A Science Service Feature

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? WHY THE WEATHER ? Mailed November 21, 1927

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## MEASURING THE SPEED OF THE WIND

One of the external features of a meteorological station that invariably attracts the attention of the passerby is an instrument consisting of four hemispherical metal cups, revolving rapidly or slowly according to whether the wind is strong or light. This scientific whirligig is the "Robinson anemometer," the most widely used instrument for measuring the speed of the wind. Recently an anemometer with three cups instead of four has been introduced in Canada and also, experimentally, in the United States and England.

When cup anemometers were first put in use it was supposed that the speed at which the air traveled past the instrument was three times the speed at which the cups revolved. We now know that the ratio is actually less than three to one;also that it is different for instruments of different dimensions and for different velocities of the wind.

The Robinson anemometer has a dial from which direct readings can be made. In many cases the instrument is connected electrically with a registering device indoors. The record is traced on a sheet of paper, would around a revolving cylinder, and ruled with lines denoting interval of time. The pen registers the end of each mile of wind movement, as indicated by the revolutions of the cups. The current velocity of the wind in miles per hour is obtained by noting the number of miles of wind movement within the five minutes preceding the moment of observation and multiplying this number by 12, or, at low velocities, by noting the number of minutes occupied by the last mile of wind movement and dividing 60 by this number.

For example, if the wind traveled three miles in the five minutes preceding the observation, the current velocity is 36 miles an hour. If the last mile of wind movement occupied 12 minutes, the current velocity is five miles an hour.

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