

## CHEMISTRY

# All-American Tires Shown; Made From Petroleum

**Ameripol Costs More To Produce Than Natural Rubber But Would Be Valuable If War Cut Off Importations**

**A**UTOMOBILE tires made entirely of American materials, which may make us independent of foreign rubber sources, were shown recently in New York to a group of scientists and industrialists. The tires are made of "Ameripol" a product of the B. F. Goodrich Tire and Rubber Co. The name signifies a "polymer," or recombination of molecules, of American supplies.

According to John L. Collyer, president of the Goodrich Company, Ameripol is the result of 14 years of independent research, carried out under the direction of Dr. Waldo L. Semon. Previously he discovered koroseal, another rubber-like synthetic, which has found many industrial uses.

It is made from the same raw materials as some other synthetics, namely, petroleum. By a cracking process, it is broken down to a mixture of simple molecules and from this mixture a gas is separated. Under pressure, this liquefies to form butadiene. When this is mixed with other ingredients, prepared from natural gas and air, and soap, produced from American agricultural sources, a milky emulsion is formed. This is heated and agitated, to form an emulsion of synthetic rubber, similar to the latex from the rubber tree. Then the process is similar to the natural rubber latex, and the product can be treated and vulcanized in the same way.

Mr. Collyer stated that Ameripol costs more to produce than natural rubber, though this can probably be reduced with increased production. In case war conditions cut off supplies of natural rubber, however, the synthetic material would have a definite advantage. For more than a year and a half, a pilot plant producing Ameripol has been in operation, while one with a daily capacity of several tons will be ready in the fall.

Many synthetic rubbery materials are in use today, some of which are similar to rubber chemically, while others are quite different. In fact, some of them have physical characteristics superior to natural rubber, in such respects as re-

sistance to sunlight, oils and abrasion. In 1939, 1700 tons of these synthetic materials were employed in the United States, compared with 592,000 tons of natural rubber.

During the previous war, Germany

produced the first synthetic rubber, which was called "methyl rubber." About fifteen years ago, the rise in price of natural rubber stimulated further research, in the United States and abroad. In Germany and Russia, synthetic rubbers are also made from butadiene, the same compound which is formed in the Goodrich process. Previously, in this country, Dupont has made a synthetic rubber, called Neoprene, from chloroprene, which is a derivative of butadiene. Another one, called Thiokol, which is less closely related chemically to the natural rubber, is made from products from a sulphur mine, a salt mine, and gas wells.

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## PUBLIC HEALTH

## Committee of Physicians Approves Hospital Plan

**P**LANS for a national health program, supported and coordinated by the federal government, should not be abandoned now that a more modest plan for federal hospital construction has been proposed, warns the Committee of Physicians in a statement issued by its secretary, Dr. John J. Peters, Yale University School of Medicine.

The plan to have the federal government spend \$10,000,000 to build hospitals in communities now lacking them was proposed by President Roosevelt and has been embodied in a bill introduced in the Senate by Sen. Robert F. Wagner, of New York.

Providing this plan does not mean permanent abandonment of the national health program, the Committee of Physicians approves the hospital construction plan.

The hospitals built under this plan, the Committee specifies, should vary in size from 100 to 300 beds. Smaller hospitals than this probably could not offer comprehensive service.

The hospital should be directed by a lay hospital board representative of those persons in the community who will utilize it, the Committee of Physicians states. Members of the board should be drawn from welfare organizations, social service and philanthropic agencies, public officials responsible for the care of the indigent and wards of the state or community, business men and industrialists of the locality, and organiza-

tions of farmers or laborers, but no physicians who use the hospital should be on this board. There should, however, be a medical board, consisting of the chiefs of staff of the various services, to maintain and improve standards of medical care, control the use of the hospital by physicians and surgeons of the community and supervise their work.

Physicians should be paid, preferably on a salary basis, for their services in these hospitals to the indigent, wards of the government, and those patients for whose medical care the community assumes total or partial responsibility.

Out patient departments and other measures for integrating these hospitals with the public health services and general health programs of the community are recommended.

Effective ambulance service, appropriate to the character of the community, should be provided.

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Rubber that conducts *electricity* has been produced in England.

*Magicians* of ancient Egypt and Greece astonished their public by producing optical illusions by aid of metal mirrors.

An old but effective method for removing *grass stains* from washable clothing, says a home economist, is to rub the stain with molasses, then wash the spot.