

Current U.S. Patents

► **EQUIPMENT** to take the salt out of ocean water so that it can be used for drinking and now in use in two plants is covered by six patents granted by the U.S. Patent Office.

The plant at Eilat in Israel is producing 240,000 gallons of pure water a day using the freezing method and apparatus for the process now patented. The other is a pilot operation at the U.S. Department of Interior's Test Station at Wrightsville Beach, N.C., run by the Office of Saline Water.

Seawater begins to freeze at 28.4 degrees F., and the ice crystals formed are essentially salt-free. If the sea or brackish water is partially frozen and the crystals are washed free of residual brine, the ice may be melted to produce fresh water.

Various separation-by-freezing processes are being developed. The one just patented uses flash evaporation of pre-cooled seawater to produce ice. The chilled seawater is sprayed into an evacuated tank, whereupon part of the liquid vaporizes and part of the liquid freezes. The ice is then separated from the brine and the surface salt clinging to the ice crystals removed. The final step is melting the ice.

The basic patent for the process is 3,255,603, which was awarded to Wallace E. Johnson, John Hans Davids and Dieter K. Emmermann, all of Beloit, Wis. They assigned rights to Desalination Plants Limited, Tel Aviv, Israel, which was also assigned rights for related patents 3,255,514, 3,255,602, 3,255,604 and 605, and 3,255,817. Alexander Zarchin of Tel Aviv is a co-holder of 3,255,602 and Richard Keyser of Clinton, Wis., is a co-holder of 3,255,817.

Electrical Sleep Device

A portable sleep device that has successfully undergone clinical tests earned patent 3,255,753 for Dr. Omar Wing of New York, who assigned rights to the National Patent Development Corporation, New York.

Sleep is induced by slowly applying an electrical pulse to the subject's head. Indications are that the induced sleep is deeper than normal slumber and may also be of value in treating certain diseases.

The device is a transistorized version of a vacuum tube model designed by three Russian doctors and patented in 1964.

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Reportedly, both the Air Force and the National Aeronautics and Space Administration are interested in the portable device, which is about the size of a cigar box, since it could be used to help SAC pilots or astronauts sleep.

Other Interesting Patents

Chemicals that can be added to the swill fed to young hogs to fatten them for market are covered by patent 3,256,094. Wise Burroughs, Vaughn C. Speer and Virgil W. Hays, all of Ames, Iowa, assigned patent rights to Iowa State University Research Foundation, Inc., Ames. They found that adding the compound 2-mercaptoimidazole to the swine feed substantially increased both the weight gain and feed efficiency of the young hogs, provided they were fed no more than the minimum amount of vitamin A.

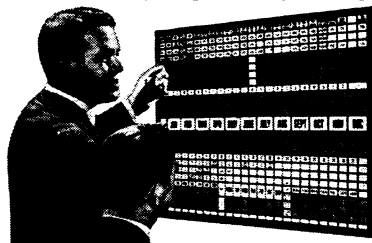
A fuel injection system for the Wankel engine that increases the efficiency of fuel use in the rotary piston engine earned patent 3,255,738 for Willi Springer of Faurndau, Germany, and Heinz Lamm, Stuttgart-Bad Cannstatt, Germany, who assigned rights to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany.

A crankcase ventilation system that reduces unburned hydrocarbon fumes by sending crankcase vapors back into the engine along with fresh air from the carburetor was awarded patent 3,255,743. William H. Kolbe of Birmingham, Mich., and Arthur P. S. Hyde of Rochester, Mich., assigned rights to General Motors Corporation, Detroit.

The Commissioner of Patents, Washington, D.C. 20231, maintains a list of registered patent attorneys in cities and towns around the country, as well as other information to help those with patentable ideas.

• Science News, 90:13 July 2, 1966

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Nature Note

Arctic Tern

► **ONE OF THE WORLD'S** greatest travelers, the sleek beautiful Arctic tern, flies some 20,000 miles each year. As summer comes to the Northern Hemisphere, the terns migrate north for a few months and then fly south to the antarctic regions following the summer in those areas.

During their summer sojourn in the Northern Hemisphere, they breed in areas of northern Europe, Asia, North America and the Arctic. They have been found as far north as eight degrees away from the North Pole. In late summer, the colonies of voyagers start their 10,000-mile journey to seas near Antarctica, picking routes over the Pacific Ocean, or by the west coast of Europe and Africa, or even by way of the Indian Ocean. Scientists have estimated that these terns live in continuous daylight for eight months of the year.

Arctic terns are of the Charadriiformes order of birds, which includes other sea birds such as gulls, noddies, plovers, sandpipers and auks. The terns have streamlined white bodies, smaller than those of the familiar gulls. Their graceful wings are narrow and pointed, and their heads are topped with black crowns.

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