

Fasullo—McGraw. 335 p., illus., \$15. Complete compendium of information on characteristics, physical properties, safe methods of handling, blending charts and other pertinent data on sulfuric acid.

WILD ANIMALS IN CAPTIVITY—H. Hediger, transl. from German by G. Sircom, foreword by Edward Hindle—Dover, 207 p., photographs, paper, \$1.75. Reprint (1950) of an outline of the biology of zoological gardens.

WONDERS OF AN OCEANARIUM: The Story of

Marine Life in Captivity—Lon Jacobs, Jr., foreword by David H. Brown—Golden Gate Jr. Bks., 79 p., photographs, \$3.75. A photo-journalistic account of the behind-the-scenes activities at Marineland of the Pacific.

THE WORLD OF THE TIGER—Richard Perry—Atheneum, 261 p., photographs, map, \$6.95. Collects together what is known of the habits of wild tigers in the jungles where they are still roaming in the 20th century.

• Science News Letter, 87:348 May 29, 1965

INVENTION

Current U. S. Patents

A computer that answers inquiries verbally uses bits of sounds, stored in the form of coded signals, to make a more natural "vocal response"—By William McCann

► A COMPUTER that "talks back" to answer an inquiry was granted a patent by the U.S. Patent Office.

An entire "library" of words are stored in the memory of the computer in the form of coded signals. When a question, printed on a punch card, is fed into the computer, the computer can actually answer back in a voice.

A similar system was put into use at the New York Stock Exchange but this type of system makes use of full words, giving the computer "voice" a mechanical quality, reports an International Business Machines official.

The newly patented system, however, uses bits of sounds to make a more natural voice quality. It "might well be the next step" in talking computers, he said.

Inventor Genung L. Clapper, researcher at IBM's branch at Endicott, N.Y., earned patent 3,183,303 for the machine and patent rights were assigned to International Business Machines, New York.

Diving Saucer

The manned diving saucer, built and operated by underwater explorer-photographer Jacques Yves Cousteau, has been awarded a patent.

The 1,000-foot-depth saucer utilizes mercury in its unique attitude control system. The mercury is pumped back and forth between forward and aft reservoirs to balance the craft.

Captain Cousteau of Paris, along with three colleagues, Emile Gagnan of Montreal, and Andre Laban and Jean Mollard, both of Marseille, earned patent 3,182,622 for the saucer. Patent rights were assigned to La Spirotechnique.

Egg Counter

Automation is now going to the henhouse as the result of a newly patented device that automatically finds, collects and counts the eggs.

The floor of the henhouse is sloped so that each egg rolls toward the outer edge of the nest, where it is pushed by an egg roller toward a receptacle. Meanwhile, the rolling egg is detected by a photo cell and ticked off by an automatic counter, which keeps a written chart of eggs laid. Thus a poultryman can keep track of how well each hen is doing, so that he can weed out the bad layers.

Akira Ishibashi, Fukuoka-shi, Japan, earned patent 3,183,514 for the apparatus.

Patent rights were assigned to Nippon Reizo Kabushiki Kaisha, Tokyo, Japan.

Other Interesting Patents

A moisture sensing device in the ground trips off a sprinkler if the ground gets too dry. Richard D. Hosier, San Gabriel, Calif., earned patent 3,182,914 for the watering device.

A dual-chamber artificial heart operates by an automatic cycling device that delivers adjustably controlled air pulses into two plastic bags representing the right and left ventricle. Victor W. Bolie, Ames, Iowa, earned patent 3,182,335 for the heart, and patent rights were assigned to Iowa State University Research Foundation, Inc., Ames, Iowa.

A jet-propelled submarine keeps going even if it is badly damaged by an explosion. Guenther Wolfgang Lehmann, Annapolis, Md., earned patent 3,182,623 for the sub and patent rights were assigned to the Government through the Secretary of the Navy.

For a list of registered patent attorneys and agents and other Patent Office information, write the Commissioner of Patents, Washington, D.C. 20231, or call 202-967-4058 for specific data.

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Do You Know?

A roadbreaking method employing *micro-waves* generated by a power of only five kilowatts may someday replace the noisy pneumatic drill.

Unlike the earth and most other planets in the solar system, *Venus* rotates clockwise.

Two *stone age camps* excavated east of Moscow are believed to be the most northerly stone age encampments discovered in Europe.

The giant *panda* is the world's most expensive and rarest zoo animal.

To make a ton of finished *steel*, 60,000 gallons of water are needed.

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