

H. GIBBS.
LAWN SPRINKLER.
APPLICATION FILED AUG. 30, 1907.

911,716.

Patented Feb. 9, 1909

Fig. 1.

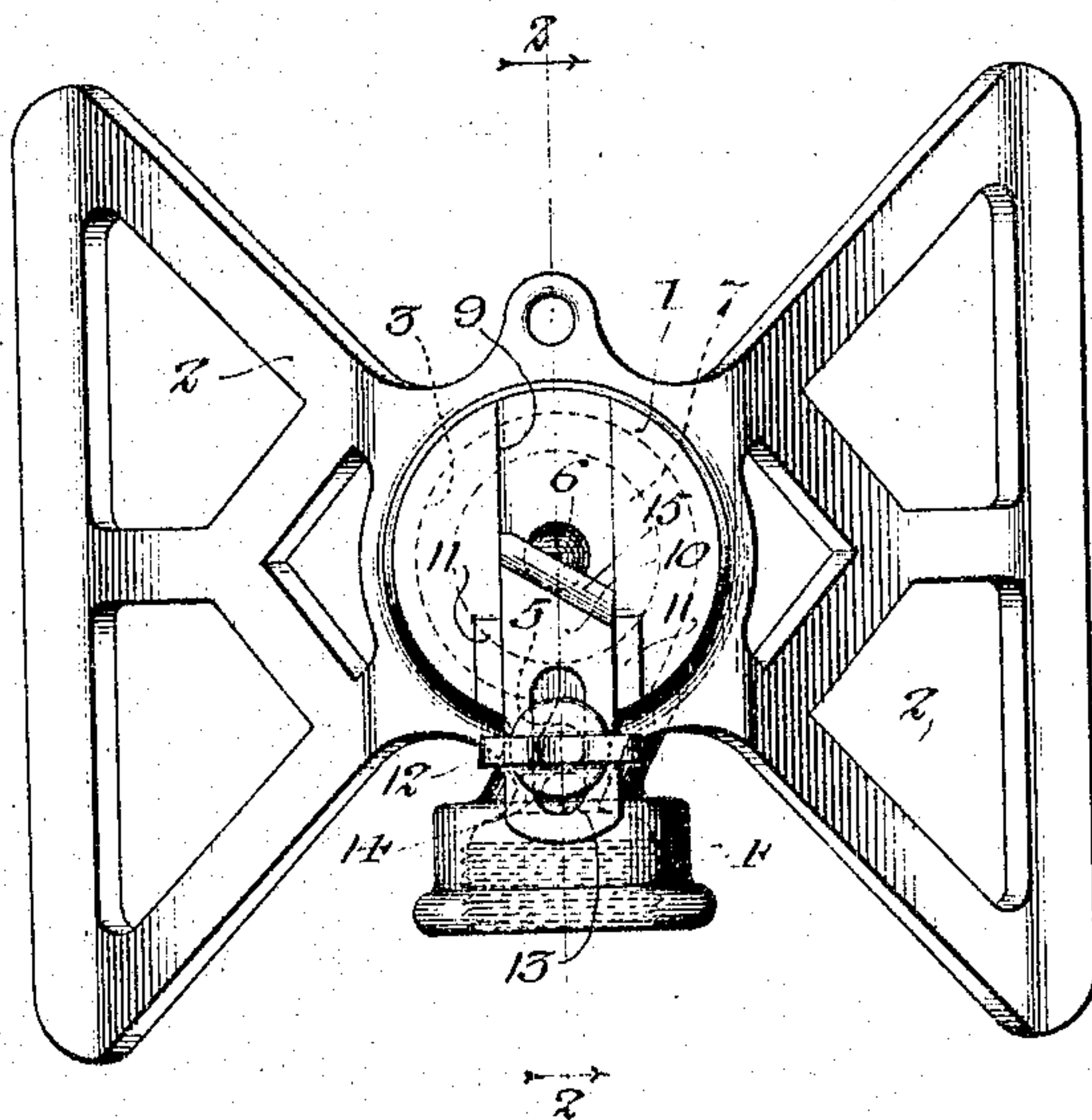


Fig. 2.

