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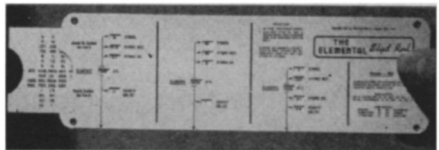


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INVENTION

Patents of the Week

Conventional ship radar can be modified to incorporate a new collision alarm system that automatically performs a constant watch on the radar screen.

➤ AN ALARM that sounds automatically when a ship is on a collision course with another moving ship has been granted a patent by the U.S. Patent Office.

Any of the conventional radars in wide use on most ships can be modified to take advantage of this new collision alarm method. Considering the lives and property damage that could be saved, the cost is relatively low.

The system is quite simple and, therefore, as foolproof as possible. It was developed by John F. Kellogg of Bethesda, Md., who assigned rights to patent 3,149,325 to Vitro Corporation of America, New York.

As most ship radars are now operated, an observer must watch constantly to make sure that the ship is not on a collision course. When two objects are moving in straight lines so as to reach the same point at the same time, the angle between the paths of the objects and a line joining the objects remains constant, regardless of the relative speeds and directions as long as these do not change.

The alarm is tripped after a specified number of radar echoes have been recorded consistently from an object maintaining the same angle with respect to the ship.

The system, which is being readied for production, could also be modified for use in aircraft, a Vitro official said.

Boosting Power for Vaccines

A method for boosting the power of vaccines to provide improved and longer lasting protection against influenza and other virus infections earned patent 3,149,036 for Drs. Allen F. Woodhour, Horsham, Pa., and Thomas B. Stim, Sumneytown, Pa. They assigned patent rights to Merck & Company, Inc., Rahway, N.J.

The method consists of using peanut oil, or another vegetable oil, with other chemicals to allow slow release into the body of the antigens in the virus. Such mixtures are called adjuvants. Adjuvant-65, on which the patent was granted, consists of a water-in-oil emulsion of refined peanut oil using mannide monooleate as the emulsifier and aluminum monostearate as a stabilizer. All of these ingredients are either easily metabolized or removed by the body.

Antigens, which are the active ingredients of vaccines, are contained in small particles of water. In adjuvant-65, these water particles are surrounded by the peanut oil in an emulsion that is capable of maintaining its stability during long periods of storage.

When the adjuvant vaccine is injected into the muscles, the emulsion is distributed along the muscle fibers. As the peanut oil is metabolized, the antigens are released

slowly to stimulate prolonged antibody production.

Adjuvant-65 is now undergoing clinical trials. Children's Hospital of the University of Pennsylvania collaborated with Merck Sharp & Dohme Research Laboratories, West Point, Pa., in developing the peanut oil adjuvant.

Other Interesting Patents

A flying platform that remains tethered to its ground-based operating and control system and that can be installed on a moving vehicle for military uses. Marcel Jean Georges Manificat, Lyon, France, assigned rights to patent 3,148,847 to Nord-Aviation Societe Nationale de Constructions Aeronautiques, Paris.

An optical maser, or laser, that emits a very sharp beam of highly intense light from a mixture of gases, such as helium and neon. Drs. William R. Bennett Jr. and Ali Javan of Berkeley Heights, N.J., assigned rights to patent 3,149,290 to Bell Telephone Laboratories, New York.

A chemical combination that keeps epinephrine, used in the treatment of the blinding eye disease glaucoma, stable during long periods of storage. Dr. Sidney Riegelman of San Francisco assigned rights to patent 3,149,035 to The Regents of the University of California.

A device using earth's gravitational force to make sure that a satellite's instruments are always pointed in the desired direction. Dr. Robert R. Newton of Silver Spring, Md., assigned rights to patent 3,148,846 to the Government through the Secretary of the Navy.

A nuclear steam generator for a thermoelectric power plant, for which Winnett Boyd of Toronto, Canada, was awarded patent 3,149,046. Arthur D. Little, Inc., Cambridge, Mass., was assigned rights to this patent and also to patent 3,149,045, granted to Mr. Boyd and two co-inventors for a method of charging and discharging fuel in a gas-cooled nuclear reactor.

• Science News Letter, 86:222 Oct. 3, 1964

Do You Know?

The largest non-nuclear mining *explosion* ever set off in the United States used 208 tons of explosives to loosen 1.25 million tons of molybdenum ore in a Climax, Colo., mine.

The *honey* crop in the United States last year reached almost three million pounds, exceeding the previous record year by nine percent.

• Science News Letter, 86:222 Oct. 3, 1964