

## GEOLOGY

## Model Shows How Water Causes Pothole Erosion

► TO FIND OUT just how falling water rolls stones to grind the round cavities called potholes in solid rock, Walter B. Kamb, fifteen-year-old high school senior at Pasadena Junior College, has built an ingenious piece of apparatus in which all possible conditions of angle and force of water currents can be reproduced in miniature.

The device consists of a glass cylinder, with a movable piston for its bottom, so that a pothole of any depth can be simulated. Water is jetted in at any desired angle through an adjustable nozzle, and glass beads rolling on the bottom represent the stones that do the cutting. Some very curious effects are obtained by changing angle of flow and depth of cavity, even to a complete reversal of the direction of rotation at the bottom.

Potholes are now being formed at the bases of many waterfalls. "Fossil" potholes are abundant in rocky parts of the country that were glaciated during the Pleistocene ice age; they were cut by stones kept in motion by streams of water flowing out from under the melting glacial fronts.

Mr. Kamb is a winner in the Sixth Annual Science Talent Search for the Westinghouse Science Scholarships. With 39 others, he will attend the Science Talent Institute in Washington, D. C., Feb. 28 through March 4.

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## ENGINEERING

## Standardization to Benefit Household Motor Servicing

► HOUSEHOLD electric motors on refrigerators, washers, pumps and fans will be more easily serviced as the result of the standardization of small motors by the National Electrical Manufacturers Association, C. P. Potter of Wagner Electric Corporation told the American Institute of Electrical Engineers.

Fractional horsepower motors, used in most household equipment, are not always interchangeable under past conditions because motor characteristics are frequently modified to suit the desires of the makers of various devices. The standardization will make replacements of motors easier as well as benefit servicing.

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**SUBGLACIAL CHAIN**—Meadows are shown some distance below this chain of subglacial potholes in this photograph taken by Walter B. Kamb, senior at Pasadena Junior College and a winner in the Sixth Science Talent Search.

## MEDICINE

## New Antibiotic Discovered

Streptomycin-relative weapon against germs has been discovered. Its value will lie in keeping germs from getting resistant to streptomycin.

► A NEW ANTIBIOTIC related to streptomycin has been discovered by Dr. Selman A. Waksman, famed Rutgers University and New Jersey Agricultural Experiment Station researcher who discovered streptomycin.

Grisein is the name Dr. Waksman has given streptomycin's sister weapon against germs. The name comes from the last part of the name for the organism which yields it and streptomycin, *Streptomyces griseus*. Grisein was discovered in a search for "bigger and better streptomycins," Dr. Waksman said.

The new antibiotic is no rival to streptomycin. By itself it shows no great promise as a weapon against germs. Its value, Dr. Waksman believes, will come from combining it with streptomycin to eliminate resistance which germs develop to streptomycin.

This development of germ resistance to antibiotics is the most important problem today in connection with the

use of these modern remedies for infection, Dr. Waksman emphasized at the symposium on antibiotics held in Washington under the auspices of the U. S. Public Health Service's National Institute of Health.

Germ resistance to streptomycin may be even more important than resistance to penicillin. This, Dr. Waksman explained, is because streptomycin is used in chronic illnesses for which it must be given over a long period of time. Penicillin, on the other hand, is used for acute conditions from which the patient gets well quickly.

Streptomycin should, for example, give good results in undulant fever, but in practice it does not. This long drawn-out illness gives the germs a chance to develop resistance to the antibiotic. The same thing may occur in tuberculosis, for which streptomycin is now being tried.

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