

## ENGINEERING

# Need for Carbon Black

► IF war should ever come again, its super-mechanization might put the U. S. in desperate need of the sootiest substance on earth—pure carbon black.

This fine, jet-black dust, made chiefly by burning natural gas, is so important to the tire industry that the National Security Resources Board has begun an extensive survey of the carbon black situation. Major questions: How much of it would this country need in event of an emergency? Could that much be manufactured?

Mixed with natural or synthetic rubber, carbon black strengthens and reinforces in a way still not clearly understood by scientists. Without this toughening ingredient, tires would have an average life of barely 5,000 miles. With it, since it was first added to rubber by Charles Goodyear about 1855, the life expectancy of automobile tires has been boosted to more than 30,000 miles.

Its role in supplying the tires on which warfare would be waged is vital. But carbon black has other important uses. It is the ingredient which makes printing inks black. Modern high-speed presses demand instantaneous imprints possible only with the use of colloidal carbon as the pigment. It is used in black and gray paints, carbon paper, typewriter ribbons, and many other industrial products. Activated carbon helps in the purification of water and sugar.

Carbon black producers, however, are facing stiffer and stiffer competition for their basic raw material, natural gas. Chemical industries and post-war pipe-lines to vast new household markets in the East are drawing away a great deal of the gas.

The National Security Resources Board's survey may result in a carbon black stockpiling program. A New York chemist and attorney, Harvey Titus, was named to head

the study. His job will be to learn whether it is strategic and necessary for the U. S. to begin collecting large quantities of pure, powdery blackness.

Science News Letter, June 3, 1950

## ● RADIO

Saturday, June 10, 3:15-3:30 p. m. EDT

Adventures in Science, with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Cassius J. Van Slyke, Director, National Heart Institute, Bethesda, Md., will speak on "Have a Heart."

## ENGINEERING

## Rapid-Fire Sprays Help Test Alloys

► RAPID-FIRE salt sprays are helping industrial scientists solve the ticklish job of putting thin platings of chrome or copper over new light-weight aluminum alloys—and keeping them there.

A process being used by the Aluminum Company of America in its research laboratories is described by Fred Keller and Walter G. Zelle in the JOURNAL OF THE ELECTRO-CHEMICAL SOCIETY (April).

Test panels with various thicknesses of zinc undercoating, and cleaned initially by various acid baths, are electroplated. Then grooves are cut across them in the shape of an "X", and the panels are subjected to 300 hours or more of intense salt spray.

The results on the platings—sometimes peeling them off completely—can duplicate in the laboratory months or years of normal exposure to weather and household use.

Science News Letter, June 3, 1950

## On This Week's Cover

► THE world's largest ponderosa pine, 229 feet high and 100 inches in diameter at breast height, was recently felled by the Blagen Lumber Company, White Pines, Calif. Two of the 13 logs from the 350-year-old tree are shown on this week's cover of SCIENCE NEWS LETTER. The logs totaled 38,160 bd. feet. Special sawing techniques were employed because of the logs' diameter.

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