W. A. THOMSON.

RAIN GAGE.

APPLICATION FILED NOV. 30, 1908.

**916,060.** **Patented Mar. 23, 1909.**

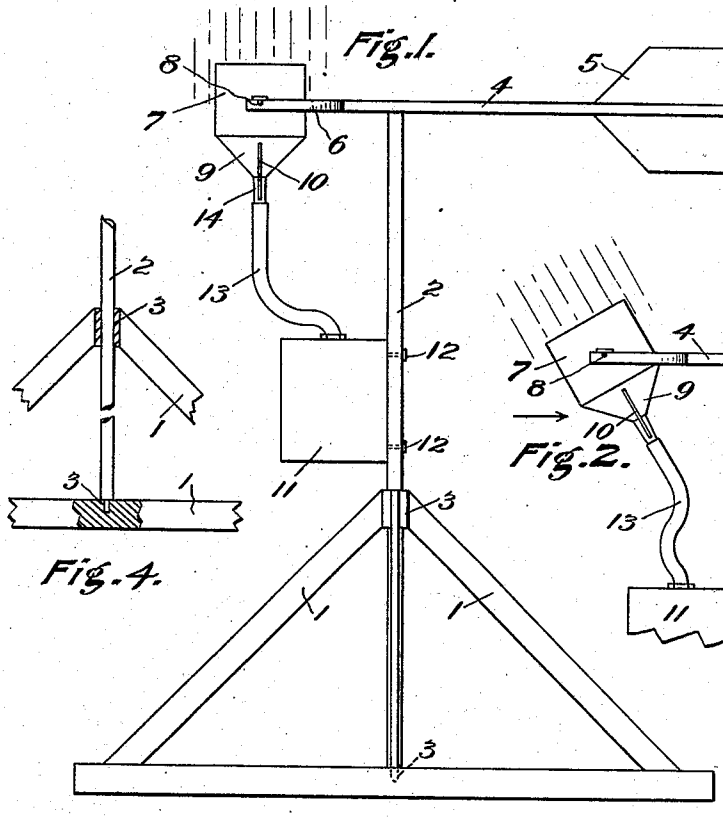



Fig. 1.




Fig. 2.




Fig. 4.

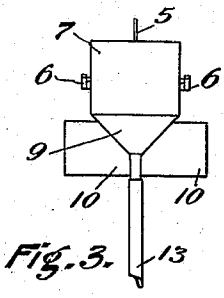



Fig. 3.

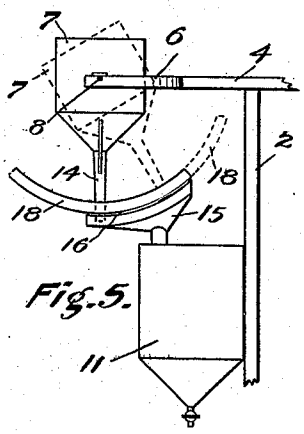



Fig. 5.

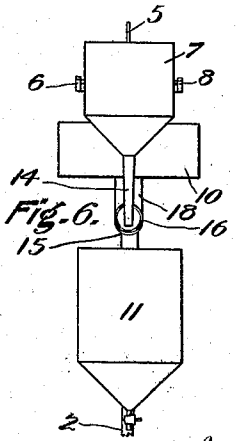



Fig. 6.

Witnesses
Chas. H. Smith
A. D. Serrell

Inventor
William A. Thomson.
by Harold Serrell
his Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

WILLIAM ARTHUR THOMSON, OF PALMERSTON, PORT DARWIN, SOUTH AUSTRALIA, AUSTRALIA.

## RAIN-GAGE.

No. 916,060. Specification of Letters Patent. Patented March 23, 1909.

Application filed November 30, 1908. Serial No. 465,449.

*To all whom it may concern:*

Be it known that I, WILLIAM ARTHUR THOMSON, a subject of the King of Great Britain, residing at Palmerston, Port Darwin, in the State of South Australia, Australia, have invented certain new and useful Improvements in Rain-Gages; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has been devised to provide improvements in the catchment vessels of rain gages.

