

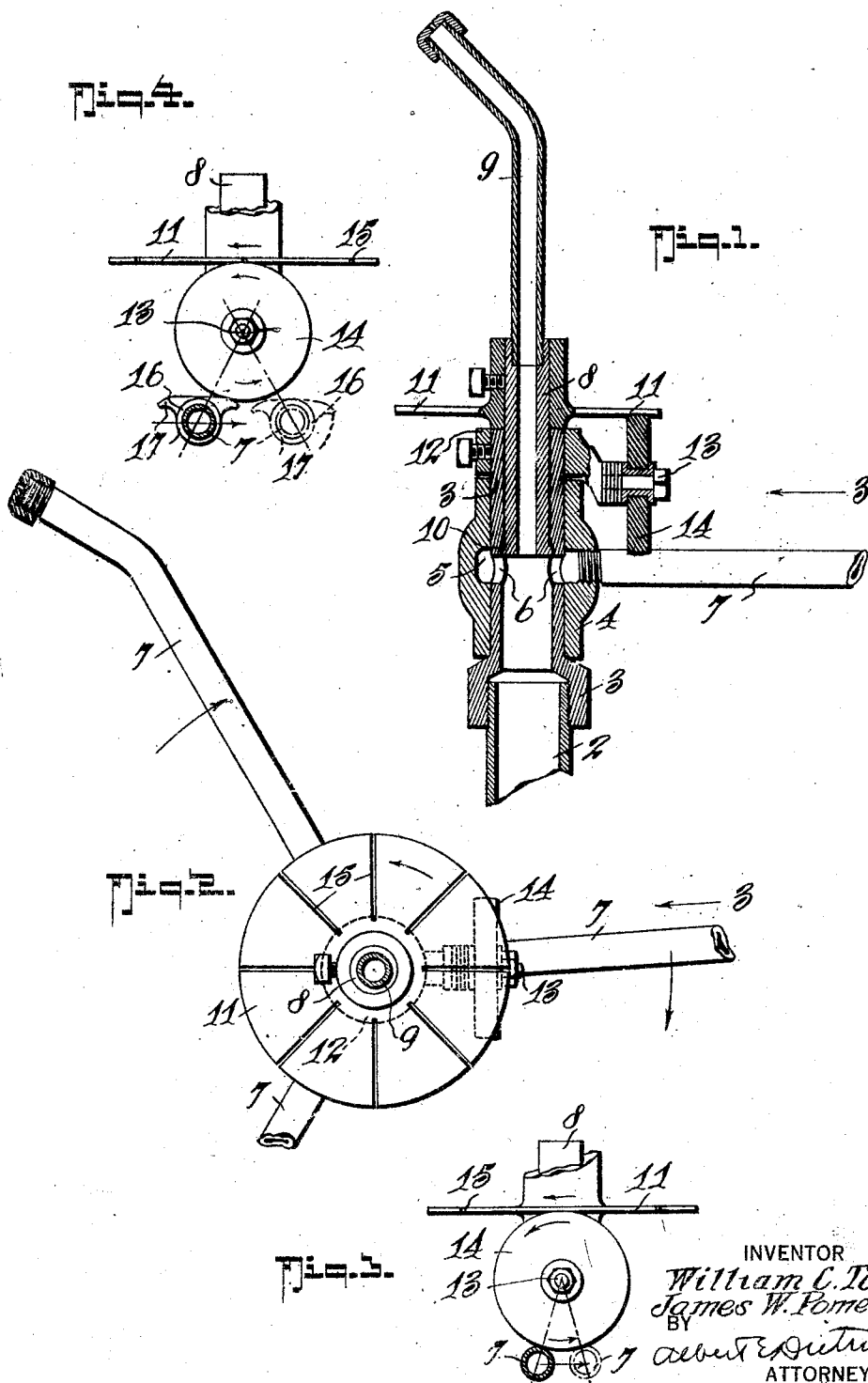
April 28, 1925.

