INTRODUCTION.

The statistics of rain and snowfall given herewith are compiled from the observations of the paid and volunteer observers in the Dominion of Canada. Whenever it has been found that the records of a station were not complete for at least one year, they have not been made use of. These records are the most complete yet published and give a fairly accurate knowledge of the distribution of precipitation throughout the settled portions of the country. In the unsettled portions, observations are necessarily few and far between ; but whatever records were obtainable have been tabulated and made use of in the accompanying tables and charts. The charts have been constructed by plotting the mean annual rain and snowfall at each station and then drawing lines of equal fall, or isohyetal lines, inclosing areas of each five inches ; but at isolated stations figures only have been used.

The method of obtaining the amount of the rain and snowfall in Canada has been, with few exceptions and those in the early days, that of using a uniform gauge for measuring rain, and melting the snow or measuring the fall and averaging its depth as being equal to one-tenth of the fall of rain, i. e. 1 inch of snow = 10 inch of rain.

The rain gauge in general use throughout Canada has invariably been supplied to observers by the Meteorological Service. It is a gauge whose circular mouth has an area equal to 10 square inches, so that the depth of rain is found by dividing the cubic contents by 10, i.e. by moving the decimal point one place to the left. Thus—

Corresponding to a volume of cubic inches $11^{\circ}2$; $4^{\circ}3$; 2° ; 4° ; $2^{\circ}37$. The depth will be in inches $1^{\circ}12$; $0^{\circ}43$; $0^{\circ}20$; $0^{\circ}04$; $0^{\circ}237$.

The general appearance of the gauge and of its various parts is shown in Fig. I where A represents the gauge complete, and B represents the measuring glass.

The rain gauge apparatus is made up of the following parts :--

(1.) The upper part, which consists of a vertical cylinder whose cross section has an area of 10 square inches, and is open at the top to receive the rain, being connected at its lower part with a funnel and pipe, through which the rain runs to a receiver beneath. This upper part is made either of brass or of sheet iron japanned; but in either case the upper rim is of brass, and is formed into a well defined sharp edge. The side of the cylinder is high enough to prevent the rain when striking the funnel from rebounding out of the gauge. This part of the apparatus is shown in an inverted position in Fig. I (C).
(2.) The large receiver upon which the upper part is fitted. The large receiver is made either of brass.

(2.) The large receiver upon which the upper part is fitted. The large receiver is made either of brass or sheet iron. It is shown in Fig. I (D).

(3.) The small receiver which stands within the large receiver, and into which the rain enters directly by the down pipe. It is made large enough to hold rather more than 5 cubic inches. It is sometimes made to expand a little at its upper end so as to neatly fit the outer surface of the funnel, and thus diminish the surface of water exposed to evaporation. Fig. 1 (E).

(4.) The outer stand (made of sheet iron) on which the large receiver rests by a flange designed to prevent the entrance of rain or snow into the stand, which by freezing would cause the large receiver to adhere to the stand. Fig. I (F).

Up to the present time no snow gauge has been used in the Canadian Service. It is assumed that on an average ten inches of snow are equivalent to one inch of water, and observers are instructed to measure the depth of snow by means of a rod divided to inches and then divide the depth thus obtained by 10.



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