

Patents of the Week

A method for transporting oil underwater in a submarine-like vessel which is safer, less costly, than tankers requiring much larger propulsion systems was granted a patent.

► A LESS COSTLY way of transporting oil, underwater via a submarine-like hull, has been granted a U.S. patent.

In recent wars more than half of all transportation has involved petroleum products. The invention provides a safer way of transporting oil products. Furthermore, the crewmen are able to reside in a small control craft to which the "submarine-tanker" is attached.

The submarine-like vessel contains five large sections that hold the material to be transported. This material can include a variety of high and/or low vapor pressure products. By using flexible barriers between the oil products and the water supporting the vessel, the invention insures that the volatile materials are carried in liquid form.

A propeller at the stern propels the "tanker" in typical submarine fashion.

Advantage claimed is cheaper transportation, because conventional tankers require very much larger propulsion systems.

The rigid hull has a forward compartment containing controls and a rear compartment containing the motors, cargo pumping equipment and other essential operating machinery. For the invention, William M. Goryl, New Vernon, N. J., and Frank A. Howard, New York, were awarded patent 3,085,533. They assigned rights to the Esso Research and Engineering Company.

Multi-Gimbal Flight Simulator

A flight simulator capable of providing all desired motions in every possible attitude of an aircraft earned patent 3,085,354 for Arne P. Rasmussen, Millersville, Md., Rudolf J. Bertl, Arnold, Md., and Albert I. Geysler, Pittsburgh, Pa. They assigned rights to the Westinghouse Electric Corporation.

Most flight simulators use two gimbals, swiveling devices that reproduce motions of the aircraft. Modern high-speed airplanes, however, have a new attitude of vertical ascent, and this attitude could not previously be duplicated. The invention is designed to approximate as closely as possible actual flight conditions in the laboratory, using three gimbals of concentric configuration.

The first or outer gimbal is supported on pivots secured to a base member while the remaining concentric gimbals are each supported on an associated outer gimbal.

Flat Tire Warning

An inexpensive warning system to tell the motorist he has a soft or flat tire earned patent 3,085,615 for William M. Sanderson, Cuyahoga Falls, Ohio. He assigned rights to the Goodyear Tire and Rubber Company, Akron.

The invention calls for the tire to have two walls, an outer and an inner one. When

the outer wall suffers a "flat," the inner chamber automatically inflates so that a "bumpy" ride immediately lets the driver know that he has a flat.

Other Patents

Other patents awarded were:

A device for retrieving sunken objects, especially outboard motors, that gained patent 3,085,263 for Joseph W. Yurkinas, Alto, Mich., and Gaylord B. Brown, Grand Rapids, Mich.

A design for motor hotels calling for a building of many stories with access to a garage at each story, which earned patent 3,085,699 for S. Brian Baylinson, New York.

A camera having an automatic exposure control device adjustable for a number of film or shutter speeds, which gained patent 3,085,486 for Stephen F. Bushman, Des Plaines, Ill., and Vello Suiguussaar, Chicago.

A combination skylight and ventilator, which earned patent 3,085,490 for Thomas R. Field, Indianapolis, Ind.

A decanting tube for fluid containers, which gained patent 3,085,722 for Elpis Caloyannidi, Athens, Greece.

A rotary wing aircraft in which the need for torque correction is eliminated, which gained patent 3,085,630 for Voorhis F. Wigal, Jackson, Tenn.

• Science News Letter, 83:287 May 4, 1963

TECHNOLOGY

New Method of Photometry Developed

► A NEW METHOD for measuring light has been developed by the National Bureau of Standards, U.S. Department of Commerce.

Using the new method, some measurements previously requiring a 20-foot optical bench can be made with an instrument only 20 inches long, C. S. McCamy, chief of the photographic research station, National Bureau of Standards, said. The new method is less subject to stray light errors. According to Mr. McCamy the new principle permits "any small boy to build an accurate photometer."

The inverse-square law of illumination, known to every high school student of physics, has been the backbone of accurate light measurements for over 200 years. It may be superseded by the new method in some applications. Mr. McCamy discovered the technique while developing better methods of measuring the light transmitted by photographic negatives, but the principle is widely applicable in other kinds of light measurements.

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Soybeans rank fourth among agricultural crops in the United States.

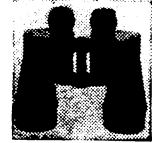
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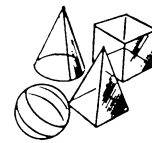
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