In the rain gage as present employed the catchment vessel is in a fixed vertical position and consists of a cylinder having a funnel-shaped bottom and an open top of known area. The catchment vessel is supported on the water holding receptacle or vessel, to which the rain water is delivered.

In a rain gage constructed in accordance with my invention, I so arrange the catchment vessel that it will automatically move to bring its mouth to a position as nearly as posible at right angles to the direction of fall of the rain.

In order that this invention may be the more easily understood reference may be made to the accompanying drawings, in which—

Figure 1 is a side elevation of apparatus embodying my invention. Fig. 2 is a side elevation of a portion of the apparatus, showing the catchment vessel in a position at an angle to the vertical. Fig. 3 is a front elevation of part of Fig. 1. Fig. 4 is a sectional view of a detail, while—Figs. 5 and 6 are respectively a side elevation and a part sectional front elevation showing a modified manner of conducting the water from the catchment vessel to the receiving vessel.

1 is a frame in which a vertical spindle 2 is mounted, the spindle having bearings 3 in the frame so that it may turn easily. At the top of the vertical spindle 2 a shaft 4 is secured on one end of which an air vane 5 is mounted. The other end of the shaft 4 has a fork 6 in which fork the water catchment vessel 7 is suspended by the axles 8. The catchment vessel 7 is cylindrical with a funnel-shaped lower portion 9 and is provided with sails 10 (Figs. 1 and 3) by which it will be tilted more or less by wind pressure as will be hereinafter described.

11 is the water holding receptacle or vessel which is attached to the vertical spindle 2 in any convenient manner for instance by screws 12. Water passes to this receptacle from the catchment vessel 7 by way of a flexible tube 13 fitting on the nozzle 14 of the vessel 7 which nozzle and tube will be of sufficient bore to prevent accumulation of water in the catchment vessel.

In operation, when the rain is falling vertically there being no wind, the catchment vessel 7 will be in a vertical position as shown in Fig. 1. When rain driven by the wind is falling in a direction at an angle to the vertical the wind acting on the vane 5 and sails 10 will move the catchment vessel from the vertical and bring it to such a position that the mouth of same will be about at right angles to the direction of fall of the rain as shown in Fig. 2. The water collected by the vessel 7 passes through the nozzle 14 and tube 13 to the holding receptacle 11 which receptacle may be disconnected from the apparatus and the water measured in the ordinary manner.

The size and position of the sails 10 on the catchment vessel 7 will depend on the weight and shape of the vessel and the point at which it is pivoted to the shaft 4. They should be sufficiently large and arranged to allow the wind to move the vessel so that its mouth will always be at right angles, or nearly so, to the direction of fall of the rain. The air vane 5 brings the catchment vessel 7 around to face the wind so that the vessel may be moved by the wind into the correct position.

Instead of using the flexible tube 13 the nozzle 14 of the catchment vessel 7 (see Figs. 5 and 6) may deliver to a receptacle 15 having a long mouth 16 conforming to the circumference of a circle struck from the axle 8 which allows of movement of the catchment vessel. The nozzle 14 will have a guard plate 18 to prevent water other than that caught by the catchment vessel 7 passing to the holding receptacle.

I claim as my invention:

1. A rain gage comprising an air vane shaft, a catchment vessel pivotally mounted therein, sails on the said catchment vessel,

whereby the same is moved by the wind to bring its mouth more or less at right angles to the direction of the fall of the rain, and means for leading away the water caught by the said catchment vessel.

2. A rain gage comprising a water holding receptacle, a frame, a spindle mounted in said frame, an air vane shaft connected to said spindle, a catchment vessel pivotally mounted in said air vane shaft, sails on said catchment vessel, and means for conducting the water from the said pivotally mounted vessel to the said water holding receptacle.

3. A rain gage comprising a water holding receptacle, a frame, a spindle mounted in said frame, an air vane shaft connected to said spindle, a catchment vessel pivotally mounted in said air vane shaft, sails on said catchment vessel, a nozzle on the said pivotally mounted vessel, and a flexible hose connection therefrom to the said water holding receptacle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM ARTHUR THOMSON.

Witnesses:
GEORGE MCKEDDEE,
OFFEN CHARLES WITHERDEN.