No. 885,869. PATENTED APR. 28, 1908.

A. SCHMIDT.

ROTATABLE DISTRIBUTING NOZZLE.

APPLICATION FILED JULY 19, 1907.

Fig. 1.

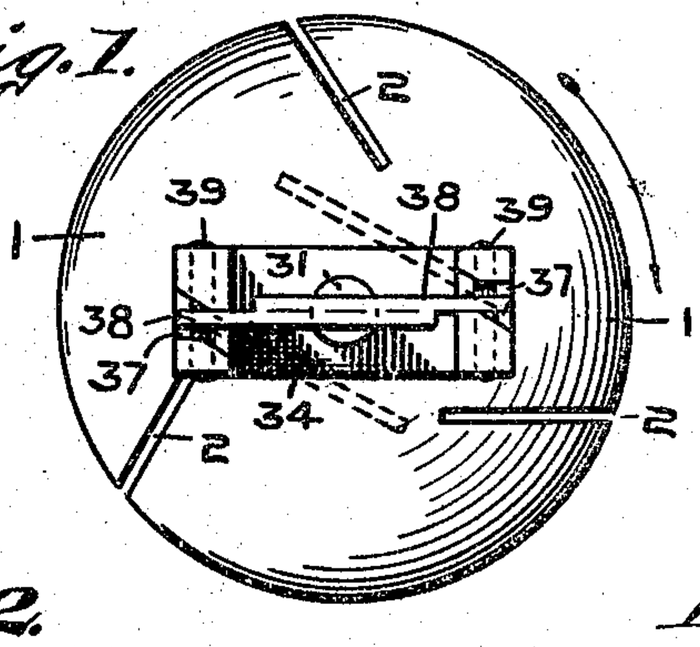

Fig. 2.

