

METALLURGY

Calcium Carbide Removes Sulfur from Molten Iron

➤ SULFUR, the chemist's standby in a thousand operations, is one of the worst headaches of the metallurgist, particularly the worker in ferrous metals. It can cause sudden and unpredicted flaws and failures in iron and steel castings and forgings; and as a rule its presence in the walls of chemical reaction vessels is intolerable. But getting it out of raw iron is far from an easy job.

Among means suggested has been the use of fused calcium carbide. However, calcium carbide is very much lighter than iron, and its melting point is considerably higher. To overcome this dilemma, John J. Crowe of Westfield, N. J., puts his lumps of calcium carbide in a crucible with a closed top but an open bottom, which he suspends or floats on top of a ladle of molten iron. He melts the carbide by means of an electric arc, maintaining it at its own fusion point.

The continuous boiling motion of the molten metal brings every particle of it eventually into contact with the small mass of fused carbide, which soaks it up like a sponge, converting the sulfur into calcium sulfide. This rises to the top as a slag and may be removed.

Mr. Crowe has just been granted U. S. patent 2,409,020 on this process, and has assigned his rights to the Air Reduction Company, Inc.

Science News Letter, October 19, 1946

CHEMISTRY

New Variety of DDT Kills Mosquito Larvae

➤ A VARIETY of DDT that kills the larvae of malaria-bearing mosquitoes but is ineffective against adult mosquitoes, house-flies, and body lice has been discovered.

Of possible use in fighting mosquito wigglers in ditches and ponds where it is not desired to harm other insects, the substance is what is called an isomer or rearrangement of the atoms in the ordinary DDT molecule.

The unusual kind of DDT is mixed in with commercial production of the effective DDT. The researches are reported to *Science* (Oct. 11) by a U. S. Department of Agriculture group, Stanley J. Cristol, H. L. Haller, and A. W. Lindquist.

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Books of the Week

ANALYTICAL EXPERIMENTAL PHYSICS—

Harvey B. Lemon and Michael Ference, Jr.—*Univ. of Chicago Press*, 588 p., illus., diags., tables and charts, \$8. The authors have revised the book in the light of users' suggestions and new developments, largely stimulated through war work, in physics. The result is additions in the fields of radio, radar, nucleonics, isotopes, artificial radioactivity, and electrical units.

ANIMAL BIOLOGY—Robert H. Wolcott—

McGraw-Hill, 719 p., illus., diags., and tables, \$4. A beginning text of the biology of animals including man, it outlines the fundamental principles of physiology, microscopic and macroscopic structures, classification of the animal kingdom and the laws of evolution and heredity. Simple descriptive keys with many figures of all the orders of insects, birds, and mammals have been included.

CAREERS IN PHOTOGRAPHY—C. B. Neblette

—*Ziff-Davis*, 182 p., illus., \$2.50. A specific guide for everyone interested in the many opportunities in the photographic field, including suggestions for getting started in the profession and an outline of the training necessary for success.

A CENSUS OF THE DETERMINABLE GENERA

OF THE STEGOCEPHALIA—E. C. Case—*The American Philosophical Society*, 420 p., diags., charts, and tables, paper, \$1.25. Transactions of the American Philosophical Society for promoting useful knowledge. New series—Vol. XXXV, Part IV.

HOW BIG IS BIG? FROM STARS TO ATOMS:

A Yardstick to the Universe—Herman and Nina Schneider—*William Scott, Inc.*, 42 p., illus., \$1.50. This book is the much-needed answer to the challenging questions all children ask about size. The authors have cut the concepts of bigness and smallness down to a seven-year-old's size and experience level.

HUMAN FACTORS IN AIR TRANSPORT DE-

SIGN—Ross A. McFarland—*McGraw-Hill*, 670 p., tables, graphs, illus., and diags., \$6. The book represents an unusually complete compilation and interpretation of biological data which the aeronautical sciences can use to improve the efficiency of air crews and the safety and comfort of air travelers.

THE MYTH OF THE STATE—Ernst Cassirer

—*Yale Univ. Press*, 303 p., \$3.75. In this book the author has been able to bring together the great resources of learning and insight that accumulated over a long lifetime, and to examine one of the central problems of modern man. This is a vastly learned book that can be read by the general reader with no special training in philosophy or the other disciplines the author makes use of.

OCEAN ATMOSPHERIC-ELECTRIC RESULTS

—O. W. Torreson, O. H. Gish, W. C. Parkinson, G. R. Wait—*Carnegie Inst.*, 178 p., charts, graphs, tables and illus., \$2.25 paper, \$2.75 cloth. Scientific Results of Cruise VII of the *Carnegie* during 1928-1929 under Command of Captain J. P. Ault. Publ. 568.

SOME COMMON MUSHROOMS AND HOW

TO KNOW THEM—Vera K. Charles—*U. S. Dept. of Agr.*, 60 p., illus., paper,

20 cents. Circular No. 143.

TEXTILES OF HIGHLAND GUATEMALA—Lila M. O'Neale—*Carnegie Inst.*, 319 p., 130 illus., \$5 paper, \$5.50 cloth. Publ. 567.

WHAT'S IN THE TRUNK?—Irene Lorentowicz—*Roy Pub.*, 28 p., illus., \$1.50. This is a picture book with a surprise. The story is about two children wondering what their father, who is a pilot, sees all over the world. When he comes home one day, they find out. Children of all ages will enjoy the various national costumes which are depicted in the story.

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ASTRONOMY

Ninth Magnitude Comet Is Spotted in Cetus

➤ A FAINT COMET has been spotted in the constellation of Cetus, the whale, now visible in the southeast. According to a cablegram received at Harvard Observatory from Dr. J. S. Paraskevopoulos, superintendent of Harvard's Southern Astronomical Station, the comet is of the ninth magnitude, far too faint to be seen with the naked eye or binoculars.

The heavenly object may be known as Comet Bester after its discoverer. Or it may be found to be the recurrent Comet Temple 2, scheduled to revisit the vicinity of the earth this fall. Calculations show that Comet Temple, last seen in 1930, is due to be in the constellation of Cetus at this time. The comet made a fairly close approach to Jupiter in 1943, and it may be that the planet pulled it slightly off its course. This accounts for the fact that it was found away from its predicted position.

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