

slightly if sharp pictures are to be secured. The most convenient way of using the new bulb is with a synchronizer that permits snapshots, the shutter being opened automatically while the flash is at its height. However, as with ordinary flash bulbs, the shutter of the camera, on a firm support, may be opened, the bulb fired, and then the shutter closed. This method is not effective in stopping rapid movement.

Photographs may be taken in theaters and similar places without disturbing the audience. Another use is seen in case of possible blackouts, where photography can be done without the visible flashes of light that might be of use to enemy raiders.

The new infra-red flash bulb is manufactured by the Wabash Photolamp Corporation, of Brooklyn, N. Y.

*Science News Letter, August 23, 1941*

PHYSIOLOGY

## Record-Breaking Case of Weight Reduction Reported

### Woman Gets Rid of 300 Pounds in 18 Months; Heroic Dieting Causes Improvement in Health

**L**OSING 300 pounds in 18 months is the heroic feat in reduction accomplished by a woman patient whose case is described by Dr. James J. Short, associate professor of medicine in Columbia University's post-graduate medical school, in the *Journal of the American Medical Association*. (Aug. 16).

The patient, who for obvious reasons remains nameless, is a married woman 35 years old. She had always been a "fat girl"—she weighed 200 pounds when she was 14; 260 pounds at 21. Both her parents had been big persons; her father a six-foot 200-pounder, her mother decidedly stout. She herself had abnormal dietary habits, eating moderate quantities of meat, fish and eggs, little fruit and no vegetables, but stuffing herself with large amounts of cake and other baked goods.

Finally, with a troublesome cough of five or six months' duration and a number of other distressing symptoms, she presented herself for medical treatment. There seemed to be nothing the matter with her except extreme obesity, so a diet calculated to produce rapid reduction was outlined for her. Since it seemed unlikely that she could exercise sufficient self-control during the reducing period, she was placed in a nursing home where she would have no chance of raiding the pantry, no matter how hungry she became.

The diet provided first for sufficient proteins to replace ordinary losses from muscles and other non-fatty tissues, and also insured proper vitamin intake. Heaviest cuts were in fats and carbohydrates, the fat-making foods. Total

calories were between 600 and 800 a day—about half the usual requirement for a normal adult.

The patient lost weight rapidly from the first. Over the 18-month period the loss averaged 16  $\frac{2}{3}$  pounds per month. In the end, she had been transformed from a behemoth of nearly 480 pounds to a husky but trim-enough figure of 175.

There were difficulties on the way, to be sure. The patient was anything but

comfortable at times, and complained of nausea and abdominal pains. More serious was an acid condition that occasionally threatened. At such times, the diet was readjusted to include a little more carbohydrates, which are alkalinizing foods. All the way, a mass-reduction job of this kind was not a thing for an amateur to attempt; it required the constant vigilance of a medical specialist.

After the masses of fat had disappeared, there was still a serious condition to correct. The human skin does not shrink as drastic reduction occurs, and at the end of the treatment the woman had loose, unsightly, drooping folds of outer tissue on her body and arms. To correct this, surgical operations were necessary, to take out the slack.

Her muscles, once interpadding with fat, had become loose, so that at first she could scarcely walk. However, muscle tone was eventually spontaneously restored, so that she is now able to get about and do her housework in about normal fashion.

*Science News Letter, August 23, 1941*

## ● RADIO

Thursday, August 28, 2:45 p.m., EST

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

Dr. Marston Morse, president of American Mathematical Society, will discuss "Mathematics in Defense."

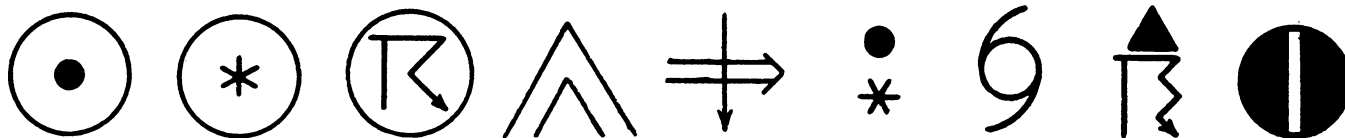
Listen in each Thursday.



CLOUD SHORTHAND



This is the new symbol used on U. S. Weather Bureau maps for these wool-pack or cumulus clouds. The picture and symbol on the cover are of the cumulonimbus, or "anvil" cloud, familiar on thundery hot days in summer.



## METEOROLOGY

# New Weather Map Symbols Recall Indian Picture Writing

## Presence and Movement of Air Masses Shown For First Time; Use Will Spread to All Cities

See Front Cover

**W**EATHER maps are going to have a radically different appearance before long. They will be speckled all over with new symbols that look like Indian picture-writing, with a suggestion of shorthand thrown in.

They won't be hard to read, however. Most of them have a graphic resemblance to the thing they are intended to indicate. Thus, a round dot means rain, a six-pointed star means snow, a white circle means a clear sky, a down-sloping line means falling barometer, and so on.

Cloud shapes have their symbols, which are really rough sketches of their outlines. The flat-bottomed, round-topped "woolpack" or cumulus clouds are indicated by a half-circle. A half-circle surmounted by the inverted base of a triangle signifies the lightning-charged cloud we see on hot summer afternoons, known as the "anvil" cloud or cumulonimbus. Symbol and cloud are both shown on the front cover of this week's SCIENCE NEWS LETTER. A straight line ending in a short curve or hook suggests the streaky, curve-ended clouds called "mares' tails" by sailors and cirrus by meteorologists.

All the symbols of the new map are as simple and graphic as that.

On each day's map, every city where there is a Weather Bureau observatory will have spotted alongside it a cluster of these symbols. Anyone who has learned the "alphabet" will be able to tell at a glance that city's temperature, barometer state, degree of cloudiness, direction and force of wind, and other weather facts.

Missing from the new maps will be the old familiar curved lines that passed through points of equal temperature—the isotherms. Isobars, marking regions of high and low pressure, will survive,

but they will be more widely spaced than at present. Significant introductions will be indications of air masses, with letters showing polar or tropical origin, and whether they are warm or cold. The fronts where they come in contact will also be shown; it is at these fronts that liveliest weather changes often take place.

Observations for the making of the new maps will be taken at 1:30 a.m. instead of 7:30 as at present. This will enable the Weather Bureau to distribute the maps earlier in the business day when they will be of more use.

The new maps will be printed and used first in Washington, D. C. Later,

## WEATHER SIGNS

*In the sign language of Uncle Sam's new weather maps, these symbols (from left to right) stand for rain, snow, thunderstorm, heavy squalls, blizzard, mixed rain and snow, hurricane, thunderstorm with hail, and sky nine-tenths clouded.*

they will replace the old-type maps in other cities. The rate at which the change-over will take place will depend largely on how rapidly funds can be made available for the alterations in the map-printing equipment.

*Science News Letter, August 23, 1941*

## PHYSICS

## Change from Wave Lengths To Frequencies Proposed

**J**UST as in the case of our radios, where wave lengths have been abandoned for kilocycles or frequencies, it is now proposed that the same change be made in optical work—for light is also a wave similar to the radio waves but of much shorter wave length, or, what is the same thing, of much higher frequency.

For many years those dealing with



## MARES' TAILS

*A hooked line suggests the shape of the wispy mares' tails or cirrus clouds such as these.*

