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INVENTIONS

Patents of the Week

The first nuclear reactor for merchant marine vessels has been patented. A process for preserving vegetable juices and a "washer" that cleans with sound waves are other inventions.

► **THE STREAMLINED** United States merchant marine fleet of the future will probably be powered by an atomic reactor just patented.

It is the first nuclear reactor designed for merchant marine vessels and has been installed in the Savannah, which is also the first atomic-powered merchant marine ship. Atomic-powered merchant ships will be able to drop anchor in many ports without refueling for many years. This atomic reactor can operate for more than three years without refueling, or an equivalent of 355,000 nautical miles.

The reactor received patent No. 2,982,713 and rights were assigned to the Atomic Energy Commission. The five inventors, awarded the patent, work in the atomic energy division of Babcock & Wilcox Company, Lynchburg, Va. They are Melvin F. Sankovich, John F. Mumm, Donald K. North Jr., Harvey R. Rock, and Donald K. Gestson, of Lynchburg. Babcock & Wilcox Company built and designed the entire propulsion unit in the Savannah, which is currently undergoing intensive testing before being launched at the end of this summer.

The reactor is compact, yet safe. The power comes from rod-shaped fuel elements stacked in a cylindrical core, and the reactor is cooled by circulating water.

Vegetable juices such as tomato and carrot can last much longer at room or refrigerated temperatures if they are processed by the method specified in patent No. 2,982,657, inventor Fritz-Gunther Keitel of Hamburg, Germany, claims. Normally, vegetable juices lose their flavor and spoil quickly due to the action of unwanted bacteria suspended in the juices. This action is supposedly stopped cold by fermenting the juice at high temperatures in the presence of lactic acid and then pasteurizing the juice. (Lactic acid is the material in sour milk that gives an unpleasant taste.)

A high-speed "washer" that cleans soiled articles with sound waves won patent No. 2,982,524 for Marshall R. Bland of La Habra, Calif. Patent rights were assigned to Purex Corporation. Two propellers with wedge-shaped tips both generate sound waves and swirl the cleaning liquid around the dirty articles, releasing the grime and grease.

A portable prefabricated shelter (patent No. 2,982,290) for use in the Arctic and other cold regions was patented by Walter Rudolf Hunziker of Atlanta, Ga. The igloo-shaped shelter consists of plastic-glass fiber panels hinged together. The panels fold up like an accordion when not in use and can be readily carried from one location to another.

A device that helps control the flow of

blood from a donor, claimed to have little discomfort for the patient, was patented by Edward Sohler Welch Jr., of Framingham, Mass. The rights of patent No. 2,982,286 were assigned to Baxter Laboratories, Inc., of Morton Grove, Ill.

The blood flows from the vein into a depressurized container until it is automatically stopped by the device when the blood reaches a certain level in the container. The container is then shaken to mix the blood with a preservative, injected into the chamber, for storage in a blood bank.

• Science News Letter, 79:318 May 20, 1961

GENERAL SCIENCE

Industry's "Left-Overs" Help Young Scientists

► **ODDS AND ENDS** from the supply rooms of an electric company go into its "Operation Grab Bag," designed to help teen-aged scientists to build their own ingenious computers and communications systems.

This program, started two years ago by the Automatic Electric Company of Northdale, Ill., was designed to offer used and obsolete telephone and electronic equipment to science teachers and science-minded high school and college students in the immediate area. The company hoped to stimulate interest in science and to help those in schools, science clubs and science fair groups learn more about modern electronics and communications.

Widespread response resulted in expansion of the Grab Bag program that has been supplying electro-mechanical components to schools for use as teaching aids and to individual students across the country. Such equipment has turned up as essential parts of science projects that have won top honors and national recognition.

For example, a dozen or more pieces of equipment from the Grab Bag helped David Peterson of Delphi, Ind., earn a place in the Honors Group of the 20th Science Talent Search for the Westinghouse Science Scholarships and Awards, conducted by SCIENCE SERVICE. The 17-year-old high school senior constructed a unique dial telephone system to control electrical equipment.

Other companies are helping student-scientists and science teachers by coming to the rescue with special parts, instruction in techniques, access to literature and use of testing equipment.

In San Jose, Calif., "Operation Junk," a popular annual feature of the science club clinic, offers large quantities of industrial throw-away materials to the high school clubs.

• Science News Letter, 79:318 May 20, 1961