1,535,508

W. C. TODD ET AL

ROTATABLE WATER SPRINKLER

Filed May 20, 1924



INVENTOR
William C. Todd.
James W. Pomeroy,
BY
Robert E. Sutnick
ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM C. TODD AND JAMES WM. POMEROY, OF VICTORIA, BRITISH COLUMBIA, CANADA.

ROTATABLE WATER SPRINKLER.

Application filed May 20, 1924. Serial No. 714,679.

To all whom it may concern:

Be it known that we, WILLIAM C. TODD and JAMES W. POMEROY, citizens of the Dominion of Canada, residing at Victoria, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Rotatable Water Sprinklers, of which the following is a specification.

cation with the hollow of the stem 3 through ports 6 therein. In the upper part of the fixed stem 3 is rotatably mounted an inner hollow stem 8, the lower end of which is shouldered to form a ground seat to prevent leakage of water around the bearing of the stem, and the upper end projects beyond the upper end of stem 3 in which it is mounted.

To the upper end of this rotatable stem 8 is secured a jet tube 9, the upper end of which is angularly directed outward from the axis of rotation and is provided with a suitable jet nozzle.

On the outwardly projecting end of the inner rotatable stem 8 is secured a thin disc 11 and on the upper end of the stationary stem 3 is secured a collar 12 from which a stud 13 projects, on which a disc wheel 14 of rubber or the like material is mounted to rotate freely, the rubber disc being bushed with metal to form its bearing. The diameter of this wheel 14 slightly exceeds the distance between the upper sides of the radial tube 7 of the sprinkler head and the underside of the disc 11, so that as each tube 7 of the reaction sprinkler passes under the rubber wheel 14, they will frictionally engage and rotate that wheel through a limited angle of rotation, as indicated by the dot and dash lines in Fig. 3, the amount of which angle may be varied within limits by raising or lowering the position of the disc 11 on the hollow stem 8.

The distance of the wheel 14 from the axis of rotation of the hollow stem 8 may be varied on the stud 13 in any convenient manner. In the drawing the variation is shown as attained by a series of washers which may be moved from one side of the wheel 14 to the other.

With this construction the water service delivered through the pipe 2 passes through the fixed stem 3 and through its ports 6 to the chamber 5 and the tubes 7 of the reaction sprinkler, causing the same to rotate in the customary manner. It also passes upward through the hollow stem 8 and its tube 9.

As each tube 7 of the reaction sprinkler passes under the rubber wheel 14, it will rotate that wheel through a limited arc of movement, as indicated in Fig. 3, and will, by the frictional contact of that wheel with the disc 11, correspondingly rotate the disc 11 and the inner stem 8 and its jet tube 9,

This invention relates to a water sprinkler of that class wherein a reaction sprinkler head is rotatably mounted on an upright stem through which the water is delivered, and a supplementary single jet tube is axially rotatable in the upper end of the same stem, the outer end of which tube is angularly directed outward from the axis to project a jet of water beyond the area reached by the reaction sprinkler.

The improvements are directed to a means for slowly rotating the supplementary jet tube from the reaction sprinkler head in a simple and effective manner without the intervention of toothed gearing which is relatively expensive to manufacture.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Fig. 1 is a vertical section of the sprinkler head.

Fig. 2 is a plan of the same with the central jet tube removed, and

Fig. 3 is an elevation of the means for rotating the central jet from the reaction sprinkler head, the view being taken in the direction of the arrows 3 in Figs. 1 and 2.

Fig. 4 illustrates a modification in the frictional drive.

In these drawings 2 represents an upright water service pipe, supported in any suitable manner, to the upper end of which pipe a hollow stem 3 is secured. On the intermediate part of this hollow stem is rotatably mounted the hub 4 of a reaction sprinkler having a series of pipes 7 radially projecting from it, the nozzle capped ends of which are backwardly turned in the manner usual with such sprinklers to obtain the required reaction to rotate the head.

This hub 4 has a carefully ground fit on the stem 3 and rests at its lower end on a conical seat to prevent water leakage. It is chambered at 5 where the pipes 7 are connected to it, which chamber is in communi-

in the opposite direction through the same limited arc, whereby the central jet tube 9 will be progressively rotated through a small fraction of its rotation as each tube 7 passes under it.