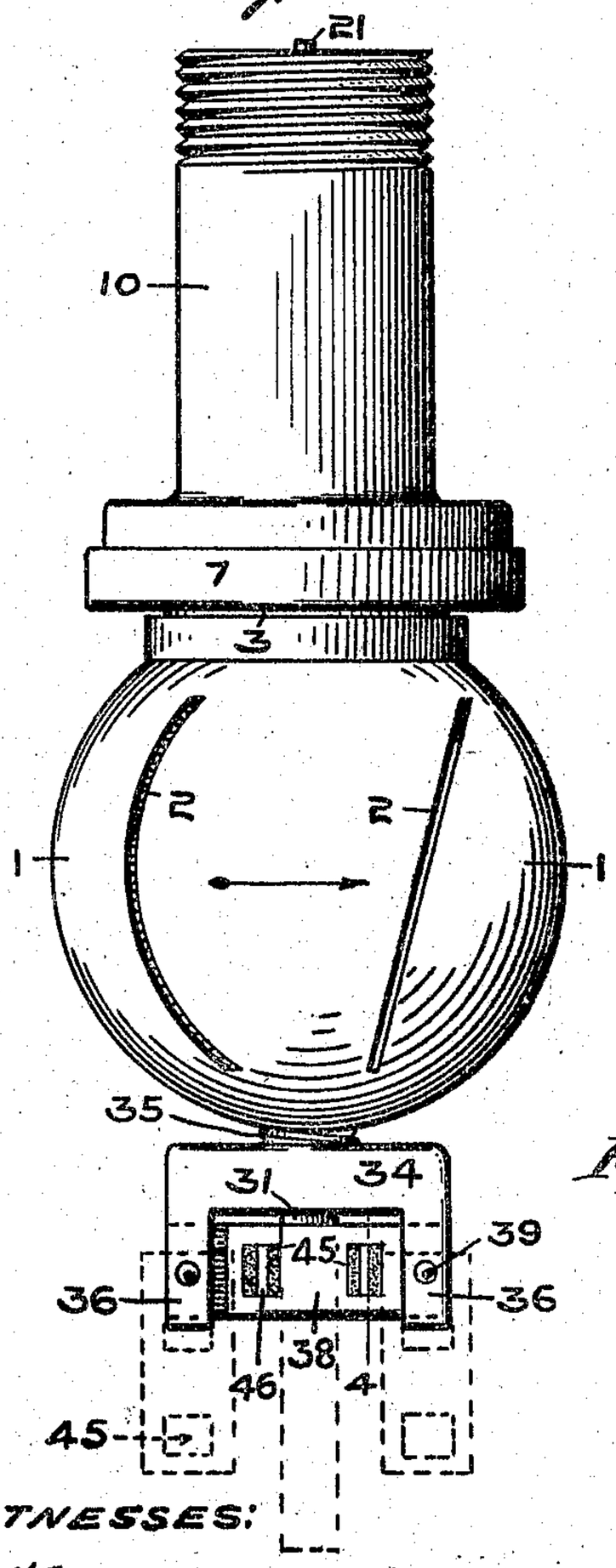

Fig. 3.

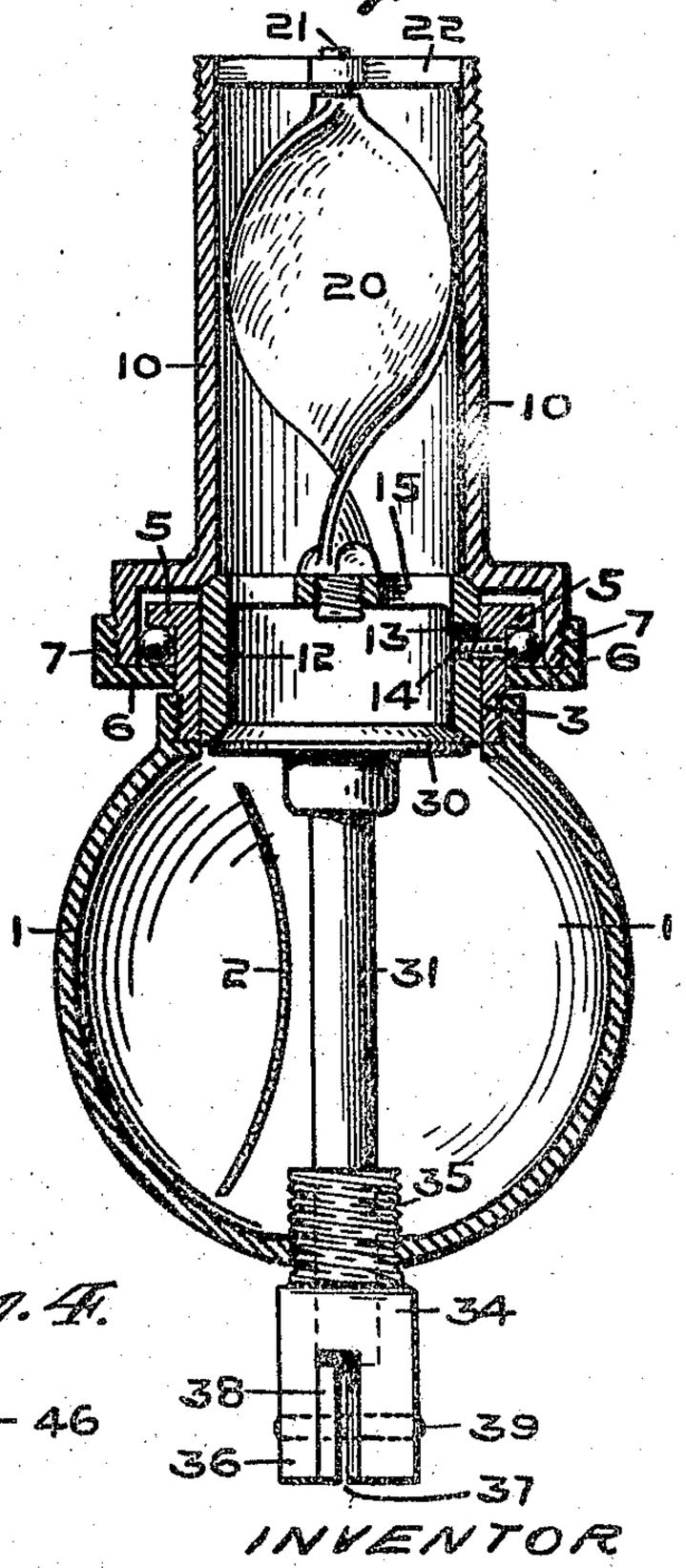

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

AUGUSTUS SCHMIDT, OF INDIANAPOLIS, INDIANA.

