

STUDY OF THE EARTH: Readings in Geological Science—J. F. White, Ed.—*Prentice-Hall*, 408 p., paper, \$3.95. Stimulating articles by distinguished scientists suitable for independent study and enrichment of curriculum.

A TEXTBOOK OF ZOOLOGY, VOL. II: Phylum Chordata—T. Jeffery Parker and William A. Haswell, rev. by A. J. Marshall—*St. Martins*, 7th ed., 952 p., illus., \$12.50. Substantially rewritten text of 60 years' standing.

THE TWO FACES OF TASS—Theodore E. Kruglak—*Univ. of Minn. Press*, 263 p., \$5. An analysis of the Soviet news agency.

UNSOLVED MYSTERIES OF THE ARCTIC—Vilhjalmar Steffansson, introd. by Stephen Leacock—*Collier Bks*, 320 p., maps, paper, 95¢. The late

anthropologist and Arctic explorer uses in these "detective stories" his scientific knowledge to probe some of the famous unexplained tragedies of earlier lost expeditions. Reprint (1938).

WILDLIFE IN AMERICA'S HISTORY—Will Barker—*Luce, R. B. (McKay)*, 109 p., illus. by Howard Jerome Smith, \$3.50. Traces the importance of native North American animals in relation to the development of this continent, for young readers.

WORDS ON THE MAP—Isaac Asimov—*Houghton*, 274 p., illus. by William Barsz, \$5. Explores for the general reader the roots and history of geographical place names, such as Akron, Boston, Caribbean Sea, Galilee, Kuwait, Texas and Zanzibar.

• Science News Letter, 82:180 September 15, 1962

INVENTION

Patents of the Week

► **TWO METHODS** that will give a germ-free or dust-free space for performing operations on people or animals or for making parts for satellites or missiles were granted patents.

Bacteria can positively be excluded by these methods. If bacteria can be, so can dust or chemicals, Dr. Philip C. Trexler of Notre Dame University, the inventor, told **SCIENCE SERVICE**. Both methods are now being used in the germ-free laboratories at Notre Dame, where some 18 generations of mice and rats have been raised in a sterile atmosphere.

One of the methods, termed an isolating device, is being used in about a thousand laboratories here and abroad. The germ-free animals are bred and raised at Notre Dame, then shipped in a sterile condition to other laboratories.

Commercial breeders are also producing germ-free animals, so they are readily available, and the isolating device can be easily adapted for home use.

Dr. Trexler said he is now investigating the possibilities of using the isolating device, granted patent 3,051,163, in making parts for satellites and missiles, where all dust must be excluded. The isolator has a transparent hood, so that progress of experiments can be watched, and is collapsible.

Detachable gloved hands and sleeves can be inserted into the hood for conducting the experiments. The device can easily be used in disaster areas where such biological tests as the growth of cultures for vaccines may be necessary, Dr. Trexler said.

The jacket isolator granted patent 3,051,164 is particularly useful for surgery in a germ-free atmosphere. It is now undergoing tests at Walter Reed Medical Center, in Washington, D. C., where it has proved effective in reducing the number of wound infections that occur in operations.

Dr. Trexler assigned rights to both patents to University of Notre Dame du Lac.

Nobelists Granted Patent

Dr. John Bardeen, one of the three scientists who shared the Nobel Prize in Physics in 1956 for discovering the transistor, was awarded patent 3,051,876 for a different kind of transistor. The "electrolytic transis-

tor" is a liquid rather than a solid, Dr. Bardeen of the University of Illinois told **SCIENCE SERVICE**.

It is a source of constant current, rather than constant voltage as in a battery. Dr. Bardeen assigned rights to the University of Illinois Foundation, a non-profit corporation.

Other Significant Patents

Other significant patents include:

A collapsible monorail track to move pieces for repair around a workshop mounted on a vehicle. Patent 3,051,094 to Albert A. Shames of Waban, Mass., who assigned rights to the Government through the Secretary of the Army.

An alarm system for shopping carts, to prevent shoplifting or to remind customers they have forgotten their personal belongings. Packages placed on the lower rack make an electrical connection that rings a bell as the shopping cart is pushed through the checkout station. Patent 3,051,936 to Alexander E. Finger of Chelsea, Mass., and Joseph Goldman of Medford, Mass.

A device for putting a child in the proper position for the required X-ray, for which Jalmer Pigg Sr. of Memphis, Tenn., was awarded patent 3,051,832.

A flexible bird feeder for such game birds as quail and grouse. It discourages cattle trying to horn in on the corn by striking the cow with sufficient force to frighten the animal, and is also equipped with barbed wire as an aid in educating the cattle to avoid the feeder. Willie M. Merritt and Frank F. Forth of Warwick, Ga., assigned patent 3,051,126 to Merritt Bird Feeder Company, also of Warwick.

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Free-air ionization chambers are used by many nations as the standard *instruments* for measuring X-ray and gamma-ray exposure dose rates.

A machine that furnishes centrifugal force for spreading or slinging liquid *fertilizer* on the field has been developed.

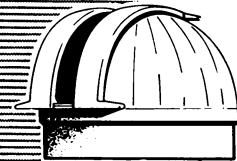
Radioactive *titanium-44* has a half-life of more than 1,000 years.



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