J. H. RHODES.

WATER DISTRIBUTOR.

No. 185,965. Patented Jan. 2, 1877.

Fig. 1.

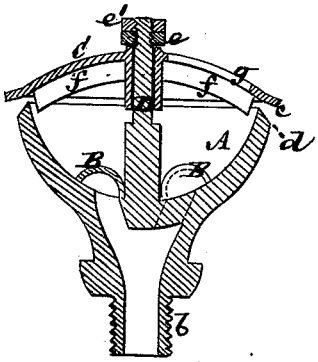


Fig. 2.

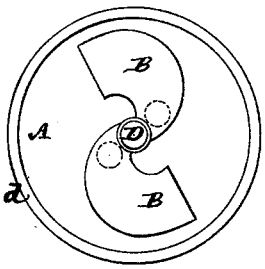


Fig. 3.

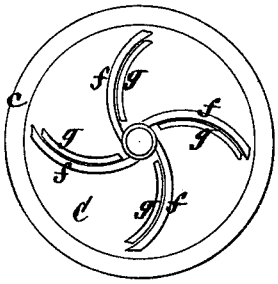


Fig. 6.

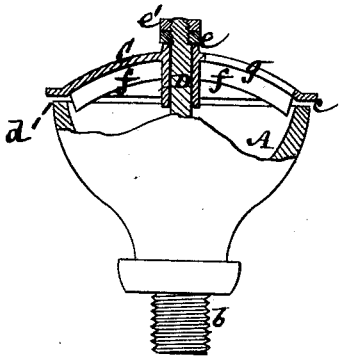


Fig. 5.

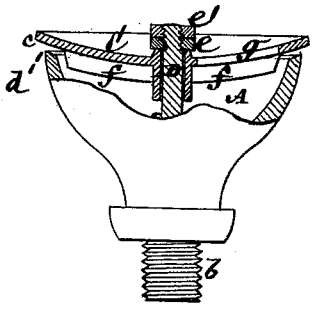
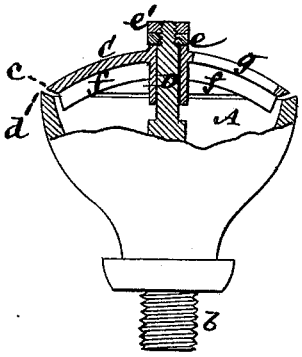


Fig. 4.



Witnesses.
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Fred. Haynes

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UNITED STATES PATENT OFFICE.

JOHN H. RHODES, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WATER-DISTRIBUTERS.

Specification forming part of Letters Patent No. **185,965**, dated January 2, 1877; application filed September 19, 1876.

To all whom it may concern:

Be it known that I, JOHN H. RHODES, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Water-Distributers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to devices for distributing water for extinguishing fires and other purposes.

The invention consists in a water-distributer which may either be fitted, as or in the place of a nozzle, on the end of a hose, or be attached to a pipe or pipes arranged within a building, and which is constructed with one or more internally-arranged helicoidal ducts or inlets, and a perforated rotating cap provided with propelling-ribs, against which the water introduced by the helicoidal ducts operates to rotate the cap.

The invention also consists in the combination of an adjustable rotating distributing-cap with the cup or body of the water-distributer, whereby provision is made not only for discharging the water in fixed quantities through the orifices in the cap, but also in varied quantities circumferentially between the cup and the cap.

A water-distributer constructed in accordance with this invention effects a most perfect crossing of the streams delivered from it and thorough distribution of the water in a finely-scattered state.

Figure 1 represents an axial section of one modification of my improved water-distributer; Fig. 2, an outer-end view of the same, with the rotating cap removed; and Fig. 3, an inverted or interior face view of the rotating cap detached. Figs. 4, 5, and 6 are axial sections of certain other modifications of the invention.

Referring, in the first instance, to Figs. 1, 2, and 3 of the drawing, A represents the cup or body of the distributer, which may be provided at its inner end with a screw-shank, *b*, to facilitate its attachment either to a hose or pipe. It is immaterial as to the direction in which the cup A stands—that is, it may either be upright, so as to deliver above, be inverted, so as to deliver below, or occupy any intermediate angle or position. The water, passing through the shank *b*, enters the cup by one or more helicoidal ducts, B, which give a whirling action or course to the water and cause it to act with a propelling force against ribs or flanges *f* on the inner side or face of a cap, C, to rotate the latter. These ribs or flanges, of which there may be any number, may either be curved or straight, and either be radially or tangentially disposed, but it is preferred to construct them of a curvilinear form, and to extend them outwardly from the eye or center of the cap, so that they present a concave surface to the whirling current of the water in the cup, in order that the water may have a better hold on them. Said cap C is fitted to rotate on or around a central stud or spindle, D, projected through the cup A in an axial direction thereof, and is restrained from working off the spindle, and adjusted so as to give more or less opening, if required, between its margin *c* and the margin *d* of the cup, by means of nuts *e e'* on an outer screwed end of the spindle. This provides for a discharge of water between the margins *c* and *d* of the cap and cup, which water is finely distributed or sprayed as it is whirled out of the cup; but the cap is, in itself, provided with distributing-openings *g*, which may be in the form of slots arranged to extend along those faces or sides of the ribs *f* that are exposed to the propelling effect of the water. The streams issuing through these openings *g* cross each other, and the water discharged from them becomes very finely distributed. There may be any number of these openings, and the same be variously shaped and arranged, but it is preferred to make them correspond in shape and direction with the ribs *f*.

The cap C should be so fitted on the spindle D that either its gravity, when the distributer is turned upside down, or the pressure of the water from the inside, when the distributer occupies a reversed position, will keep said cap pressed outward against the nut *e*, and so provide for a given marginal discharge, the extent of which may be varied by adjustment of the nuts *e e'* on the spindle. This marginal discharge may have its direction controlled by varying the relative disposition and angles

of the margins *c* and *d* of the cap and cup. Thus the cap C, which may present a concave interior, may have its margin *c* arranged to slope downward, and the margin *d* of the cup be similarly arranged, but at a more acute angle, to give a downward distribution, as in Fig. 1, or said cap may be made without any overlapping margin, and its outer edge be chamfered off in an upward direction, and the margin *d* of the cup correspondingly sloped to give an upward discharge, as in Fig. 4; or the cap C may be inverted to give an upward discharge, as in Fig. 5; or the margins *c* and *d* of the cap and cup may be arranged to effect a discharge at right angles with the axis of the distributer, as in Fig. 6 of the drawing.

I claim—

1. The combination of one or more helicoidal ducts, B, in the cup A with the rotating cap C, provided with interior ribs or flanges *f* and apertures *g*, substantially as specified.

2. The combination of the adjustable rotating distributing-cap C with the cup or body A of the distributer, whereby the capacity of the discharge-opening between the margins *c* and *d* of the cup and cap may be varied, essentially as described.

JOHN H. RHODES.

Witnesses:

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CHARLES H. THOMSON.