

CHEMISTRY

Synthesize Estrone from Ordinary Carboic Acid

► A SUBSTANCE used as a disinfectant and in the manufacture of high explosives now has another use.

Phenol, ordinary carboic acid, can be utilized, by means of a recently developed process, to produce estrone, which is chemically similar to the sex hormone of the human ovary.

Prof. W. S. Johnson of the University of Wisconsin department of organic chemistry and Dr. R. G. Christiansen, former Wisconsin graduate student, were able to make this chemical conversion by a novel and relatively short total synthesis of estrone.

Hormones are produced by certain glands and groups of cells and carried by the blood stream to various parts of the body. A too abundant supply of a hormone may have serious effects, and, similarly, inadequate amounts may be detrimental. Estrone is used by physicians in treating complications arising during the menopause, as well as certain types of recurrent abortion and disorders of the menstrual cycle.

The synthetic duplication of estrone in the procedure devised by Prof. Johnson and Dr. Christiansen starts with phenol, a cheap and relatively available chemical, and proceeds step by step until ultimately estrone is produced. Another chemical used in the early stages of this process is glutaric acid, which is a by-product in the manufacture of nylon.

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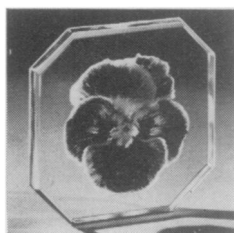
INVENTION

Convert Automobile or Truck to Railway Use

► THE AUTOMOBILE or truck for highway travel is converted to run on railroad tracks with the addition of pivoted railway wheels on the front end and another pair on the rear.

Inventors are William S. Watts and Louis G. Carmick, Jr., Dearborn, Mich. They received patent 2,577,830. Evans Products Company, of Detroit, has acquired the patent rights.

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Books of the Week

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ALCOA: An American Enterprise—Charles C. Carr—*Rinehart*, 292 p., illus., \$3.50. The author was for many years director of public relations for the company whose history he tells.

THE BUTTERFLIES OF VIRGINIA—Austin H. Clark and Leila F. Clark—*Smithsonian Institution*, 239 p., illus., paper, \$2.25. Describing some 154 species and subspecies.

ECLIPSES OF THE SUN—Samuel Alfred Mitchell—*Columbia University Press*, 5th ed., 445 p., illus., \$6.50. The history of eclipses from the one described in the ancient Chinese classic *Shu Ching*, dated October 22, 2137 B.C. to the present, with a description of knowledge gained from their study.

ELEMENTS OF SOCIAL ORGANIZATION—Raymond Firth—*Philosophical Library*, 257 p., illus., \$5.75. Based on the Josiah Mason Lectures given at the University of Birmingham (England) in 1947 discussing the role of social anthropology in contributing to a better understanding of some of the problems of modern civilization.

ENERGY SOURCES—THE WEALTH OF THE WORLD—Eugene Ayres and Charles A. Scarlott—*McGraw-Hill*, 344 p., illus., \$5.00. An evaluation of our major sources of power prepared originally as a report to the American Petroleum Institute.

FERNS OF GEORGIA—Rogers McVaugh and Joseph H. Pyron—*University of Georgia Press*, 195 p., illus., \$5.00. A distribution map showing where specimens have actually been collected or seen accompanies the drawing of each species. Keys are included.

GUIDE TO REFERENCE BOOKS—Constance M. Winchell—*American Library Association*, 7th ed., 645 p., \$10.00. Describes about 5,500 currently useful reference works.

HANDLING APPLES FROM TREE TO TABLE—D. F. Fisher and Edwin Smith—*Govt. Printing Office*, USDA Circular No. 659, 43 p., illus., paper, 20 cents. How to get apples to the consumer in prime condition.

MODERN PYROMETRY—Charles H. Campbell—*Chemical Publishing Co.*, 150 p., illus., \$4.00. For workers in metallurgy.

NORTH AMERICAN GEOSYNCLINES—Marshall Kay—*Geological Society of America*, 143 p., illus., \$2.00. An understanding of geosynclines—deeply buried surfaces having definite limits—helps in understanding how continental margins developed.

PHARMACOPOEA INTERNATIONALIS, Vol. I—*World Health Organization (Columbia University Press)*, 406 p., \$5.00. This volume is intended to facilitate commerce between nations in drugs and to reduce the hazard for travellers who may need to have the same prescription filled in different lands. In English.

THE PHEASANTS OF THE WORLD—Jean Delacour—*Scribner's*, 272 p., illus., \$35.00. Brings up to date and completes Beebe's *Monograph*

of the Pheasants, published in 1922. Many illustrations are in color. Embodies results of more than 50 years of research.

SHRUB PLANTINGS FOR SOIL CONSERVATION AND WILDLIFE COVER IN THE NORTHEAST—Frank C. Edminster—*Govt. Printing Office*, USDA Circular No. 887, 68 p., illus., paper, 30 cents. Use of shrubs for conservation has been neglected until recently. They have multiple uses; in addition to conservation of soil they provide food, material for decoration, and wildlife protection.

STARS: A Guide to the Constellations, Sun, Moon, Planets, and Other Features of the Heavens—Herbert S. Zim and Robert H. Baker—*Simon and Schuster*, 157 p., illus., \$1.00. Another in the Golden Nature Guide series, illustrated by paintings in color and by photographs.

TABLES OF THE ERROR FUNCTION AND OF ITS FIRST TWENTY DERIVATIVES—Staff of the Computation Laboratory—*Harvard University Press*, 276 p., \$8.00. A volume of six-place tables prepared to meet the specific requirements of applied statistics and modern physics.

TEACHERS CONTRIBUTE TO CHILD HEALTH—Elsa Schneider and Simon A. McNeely—*Govt. Printing Office*, Office of Education Bulletin 1951, No. 8, 44 p., illus., paper, 20 cents. Written primarily for prospective teachers and those in service but interesting to parents and others.

THE UNITED STATES PUBLIC HEALTH SERVICE 1798-1950—Ralph Chester Williams—*Commissioned Officers Association of the United States Public Health Service*, 890 p., illus., \$7.50. The Service had its origin early in the life of the nation with an act for the relief of sick and disabled seamen.

UP THE MISSOURI WITH AUDUBON: The Journal of Edward Harris—John Francis McDermott, Ed.—*University of Oklahoma Press*, 222 p., illus., \$3.75. This gentleman-farmer and amateur ornithologist of Moorestown, N. J., accompanied Audubon to Yellowstone.

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NUTRITION

Meat and Protein Foods as Diet for Expectant Mothers

► THE DIET of the expectant mother should be prescribed by her doctor who knows whether there are any special foods she should eat or not eat. But her doctor may tell her to eat more meat or other protein food, such as fish, poultry, eggs, milk and cheese. A recent study shows that the babies are healthier if their mothers eat more proteins during pregnancy. The study was made at the University of Chicago's Lying-In Hospital and reported by Dr. William J. Dieckmann to the American Dietetic Association.

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