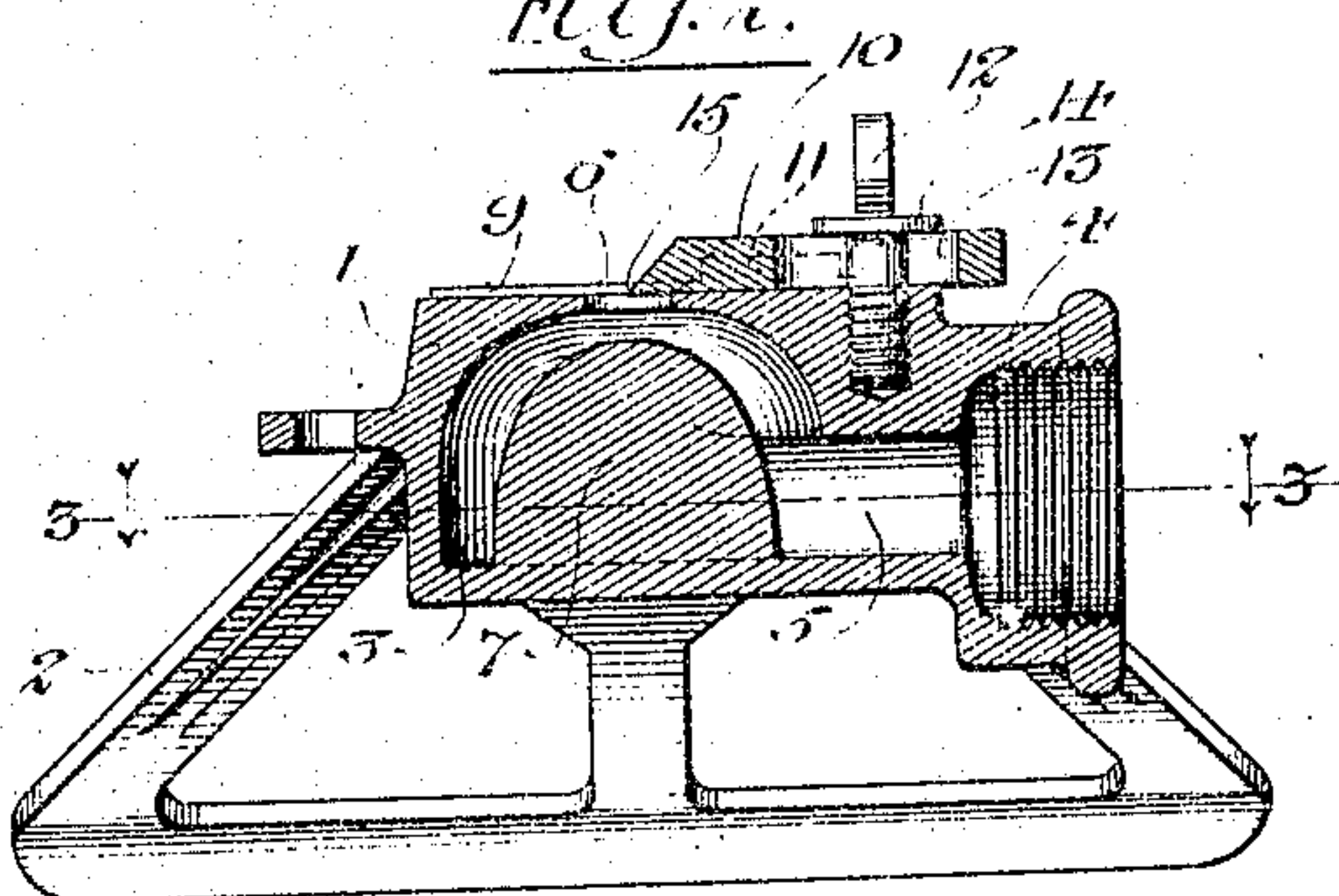
