can now

be made much smaller and more simply—some 140 pounds worth. Pilots who have flown the 4,700-pound Lockheed Model 286 report that it is easier to fly it than to drive a car.

Other Interesting Patents

The use of optical fibers to illuminate the lungs and other organs that can be reached for examination by tube from outside the body earned patents 3,261,349, 350 and 351. Dr. Frederick J. Wallace of New York assigned rights to American Cystoscope Makers, Inc., Pelham Manor, N.Y. The optical-fiber instruments can be sterilized without difficulty and can be shaped as necessary for the body part being examined.

Nobelist Giulio Natta, with Piero Pino and Giorgio Mazzanti, all of Milan, Italy, were awarded another patent for their process for polymerizing into plastics compounds that originally consisted of atactic macromolecules. Rights were assigned to Montecatini Societa Generale per l'Industria Mineraria e Chimica, a company for which Dr. Natta is a consultant.

A sound range and bearing recorder for locating submarines underwater was awarded two patents, 3,262,091 and 3,262,092. Although patent application was made in 1951, the sonar device was actually in use during World War II. Both the application and issuance of the patent were delayed because of the existence of the recording device was classified for security reasons. The inventor, J. R. Richards of Cheverly, Md., assigned rights to the Government through the Secretary of the Navy.

Do You Know?

Canada's first electronic *computer* for use in air traffic control will be installed in Newfoundland by mid-1967.

During the Middle Ages, English children were required to honor their mothers by visiting them once a year and bringing a "mothering cake."

Castor oil is used in the manufacture of all-purpose greases, hydraulic fluid, artificial leather, printing ink, soap and cosmetics.

Pipes of Plastic

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molded to suit the homeowner's fancy and to match the color of the kitchen walls or bathroom tile. With the present copper shortage, plastic pipes will become even more important.

Even the pipes in drab laboratories may burst out in cheerful colors to liven the traditionally somber walls.

Plastic pipes in all areas are being continually improved and new ones are being introduced. Most prominent among these is polypropylene, expected to account for about 20 million pounds by 1968. Polydivinyl chloride, a relative of polyvinyl chloride, also may become important. It has potential as a high-temperature plastic.

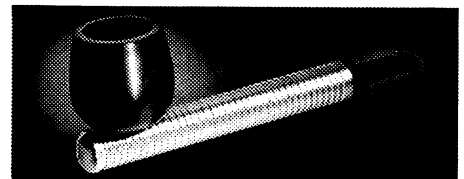
Of course, plastic is not better than metal in all aspects. But it is the combination of weight, smoothness, low cost, inertness and noncorrosiveness that have been responsible for the progress of plastic pipe.

Now that the battle for recognition is almost over, the next question is which polymer will come out on top? What new properties can be instilled in a plastic to give better performance?

Only time will tell, but one fact is certain—plastic pipes are here to stay and a new era of plumbing is at hand.

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New 'water pipe' smokes 30° cooler



The reason: A hermetically-sealed, water-filled heat absorber.



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