

By subjecting various kinds of fabrics to these tests, the Moscow Laboratory of Climate assists in creating the most convenient and appropriate clothing for all kinds of industrial conditions.

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## GENERAL SCIENCE

## Technical Encyclopedia Serves Practical Persons

IT HAS been more than two decades since an encyclopedia devoted exclusively to technical and scientific matters has appeared. Now the needs of teachers, students, artisans and even scientists is served by 2,468 pages, some 25,000 titles, and thousands of illustrations in a four volume British-written work, *Hutchinson's Technical and Scientific Encyclopedia*, edited by C. F. Tweney and I. P. Shirshov (Macmillan).

Browsing through these volumes, many unfamiliar words tease one's ignorance. The last volume is labeled: "Petrol Engines to Zymurgy." Petrol engines is easy if one knows a little British; it means "gasoline engines" as gasoline to the British is "petrol."

Zymurgy? Easy—"the branch of technical chemistry which deals with processes of fermentation. See Brewing; Fermentation."

At the very beginning of the book—what? A. You know what that means? Do you?

"A (Astron.) A band in the solar spectrum produced mainly by oxygen in the terrestrial atmosphere; named by Fraunhofer."

Open the fourth volume to its center: "Slicker (Leather Manufac.)—A tool used in leather manufacture for setting-out, smoothing, or stretching leather. May be made of brass, slate, stone or vulcanite."

### Gangway

And in the middle of volume 2:

"Gangway (Mining)—A main haulage road or main level."

One might go on picking out item after item from this comprehensive work. The electrical sciences, chemistry and engineering are particularly well covered. The longest articles on the more basic principles of the sciences are less elaborate and academic than those found in a larger work like the Britannica but serve well the more practically-minded audience for which the volumes are intended.

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The ancient Chinese, and later the Romans, cultivated oysters.



DRIFTED HIGH

Snow piles high against this snow fence in the Laboratory of Climate in Moscow.

## MEDICINE

## Waste Product Heals Wounds By Stimulating Growth

UREA, ordinarily considered a waste product of the body, is good medicine for slow-healing wounds. Its successful use on patients by physicians all over the country is reported by Dr. William Robinson, entomologist of the U.S. Department of Agriculture (*American Journal of Surgery*).

A two per cent solution of urea, made with sterile water, is applied directly to the wound. Relief of pain and rapid healing has followed in cases of varicose and diabetic ulcers, carbuncles, extensive infected burns, mouth infections, osteomyelitis and certain skin infections. No ill results have so far been reported from this use of urea, and its low cost, about fifty cents a pound, makes its extensive use quite practicable. The solution is bland, colorless and odorless, and as used medicinally comes from a manufactured product having no connection with body wastes.

The urea solution apparently achieves its effect by stimulating a "vigorous growth" of new tissue with abundant blood supply. It does not have any direct germ-killing effect on the organisms involved in chronic, pus-forming wounds. Its cleansing effect on these wounds is produced indirectly through the stimulation of the growth of new healthy tissue.

The healing effect of urea was discovered through investigations Dr. Robinson made of maggots. A war-time discovery by the late Dr. William S. Baer, American surgeon, showed that these tiny creatures, loathsome as they might seem when crawling around in an open wound, had the power to clean up the wound and stimulate healing of the tissues. Dr. Baer died before he could find why the maggots in many cases surpassed other means of healing wounds. Government scientists continued his work, breeding clean, germ-free maggots and studying them. First clue to the maggots' healing power was the discovery that they produced allantoin, which in itself is a healing agent.

Further study showed that this was not the only substance with healing power present in maggot excretions. The chemical structure of allantoin suggested the possibility that urea, which can be formed by adding hydrogen to one of the chemical groups that make up allantoin, might be the active agent with which maggots were healing wounds. Whether or not this is the case, the suggestion led scientists to a trial of urea itself, with the success reported by Dr. Robinson.

Urea can be made by combining am-