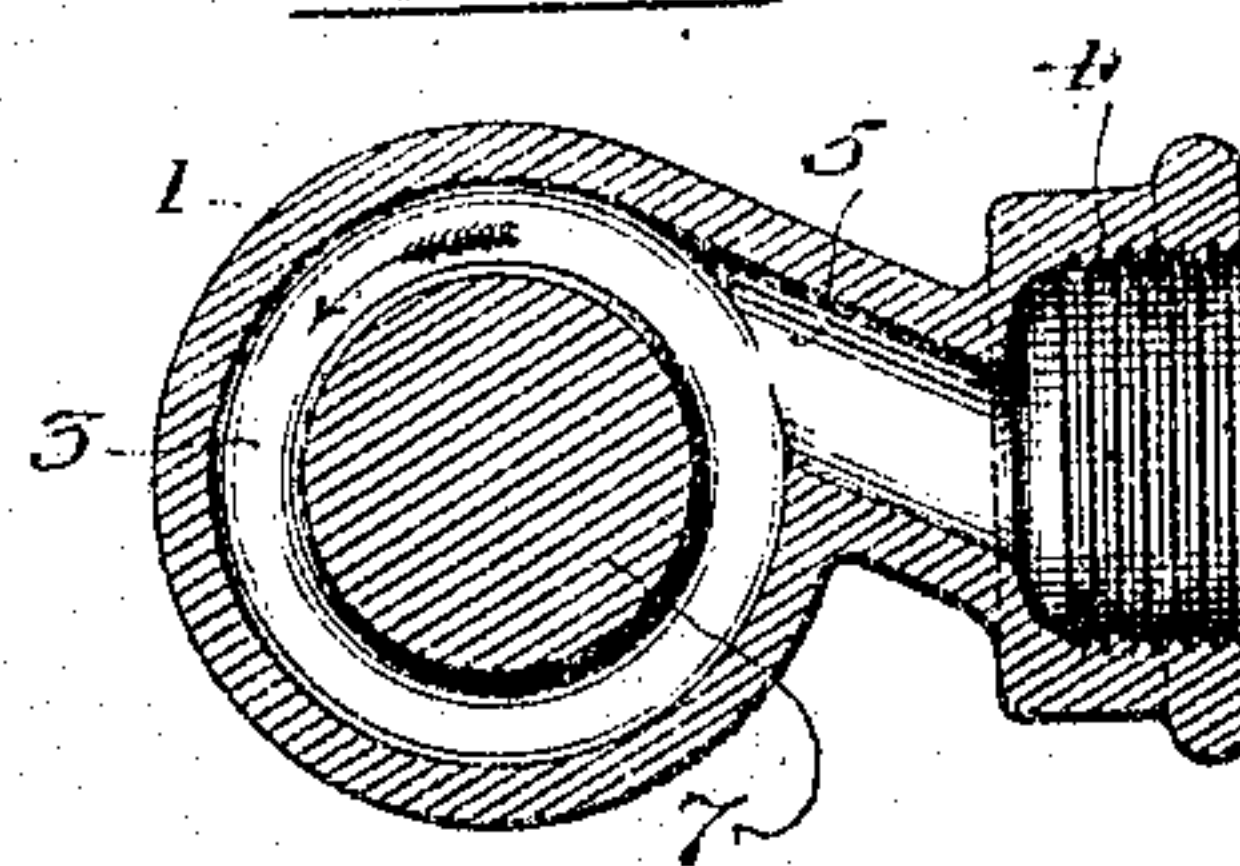


