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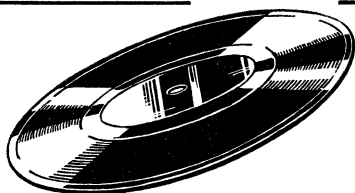
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INVENTION

Patents of the Week

A chemical compound that will kill flatworms, starfish and drills that attack oysters and decrease their production has been awarded a patent—By Elizabeth Hall

➤ A CHEMICAL for increasing oyster production by killing off the marine enemies that prey on oysters received U.S. patent 3,103,202.

The compound, known as Polystream, is now being sprayed experimentally on oyster beds in Long Island Sound and tested by the Fish and Wildlife Service in cooperation with oyster growers in New York and Connecticut.

The chlorinated hydrocarbon pesticide, manufactured by the Hooker Chemical Company of Niagara Falls, N.Y., is not available for general use until test results show it is safe for humans and oysters.

Preliminary tests have proved its effectiveness against flatworms, starfish, *Crepidula* and drills, which are marine snails that bore holes in the oyster shells and suck out the soft parts of the oyster. The chemical is sprayed on the cultch, a collection of old shells or any other material, to which the oysters attach themselves approximately two weeks after birth.

As the "spat," or young oysters, fasten to the cultch, the marine predators usually attack. However, in one test described in the patent, the number of live oysters found on Polystream-treated cultch was almost three times as great as on the untreated ones. The percentage of "drilled" oysters was eight and one-half times lower on the treated ones, and the "treated" spat oysters were three millimeters longer than the others.

The patent was issued to Victor L. Loosanoff, Milford, Conn., and Clyde L. MacKenzie Jr., Stratford, Conn., who assigned rights to the U.S. Department of Interior.

Nuclear Gyroscope

General Precision, Inc., Pleasantville, N.Y., received rights to four patents for a nuclear gyroscope, one of the first in this country. The gyroscope applies one of the basic physical principles of the atom, the spin of nuclei and their electrons.

A gyroscope, which is used to stabilize space vehicles, aircraft and missiles, can be described as a spinning top. As the airplane, for instance, turns, the top starts to wobble off course. The gyroscope can be instrumented to emit a high-frequency signal each time the plane turns, allowing the pilot to measure the amount it turns and put the plane on course.

In this particular nuclear gyroscope, a small sealed vial of fused quartz contains tiny amounts of two different mercury isotopes, invisible to the human eye, whose spinning nuclei measure and correct the amount of change in direction, thus emitting the signal.

A radio frequency provides electronic energy to the isotopes, and light provides optical energy to keep the magnetic field constant.

Under contract to the U.S. Air Force, rights to patent numbers 3,103,620, 3,103,621, 3,103,623 and 3,103,624 were assigned General Precision by Ivan A. Greenwood Jr., Dr. James H. Simpson Jr., John P. Lowdenslager and Julius T. Fraser.

Nuclear Reactor

Famed nuclear physicist Leo Szilard, one of the pioneers in developing the atomic bomb, received patent 3,103,475 for a fast breeder reactor, one of his early concepts in the field of nuclear reactors. Although his particular design has not been used in actual practice, it is believed important in the broadening field of nuclear power reactors.

In the fast breeder reactor, a self-sustaining neutron chain reaction is established, with fewer neutrons per fission being lost than in a slow neutron chain reaction. No substantial amounts of by-products, which must be removed, are formed as in slow reactors.

Filed in 1946, action on the patent was delayed for national security reasons. Rights were assigned to the Atomic Energy Commission.

Other Significant Patents

Other patents included:

An automated mail sorting, coding and distributing apparatus by which each operator works at his own speed. Patent 3,103,285 was awarded to John D. Goodell of Silver Spring, Md., and Edwin F. Shelley of New Rochelle, N.Y., who assigned patent rights to U.S. Industries, Inc. The device is not yet in production.

A sleep-inducing heating pad to replace drugs and sleeping pills, for which Richard T. Chadner of Elmhurst, Ill., earned patent 3,103,219. The contoured pad applies heat and support to the entire rear part of the neck.

• Science News Letter, 84:206 Sept. 28, 1963

Do You Know?

During the next decade the number of low cost homes, under \$10,000, sold annually will double, reaching at least 450,000 by the early 1970's.

The airborne transmission of *rabies* has been demonstrated, but the mechanism is still unknown.

• Science News Letter, 84:206 Sept. 28, 1963