ROTATABLE DISTRIBUTING-NOZZLE.

No. 885,869. Specification of Letters Patent. Patented April 28, 1908.

Application filed July 19, 1907. Serial No. 384,492.

To all whom it may concern:

Be it known that I, AUGUSTUS SCHMIDT, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Rotatable Distributing-Nozzles, of which the following is a specification.

This invention relates to a rotatable nozzle for water distributing purposes, and is particularly applicable in equipping buildings to protect them against fire; and the nozzle is also especially applicable to be used for spraying lawns, trees, etc.

The object of the invention is to provide a rotating nozzle for distributing water which is arranged so that the nozzle will be positively rotated by the action of the water.

The object consists, further, in a nozzle of the above described character having a fusible release device so that a fire contiguous thereto will automatically set the nozzle into operation.

I accomplish the objects of my invention by the nozzle illustrated in the accompanying drawings, which forms a part thereof, in which

Figure 1 is an underside plan view of my nozzle. Fig. 2 is a side elevation of the nozzle. Fig. 3, is a central vertical sectional view of the nozzle. Fig. 4 is a cross section of the fusible locking device, on the dotted line 4—4 in Fig. 2.

In the drawings, 1 constitutes a spherical hollow shell which forms the distributing part of the nozzle proper. The shell 1 is provided with a plurality of long narrow vertically extending slots 2 cut on a line so that narrow vertically extending sheets of water will be discharged backward on a tangent with the line of rotation. The shell 1 is also provided with an inlet aperture at its top, said aperture being provided with threads to receive the threaded end of a primary collar 3. The collar 3 on its upper and outer periphery is provided with a laterally extending flange 5, which forms the upper portion of a ball-race, and the lower portion of said race is formed by an annular ring 6. The ring 6 is provided on its inner peripheral flange 7 with threads which engage threads on the exterior surface of the expanded portion of the sleeve 10. Snugly fitting the interior diameter of the collar 3 is a secondary collar 12, having its lower and under edge cut flaringly to form a valve-seat, and the collar is provided at its upper end with a spider 15 which permits the water to pass uninterruptingly. The upper and outer edge of the secondary collar 12 is beveled which edge engages a corresponding surface formed on the interior portion of the sleeve 10. The secondary collar 12 has slight vertical movement within the collar 3, permitted by the slot 13, but it is held independently against rotation of the collar 3 by means of a screw 14, which passes transversely through the wall of the collar 3 and engages the slot 13 in the secondary collar 12. The object of permitting a slight vertical movement of the secondary collar 12 is to permit it to be seated against the beveled surface on the interior of the sleeve 10, and thus prevent water from escaping through the ball-race when the nozzle is not in operation. It will be readily understood that the ball-race could not be packed to prevent the discharge of water and still reduce the friction to permit the nozzle to rotate freely, when in operation. The secondary collar 12 is moved into its uppermost position when the valve is seated so as to close the inlet to the nozzle.

As before stated, the secondary collar is provided with a spider 15 having a centrally threaded aperture to which the screw propeller 20 is secured. The upper end of the screw propeller is provided with a spindle 21 which engages an aperture in the spider 22 formed in the mouth of the sleeve 10. The upper and exterior surface of the sleeve 10 is provided with threads so that proper connection can be made with the nozzle. Thus, it will be seen that as the water enters the sleeve 10 it will cause the propeller 20 and the shell 1 to rotate.

