

## GEOLOGY

# Blizzards Made Loess

**Fine-grained loose soils, now some of nation's best farm lands, are the product of dry gray blizzards that howled off edges of glacial sheets.**

► SOME OF the best farm lands in America are the product of unimaginably violent dust storms—dry, gray blizzards that howled off the edges of the vast glacial sheets of the pleistocene Ice Age. They are the wind-deposited soils known technically as loess, that are found over wide stretches of the Midwest and also (though more thinly deposited) in parts of the East.

Wind has long been credited with the creation of the loess, but there have been many things about this soil type that have puzzled geologists. New light is thrown on the problem by Prof. William H. Hobbs, University of Michigan geologist, as a result of long studies around the ice sheet that covers Greenland—one of the two places on earth where Ice Age conditions still persist.

During Greenland's short but often surprisingly warm summers there is very rapid melting around, and just within, the glacial margins. Heavy floods of water, turbid with suspended mud and sand, pour out, frequently floating off blocks of ice with boulders embedded in them. These eventually become stranded and melt, dropping their boulder loads at considerable distances from the edge of the main ice mass. Geologists know all this solid discharge from under the glacier edge by the vivid name of "outwash."

When the long winter sets in, bitterly cold winds, at velocities of 100 miles an hour and more, pour down off the interior of the ice sheet. The outwash is soon dried out, and the lighter particles blow outward in great clouds. Sand-

storms at lower levels, dust storms at all levels, rule the season. Except for temperature, conditions are not unlike those encountered in the Libyan desert. Exposed stone surfaces are sand-blasted in almost exactly the same manner in both regions.

The outward-blowing dust is halted only by vegetation and does not, therefore, settle permanently upon the outwash plain itself. Around the outwash area it builds up a heavy deposit of the

loess, which is thickest about the rim of that area and thins out the other ways. Thus it comes about that in the upper Mississippi Valley the loess has been deposited peripheral to the areas occupied by the last-ice sheet, but with an intervening area wherever there has been outwash deposited. This distribution of the loess has long been recognized by glacialists, but has never before been explained owing to the failure to take account of the so-called glacial anticyclone over continental glaciers.

Prof. Hobbs has found abundant evidence of the same state of affairs in the abundance of wind-sculptured boulders, in the inland sand dunes of Nebraska and in the distribution of the Midwestern loess which covers whole Corn-Belt counties and piles up in hills as much as 300 feet high along the Missouri.

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## ENGINEERING

## Maintenance Plan Wanted

**Army officer asks industry to aid in standardizing methods to keep biggest vehicle fleet in the world operating.**

► BIGGEST VEHICLE fleet in the world is used by the Army under severe operating conditions. But even better maintenance than is given commercial carriers on our highways is hoped for through cooperation of the automotive industry, Brigadier-General James Kirk, Ordnance Department chief of motor vehicle maintenance, told the meeting of the Society of Automotive Engineers in Detroit.

Complimenting the automotive industry on its remarkable production achievement, the speaker asked that further aid be given in developing and standardizing maintenance methods to keep the motorized Army in action. It is a prob-

lem "that can make us or break us in this war of machines," Gen. Kirk asserted.

Lists of tools should also be prepared which could be used in the maintenance of a wide variety of vehicles.

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## Supercharger for Diesels

► DIESEL ENGINE power may soon be boosted by superchargers similar to those now used on plane engines. Problems involved in thus increasing our power supply were discussed at the meeting of the Society of Automotive Engineers.

A Swedish supercharger now being applied to American engines was explained in a paper prepared by Alf Lysolm of Aktiebolaget Ljungstrom, Augturbin, Sweden; and Ronald B. Smith and W. A. Wilson of the Elliott Company, Jeanette, Pa.

Such a device now being manufactured weighs only 80 pounds and handles 400 to 500 cubic feet of air per minute. Other sizes adequate to serve the largest diesel engines can be built, the report stated.

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