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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LAWN-SPRINKLER.

No. 911,713.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed August 30, 1907. Serial No. 390,711.

To all whom it may concern:

Be it known that I, HENRY GIBBS, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Lawn-Sprinklers, of which the following is a specification.

The invention relates to lawn sprinklers and more particularly to sprinklers of the so-called "Cyclone" type in which the water is admitted through a tangential inlet to a chamber circular in cross section and sprayed therefrom by centrifugal action through an axial discharge orifice. Such sprinklers are cheap in construction and effective in operation but distribute the spray over a large circular area and cannot therefore be conveniently used for sprinkling small grass plots or easily changed from point to point without wetting the operator.

The object of the present improvement is to provide means whereby this cheap form of sprinkler may be adapted for throwing the spray over a semicircular area or over more or less than the half circle, and the invention consists in the features of construction and arrangements of parts hereinafter set forth, illustrated in the accompanying drawing and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of the improved sprinkler. Fig. 2 is a section on line 2-2 of Fig. 1 and Fig. 3 is a detail section on line 3-3 of Fig. 2.

The cylindrical spray box 1 is preferably mounted on a pair of inclined supports or runners 2 cast in piece therewith or otherwise suitably connected to the spray box. The spray box is cored out to form a chamber 3 circular in horizontal section and is provided on one side with a projection 4 which is internally threaded to form a coupling member whereby the hose may be attached to the sprinkler. The coupling member 4 is arranged between the supporting runners 2 and its axis is parallel to the runners so that the sprinkler may be readily drawn over the ground by means of the hose attached to the coupling. An inlet opening 5 extends from the coupling, and in the form shown, at an angle to the axis thereof and opens tangentially into the side of the chamber 3. The latter is provided with an axial circular discharge opening 6 opening through

the upper face of the spray box. A central boss or projection 7 is preferably arranged within the chamber 3 and extends from the bottom thereof to a point adjacent the discharge orifice 6 at its upper end. In a sprinkler of this sort, the water enters tangentially into the chamber 3 and circulates therein in the direction of the arrow shown in Fig. 3, and is effectively sprayed by the centrifugal action through the orifice 6 over a large circular area.

To limit the area over which the water is distributed, a flat cut-off plate 10 is arranged to slide in a shallow groove or guide-way 9 formed in the upper face of the spray box. This groove or guide-way is preferably arranged in line or parallel with the axis of the coupling 4 and is provided at its end adjacent the coupling with a pair of upwardly projecting lugs 11 which engage the edges of the plate 10 and hold the latter securely against side play. A thumb screw 12, threaded into the projecting portion of coupling member 4 of the spray box, extends through a longitudinal slot 13 in the cut-off plate 10 and is provided with a flange 14 arranged to engage the upper face of the plate and hold it securely in adjusted position. By adjusting the plate 10 in longitudinal direction in the guide-way 9, or in a direction at right angles to the axis of the spray chamber 3, the forward edge 15 of the plate may be projected over the circular discharge opening 6 to a greater or less extent to partially close the same, as shown in the drawings. When this is done, the spray from the sprinkler will be distributed over a half circle or over an area slightly greater or less than a half circle. With the centrifugal sprinkler and cut-off plate of this sort, the outer portion of the plate should be beveled to form a sharp straight edge 15 in order that the half-circle spray be uniform throughout and devoid of any stray jets separate from the main body of the spray. The operator will usually shift the sprinkler by grasping the hose near the coupling 4 and it is desirable that the half-circle spray be thrown directly away from the coupling. Instead of having the edge 15 of the cut-off plate at right angles to the axis of the coupling, it is found necessary in a centrifugal sprinkler of this sort, that the edge be inclined at an acute angle to the

axis of the coupling and in the direction shown when the water in the spray box is circulated in the direction indicated by the arrow in Fig. 3, in order that the semicircular spray be thrown directly away from the coupling. It will be noted that the edge 15 of the cut-off plate and the tangential inlet 5 are substantially at right angles to each other and are oppositely inclined with respect to the axis of the coupling 4. The guide-way 9 and the lugs 11 thereof hold the plate 10 in position so that the edge 15 thereof will be properly positioned over the circular discharge orifice 6.

