

ENGINEERING

Cotton Helping to Give Better Roads to South

A SAMPLE stretch of gravel road near Baton Rouge, La., was recently resurfaced with cotton cloth in tests which may yield a quick and economical method of modernizing America's millions of miles of dirt "farm-to-market" roads and find a new use for surplus cotton. Arnold M. Davis was the engineer in charge of construction.

South Carolina, Texas and Georgia are also experimenting with cotton-surfaced roads and Louisiana and Oklahoma plan to install additional "test mileage." It is reported that a strip of "cotton road" laid in South Carolina six years ago and exposed to usual traffic conditions has required no repair attention and is still in excellent condition. Bound down with an asphaltic substance and given a top dressing of oiled gravel to meet the grind of the wheels, the cotton fabric increases the life of a road by making it thoroughly waterproof.

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What is said to be America's first railway was the Granite Railway at Quincy, Massachusetts, built about 1826, with horse-drawn cars, to carry granite for Bunker Hill monument.

ARCHAEOLOGY

Old Drinking Horns Tell Secrets of Ancient Liquors

DRIED-UP heeltaps of beer and mead in two ancient drinking horns have yielded secrets of ancient German beverage, under the microscope of Prof. Johannes Grüss, of Friedrichshagen. Prof. Grüss summarizes his study in the German scientific journal *Forschungen und Fortschritte*.

The two horns were found buried eight feet deep in a peat bog in northern Germany. They have zoological as well as archaeological interest, for they were made from the horns of the once abundant but now almost extinct European bison.

Lurking in their cracks and under the scaled flakes of horn, Prof. Grüss found dried remains of the dregs of liquors quaffed in the far-gone days when German warriors drank as mightily by night as they fought by day. He scraped out the dried and hardened remains, soaked them up and patiently examined them under his microscope.

One horn had been used for beer, the other for mead, the evidence showed. The beer horn contained starch and pro-

tein cells from emmer, a species of wheat, together with yeast cells and fungus spores. The discovery of emmer fragments is of importance, for although it has long been conjectured that the ancient Germans used this grain in their beer positive proof has not hitherto been brought to light. Emmer was used with barley in making the beer-like beverages of ancient Mesopotamia and Egypt.

Mead was a fermented drink made of a honey solution. The mead horn yielded numbers of pollen grains of flower species visited by bees, together with the end of a bee's tongue. Mead was fermented mainly by a wild yeast found in flowers, and cells of this yeast were abundant in the scrapings which Prof. Grüss got out of the mead horn.

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MEDICINE

Wants Disease-Detecting Materials Standardized

A COMMITTEE of the American Public Health Association was urged to undertake the control of the sale of materials used in testing for certain diseases, such as typhoid fever, meningitis, pneumonia and others, in a paper by Dr. John F. Norton of the Detroit Health Department.

Health department and other laboratories cannot always make their own materials for these tests, which are used in diagnosing many diseases, but depend on serums and cultures manufactured by biological supply houses. Unless the materials are standardized by a central agency, those from one supply house might give a positive result in a case in which materials from another manufacturer would give a negative result.

"It is no reflection on the ethics of biological supply houses to insist that standardization of these products is desirable," Dr. Norton said. "Such an undertaking by this association would not only be of great service to the laboratories but would be a real aid to the medical profession who depend upon the laboratories for accurate results."

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COTTON SHEETS FOR THE ROADBED

Heavy canvas fabric laid over the road before the waterproofing is applied, then covered with crushed stone or gravel, gives a superior surface, tests in the South indicate.