The nozzle is provided with a valve 30 which normally closes the inlet to the hollow shell 1, and is provided with a stem 31 which extends downward and passes through an aperture in the yoke 34. The yoke 34 is provided with an integrally formed boss 35, the latter having exterior threads to engage the threaded aperture in the lower end of the shell 1. The yoke 34 is, also, provided at each end with the extension 36, and said extensions are provided with the slots 37 which receive the overlapping fusible plates 38. These plates are pivotally connected to the extensions 36 by means of the transverse pins 39. When the plates 38 are secured together by means of fusible metal they sup-

port the lower end of the valve-stem 31 and hold the valve 30 in its uppermost position. When the plates 38 are separated by the heat melting the fusible metal, the valve 30 is permitted to drop and the nozzle is thus automatically set into operation. The overlapping plates 38 are provided with a plurality of apertures 45 into which I insert the blocks 46, which extend across the combined thickness of the two plates and thus helps to sustain the weight, thereby reducing the stress on the fusible metal.

The relative width of the blocks 46 and the thickness of the plates 38 is best shown in Fig. 4.

In order to prevent the plates 38 from interfering with the action of the valve-stem 31 when the plates 38 separate, I form the slots 37 somewhat wider than the thickness of the plates, and the opposite sides and ends of said slots are beveled to permit the plates to spread, thereby leaving an unobstructed passageway for the downward movement of said valve-stem 31. The position occupied by said plates 38 when separated is clearly shown by the dotted lines in Fig. 1.

Having thus fully described my said invention, what I desire to secure by Letters Patent, is—

1. A revoluble water distributing nozzle comprising a hollow globular shell provided with a plurality of water discharging slots, a hollow sleeve forming the inlet to said shell, a primary collar rigidly engaging the shell and projecting into said inlet sleeve, a secondary collar extending longitudinally through the primary collar and abutting the internal wall of the inlet sleeve, means permitting longitudinal movement between the collars, and a valve normally to close the inlet to said shell.

2. A revoluble water distributing nozzle comprising a hollow globular shell provided with a plurality of water discharging slots, a hollow sleeve forming the inlet to said shell, a primary collar rigidly engaging the shell and projecting into said inlet sleeve, a secondary collar extending longitudinally through the primary collar and abutting the internal wall of the inlet sleeve, means permitting longitudinal movement between the collars, means to prevent separation of the sleeve and the shell, and a valve normally to close the inlet to said nozzle.

3. A revoluble water distributing nozzle comprising a hollow globular shell provided with a plurality of water discharging slots, a hollow sleeve forming the inlet to said shell, a primary collar rigidly engaging the shell and projecting into said inlet sleeve, a secondary collar extending longitudinally through the primary collar and abutting the internal wall of the inlet sleeve, means permitting longitudinal movement between the collars, a valve normally to close the inlet to said shell, means for moving said valve to close the inlet to the nozzle, and means for securing said valve in a determined position.

4. A revoluble water distributing nozzle comprising a hollow globular shell provided with a plurality of water discharging slots, a hollow sleeve forming the inlet to said shell, a primary collar rigidly engaging the shell and projecting into said inlet sleeve, a secondary collar extending longitudinally through the primary collar and abutting the internal wall of the inlet sleeve, means permitting longitudinal movement but preventing circumferential movement between the collars, means to prevent separation of the sleeve and shell, and a valve normally to close the inlet to said shell.

5. A revoluble water distributing nozzle comprising a hollow globular shell provided with a plurality of water discharging slots, a hollow sleeve forming the inlet to said shell, a primary collar rigidly engaging the shell and projecting into said inlet sleeve, a secondary collar extending longitudinally through the primary collar and abutting the internal wall of the inlet sleeve, means permitting longitudinal movement between the collars, means to prevent separation of the sleeve and shell, a propeller arranged within the inlet sleeve and rigidly engaging and moving both longitudinally and circumferentially with the secondary collar, and a valve normally to close the inlet to said shell.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this 15th day of July, A. D. one thousand nine hundred and seven.

AUGUSTUS SCHMIDT. [L. S.]

Witnesses:
F. W. WOERNER,
E. E. MILLER.