The arc of movement of the central jet tube may be varied within slight limits by raising or lowering the disc on the stem 8.

If it is desired to further limit the movement of the central jet tube 9 in relation to the rotation of the sprinkler head 4, 7, each tube 7 may, as shown in Fig. 4, have a collar 16 secured on it to frictionally engage the wheel 14, and one or more of these collars 15 may be secured on its tube to engage the wheel 14, while the others may pass without such engagement, or, if a greater amount of movement is required, such collars may have a tread portion 17 to afford a greater arc of frictional engagement.

To ensure that frictional contact will be maintained between the reaction sprinkler tube or tubes, and the disc 11 without depending too much on the elasticity of the rubber wheel 14, the disc 11 may be radially cut as at 15, (see Fig. 2), that the several segments of the disc may be free to bend about their connection to the hub, or such resilience may be otherwise applied between the tubes 7 and the disc 11.

The device being free from gear teeth, is simple to manufacture and does not absorb much power from the reaction sprinkler, while it is thoroughly effective in attaining the desired object of slowly rotating the central jet tube from the reaction sprinkler head.

Having now particularly described our invention, we hereby declare that what we claim as new and desire to be protected in by Letters Patent, is:

1. A rotatable water sprinkler, comprising in combination, a hollow stem, a reaction sprinkler freely rotatable on the stem through which it receives its water supply, a central jet tube independently rotatable about the axis of the stem from the upper end of which it projects, and means for intermittently rotating the central jet tube with relation to the reaction sprinkler by frictional engagement between them.

2. A rotatable water sprinkler, comprising in combination, a hollow stem, a reaction sprinkler freely rotatable on the stem through which it receives its water supply, a central jet tube independently rotatable in the same stem through the upper end of which it projects, and means for frictionally intermittently rotating the central jet tube with relation to the reaction sprinkler by frictional engagement between them.

3. A rotatable water sprinkler, comprising the combination with a hollow stem, a reaction sprinkler freely rotatable on the stem through which it receives its water supply, a central jet tube independently rotatable within the stem from the upper end of which it projects, a disc secured on the central jet tube, a wheel rotatably mounted on said stem between the reaction sprinkler and the disc and frictionally engaging said disk and adapted to be frictionally engaged by said reaction sprinkler at certain positions thereof whereby the central jet tube is intermittently moved through a fraction of its rotation.

4. A rotatable water sprinkler, comprising in combination, a fixed hollow stem to which a water service is delivered, a reaction sprinkler the tubes of which project radially from its hub rotatably mounted on the stem through which it receives its water supply, a central hollow stem rotatably mounted within the fixed stem through the upper end of which it projects and to the upper end of which is secured a jet tube, a disc secured on the outwardly projecting end of the central stem, a collar secured on the fixed hollow stem, said collar having a stud projecting outward from it, a wheel rotatable on the stud the rim of which is in light frictional engagement with the underside of the disc and is adapted to be frictionally engaged by the tubes of the reaction sprinkler as they pass beneath it, and resilient means for maintaining this frictional engagement.

5. A rotatable water sprinkler, comprising in combination, a fixed hollow stem to which a water service is delivered, a reaction sprinkler the tubes of which project outward from its hub, said sprinkler rotatably mounted on the stem and receiving its water supply therefrom, a hollow stem rotatably mounted within the first named stem through the upper end of which it projects, a jet tube secured to the upper end of the rotatable stem, a disc secured on the outwardly projecting end of the central stem, means for imparting flexible resilience to the disc, a stud secured to the upper part of the fixed stem to project outward from it, a wheel rotatable on the stud, the rim of which is in light frictional engagement with the disc and is adapted to be frictionally engaged by the tubes of the reaction sprinkler as they pass beneath it, and means for varying the distance of the friction wheel from the axis of rotation of the sprinkler.

In testimony whereof we affix our signatures.

WILLIAM C. TODD.
JAMES WM. POMEROY.