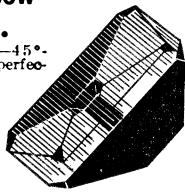


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INVENTION

Patents of the Week

➤ **THERE ARE** two distinct sides to a new diaper. The inside keeps baby's skin dry, while the outside absorbs and holds moisture away from his body.

The diaper fabric is woven in such a way that hydrophobic or non-water-absorbing fibers, such as Acrilan, polypropylene and most of the synthetics, are closest to the baby's skin, while hydrophilic, or water-absorbing fibers, such as cotton or rayon, are used for the filling and outside.

The weave patterns suitable for producing this effect are ones in which lengthwise threads "float" over the filling. Moisture passes from the baby's skin through the inner fibers to the outer fibers where it is absorbed.

The U.S. Patent Office issued patent 3,113,570 for the diaper, now undergoing market testing by Riegel Textile Corporation, New York. Its commercial future is still uncertain, a Riegel official said.

However, a lining, made of the same non-water-absorbing fiber as the inside of this diaper, is now available for use with conventional diapers.

The diaper was developed by Walter T. Holliday of Gainesville, Ga., and Thomas R. Lynch and Wesley K. Fooshe Jr., both of Ware Shoals, S. C.

Open Sewage "Blanket"

A "blanket" of expanded volcanic, glass rock particles for covering open cesspools and reducing the accompanying odor of hydrogen sulfide gas won patent 3,113,924.

Under high temperatures, the volcanic rock particles expand to form a honeycomb structure that is impermeable to water, lightweight, floats on water and has excellent insulation properties.

In an experimental program, more than a ton of the expanded glass rock was dumped into a shallow cesspool to form a floating blanket six inches thick. The blanket remained for many months, undisturbed by heavy winds, rain or storms.

As bubbles of hydrogen sulfide gas pass upward through the blanket, they probably react with the oxygen in aqueous solution on the surface of the rock particles to form odorless sulfuric acid. The process does not stop in winter because the blanket effectively insulates the cesspool against freezing.

The method was developed by Carl Mendilur Jr. of Naperville, Ill., president of Silbrico Corporation, Chicago, to whom patent rights were assigned.

Other Significant Patents

A remotely controlled aircraft "tug" for towing gliders—patent 3,113,747 to Stanley W. Smith of Hagerstown, Md.; assigned to Fairchild Stratos Corporation, also of Hagerstown.

An automatic fish feeder capable of continuously feeding fish for several months—patent 3,113,556 to James G. Jarvis, Cooksville, Ontario, Canada; assigned to Decor Sound Corporation, Raleigh, N. C.

An apparatus for the humane handling of animal livestock for slaughter in accordance with Jewish ritual—patent 3,113,340 to Thomas L. Bush of Chicago, Daniel Hooper of Skokie, Ill., and Daniel J. Herkes of Aurora, Ill.; assigned to Synagogue Council of American and National Community Relations Advisory Council, both of New York.

An instrument by which a farmer can assist in the delivery of calves, foals and lambs—patent 3,113,571 to Bouke Jeeninga of Garyp, Netherlands.

A device for drawing blood by manual suction for laboratory analysis—patent 3,113,688 to Ruth Rasmussen Campbell of South Bend, Ind.

An improved method for culturing pearls—patent 3,113,554 to Masakuni Kanai of Tokyo, Japan.

A method for drying sliced or fragmented onions—patent 3,113,875 to Arthur N. Prater of Sherman Oaks, Calif., and Albert P. Vosti of Gilroy, Calif.; assigned to gentry division of Consolidated Foods Corporation, Chicago.

A method and tool for fertilizing the roots of trees in which holes are "drilled" around the trunk without damaging the turf or sod—patent 3,113,534 to Lloyd Edward Wessel of Louisville, Ky.

• Science News Letter, 84:410 Dec. 28, 1963

MILITARY SCIENCE

Anti-Submarine Nuclear Depth Bomb Developed

➤ **AN UNDERWATER-LAUNCHED** missile, SUBROC, capable of killing enemy submarines at long range is the Navy's most advanced anti-submarine weapon. It has successfully completed a testing program.

The basic idea of an underwater-launched anti-submarine missile which could be effective at long range was conceived at the Naval Ordnance Laboratory, White Oaks, Md., a number of years ago. Goodyear Aerospace Corporation was the prime contractor of the project.

SUBROC is designed to be launched horizontally from standard submarine torpedo tubes, using conventional ejection methods, Goodyear Aerospace president T. A. Knowles said.

Once SUBROC is a safe distance from the moving submarine, a solid fuel rocket motor ignites underwater and propels the missile upward and out of the water.

A lightweight inertial guidance system directs the missile toward the target area and at a predetermined range, the rocket motor and depth bomb warhead separate.

After separation, he said, the depth bomb continues on its trajectory under control of its guidance system, which steers the projectile by means of aerodynamic fins that control the position and angle of the missile's reentry into the water.

The depth bomb then sinks and its nuclear warhead explodes, destroying the enemy submarine.

• Science News Letter, 84:410 Dec. 28, 1963