

## INVENTION

# Current U. S. Patents

When forced into the sea after a ship or aircraft disaster, a survivor can now fly away from danger in a helium-filled inflatable suit—By William McCann

► A STRANDED plane crash survivor can now fly out of danger by donning a plastic suit that inflates and floats him away in a cluster of giant balloons.

The balloon-suit can be stored for use on board an aircraft or ship for use in an emergency. It can be put on quickly to float the wearer aloft and away from danger to where he can be spotted more easily by search planes.

The suit earned patent 3,176,935 for two U.S. Government engineers, John S. White, Falls Church, Va., and David S. Cooper, Fairfax, Va., from the U.S. Patent Office.

The inventors reported that the device can be adapted for use by any of the armed services and many commercial companies. An experimental model of the suit has been built and successfully tested. The suit consists essentially of a crash helmet and an inflatable capsule which fits around a person like a girdle. The capsule is connected to a circular array of six balloons by means of shroud lines.

In the event a plane is forced down at sea the survivor can quickly jump into the suit, then into the water. He then pulls a pin and the suit begins to inflate with him standing inside it. The balloons, each 12 feet in diameter, are then inflated with helium, causing the survivor to be lifted into the air.

Each balloon has two cells, an inner cell filled with helium and a thin outer cell that is filled with air. Thus, the survivor can control his altitude by adjusting the air pressure to vary the volume of helium in the balloons.

## Sound Curtain

A curtain of sound waves that could be draped in the ocean to provide an alarm against enemy submarines earned a U.S. patent.

The system, which has been under patent secrecy until recently, was studied by the Navy.

An artificial sound channel can be created in the ocean by forming a vertical sheet or curtain that will have different temperature characteristics than the water on both sides, reported inventor Robert A. Arnoldi, Elmwood, Conn.

If an enemy submarine penetrated the curtain, either its own sound, reflected sound or interrupted sound could be used as a signal to detect it. Electronic devices could then determine where the submarine penetrated the curtain, the direction in which it was headed and how big it was.

The invention earned patent 3,177,466 and patent rights were assigned to United Aircraft Corporation, East Hartford, Conn.

## Inflatable Dam

An inflatable dam that can be pumped with water or air to hold back flooding waters was granted a patent.

A number of the tear-drop-shaped dams are now in use throughout the U.S. and in Europe. The dams, which may be up to 200 feet long and 10 feet high, are mounted across the stream or river. When deflated, they sink to the river bottom until needed again.

Norman M. Imbertson, Pasadena, Calif., earned patent 3,173,269 for the collapsible dam. Mr. Imbertson, a former employee of the City of Los Angeles Department of Water Power, designed the dam in 1956. The first inflatable dam, commercially known as Fabridam, was installed in the Los Angeles River to control flood waters.

The Firestone Tire and Rubber Company has been licensed to build the Fabridam, which is now also used for water conservation, levee control and for the development of water recreation areas.

## Forest Fire Fighter

A system of plastic pipes extending down a mountainside from a reservoir can automatically detect a forest fire and douse it with water.

The fire-fighting system, which can be installed in rugged terrain, uses solar batteries to control a series of valves that regulate the water flow.

The system earned patent 3,176,773 for Richard T. Headrick, Duarte, Calif., and Edward E. Headrick, La Canada, Calif.

For a list of registered patent attorneys and agents and other Patent Office information, write the Commissioner of Patents, Washington, D.C. 20221, or call 202-967-4058 for specific information.

• Science News Letter, 87:269 April 24, 1965

## Do You Know?

Neck *pains*, excepting those that follow rear-end auto collisions, may be traced to tumors or infections either in the soft tissues of the neck or within the spinal column, or may be at the root of a psychiatric illness.

*Tuna* live in the warm upper layers of the ocean and are very sensitive to temperature changes.

Of the 540 new single chemical entities introduced as *drugs* from 1941 to 1961, 333 originated in the United States.

• Science News Letter, 87:269 April 24, 1965

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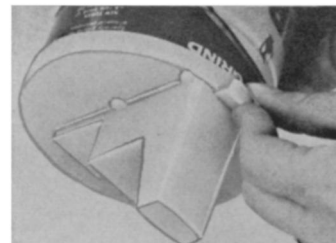
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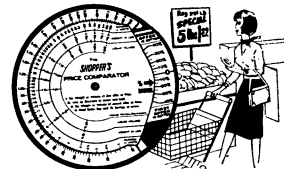
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