

required. The first method will be found impracticable in any but very small laboratory sections. The second method has the psychological advantage of following the procedure as in actual barometer reading, and the added great advantage that, once the instructions are given, the model is passed from student to student, each making his readings for himself, independent of the instructor. The student hands in his results with the rest of the current exercise.

The Vernier is set for each problem by the student, as illustrated in Fig. 3. The ends of the fine numbered lines are at the positions for the bottom of the Vernier tangent to the top of the "mercury" column. The numbers of the successive readings required run from 1 to 12 (or any number) beginning with the simplest reading. The instructions are to set the *middle* of the end of the mark representing the bottom of the Vernier accurately opposite the end of the numbered problem line.

We have found that after making a dozen practice readings on the model, students rarely fumble when they make their final reading with the standard barometer.—*B. M. Varney.*

A LABORATORY DEVICE FOR ILLUSTRATING THE MECHANICS OF THE GLACIAL ANTICYCLONE.

Prof. W. H. Hobbs, Dept. of Geology, University of Michigan, has described in *Nature*, July 22, 1920 (pp. 644-645, 2 figs.), a simple device for showing how cooled air slides off a cold dome. The dome is placed either in a bowl of water, with coloring matter in the middle over the cold dome, or it is placed in a goldfish jar with a smouldering cigarette hanging directly over it. The result is a down-current outward from the top of the dome. Prof. Hobbs did not get to the point of introducing a rotary motion to the cold dome, to simulate Antarctic conditions, and to show how the outflowing winds become southeasterly.

LARGE WEATHER MAP BASES FOR DEMONSTRATION.

The Weather Bureau has on hand a limited number of copies of the attractive large weather-map bases which were prepared two years ago for instruction in the Meteorological Service of the Signal Corps. These maps are much like the Weather Bureau's glass-map bases, after one of which the lithograph base was modelled by the U. S. Geological Survey. Generous portions of Canada and Mexico are included. They are printed in blue on heavy white paper, size about 3 by 5 feet.

Where these maps will prove of considerable use is in connection with demonstrations of weather maps or other data which require a large base map of the United States. They are well adapted to the use of colored crayons, or chalk. At the Signal Corps School of Meteorology in Texas, in 1918, these maps were used daily for reproducing the weather map for the class-room discussion. The features could easily be seen even where there were 100 in a class. The colors used were as follows: pressure data and isobars, black or gray; temperatures and isotherms, red; rainfall, brown or green; wind arrows, blue, green, black, or brown, representing clear, partly cloudy, and rain or snow, respectively.

When rubber stamp arrows are used, a neat-looking and more permanent map results, though a little more time is required in their preparation. Dr. O. L. Fassig had a set of such arrows with central circles representing state of weather symbols, and used pink (open circle) for clear, blue (half solid circle) for partly cloudy, blue (solid circle) for cloudy, and black (solid circle) for precipitation.

Inquiries as to these maps should be addressed to Secretary Am. Metl. Soc., Weather Bureau, Washington, D. C. No definite price can be advertised, as the cost would depend on the number which may be wanted and on whether or not this would necessitate the printing of a new edition. The cost per map would probably not exceed 25 cents.

TWO NEW BASE MAPS OF THE UNITED STATES.

An outline base map of the United States on the Lambert Zenithal equal area projection, scale 1-7,500,000, dimensions $19\frac{3}{4}$ inches by $25\frac{3}{4}$ inches, price 15 cents, has just been issued by the Coast and Geodetic Survey.

The map covers the whole of the United States, including the northern part of Mexico. Only state names and boundaries, principal rivers, capitals, and largest cities are shown, the chief object being to furnish a base map for political census, or statistical purposes on a projection in which the property of equivalence of area is one of the essential features. It is the first publication of a projection of this type by the Coast and Geodetic Survey. * * *

An outline base map of the United States on the Lambert Conformal Conic projection, scale, 1-5,000,000 dimensions, 25 by 39 inches, price 25 cents, has also been issued by the Coast and Geodetic Survey. This map is similar to the one on the Zenithal Equal Area projection in general treatment. It is larger in scale, however, but embraces a lesser extent of latitude, being limited to the area of the United States, whereas the zenithal equal area map includes the greater portions of Mexico. * * * *—*Science*, Feb. 27, 1920, pp. 213-214.

PROJECTION OF THE WORLD.

A projection of the whole sphere on the equivalent, or equal-area system, devised by Aitoff, has been issued by the U. S. Coast and Geodetic Survey. The sphere is represented within an ellipse with major axis twice the minor axis. The network is obtained by the orthogonal, or perpendicular projection of a Lambert meridional equal-area hemisphere upon a plane making an angle of 60° to the plane of the original. As used for the map of the world, this projection is well adapted to replace the Mercator projection in atlases of physical geography or for statistical purposes, and has the advantage over Mollweide's in that its representation of the shape of countries far east and west of the central meridian is not so distorted, because meridians and parallels are not so oblique to one another.—*Jour. Wash. Acad. Sci.*, Sept. 19, 1920, Vol. 10, p. 449.

FELLOWSHIP IN METEOROLOGY.

The American Scandinavian Foundation has awarded a Fellowship in Meteorology and Oceanography¹ to Miss Anne Louise Beck, of Berkeley, California. The fellowship yields \$1,000, and though granted for one year only, may be reawarded for a second year.

Miss Beck will go abroad in September. She will spend the year at Bergen Museum, Norway, studying meteorology and climatology under Professor Bjerknes, and oceanography under Professor Bjorn Holland-Hansen.

Miss Beck, though a native of California, is of Danish descent. She was graduated from the University of California in 1918, and, with the exception of her thesis, has completed all the graduate work required for the Master of Arts degree. During the summer of 1919 she served as an assistant in the San Francisco office of the Weather Bureau. During the past school year she taught mathematics in the Union High School at Lodi, California. Though it is unusual for a woman, Miss Beck has specialized in meteorology, climatology, astronomy, navigation and mathematics, and has a brilliant university record to her credit.

¹ See this BULLETIN, Feb. 1920, p. 18.