By adjusting the cut-away plate to partially close the discharge orifice to a greater or less extent, the whirling spray from the sprinkler may be cut down to a half circle so that it may be placed close to a walk or used to sprinkle small grass plots and so that the operator may change the spray from place to place without getting wet and without cutting off the supply of water to a sprinkler. Moreover, the adjusting plate is so positioned that the operator may shift it to increase or diminish the amount of spray without cutting off the water supply.

It is obvious that changes may be made in the details set forth without departure from the essentials of the invention.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A lawn sprinkler comprising a chambered spray box having a tangential inlet and a single, central discharge orifice in its upper portion, said spray box having guides on its upper portion, a flat, horizontally-movable cut-off plate mounted to slide longitudinally between said guides and arranged to project over and partially close said discharge orifice to modify the spray, and means for holding said cut-off plate in adjusted position, substantially as described.

2. A lawn sprinkler comprising a chambered spray box having a tangential inlet and a single, central discharge orifice in the upper portion, said spray box having guides on its upper portion, a flat, horizontally-movable cut-off plate mounted to slide longitudinally between said guides and having a beveled edge arranged to project over and partially close said discharge orifice to modify the spray and a thumb screw extending through a longitudinal slot in said plate for holding the same in adjusted position, substantially as described.

3. A lawn sprinkler comprising a spray box provided with a chamber circular in section and having a tangential inlet and an axially arranged, circular discharge orifice in the upper portion of said spray box, and a flat cut-off plate adjustably secured upon the upper portion of said spray box and having a beveled edge arranged to project

over and partially close said discharge orifice to modify the spray, substantially as described.

4. A lawn sprinkler comprising a spray box provided with a chamber circular in section and having a tangential inlet and an axially arranged, circular discharge orifice in the upper portion of said spray box, said spray box having a guide-way formed on its upper portion, a cut-off plate adjustable in said guide-way at right angles to the axis of said chamber and arranged to project over and partially close said discharge orifice to modify the spray, and means for holding said plate in adjusted position, substantially as described.

5. A lawn sprinkler comprising a spray box provided with a chamber circular in section and having a tangential inlet and an axially arranged, circular discharge orifice in the upper portion of said spray box, said spray box having a guide-way formed on its upper portion and a cut-off plate adjustable in said guide-way at right angles to the axis of said chamber, said plate having a straight edge at its end arranged to project over and partially close said circular discharge orifice to modify the spray, substantially as described.

6. A lawn sprinkler comprising a spray box provided with a chamber circular in section and having a tangential inlet and an axially arranged, circular discharge orifice in the upper portion of said spray box, said spray box having a guide-way formed on its upper portion and a cut-off plate adjustable in said guide-way at right angles to the axis of said chamber, said plate having a straight, beveled edge arranged to project over and partially close said circular discharge orifice to modify the spray, said plate being held by said guide-way with its beveled edge in proper relation to said orifice, substantially as described.

7. A lawn sprinkler comprising a spray box provided with a chamber circular in horizontal section and a projection on its side threaded to form a coupling member, said chamber having a tangential inlet leading from said coupling and an axial, circular discharge opening in the upper face of the spray box, said spray box having a guideway formed on its upper face at right angles to the axis of said chamber and parallel to the axis of said coupling, a cut-off plate mounted to slide longitudinally in said guideway, and a thumb screw threaded into the upper part of said coupling and extending through a slot in said plate to hold the same in adjusted position, the forward edge of said plate being arranged to project over and partially close said circular discharge opening to modify the spray, substantially as described.

8. A lawn sprinkler comprising a spray

box provided with a chamber circular in horizontal section and a projection on its side threaded to form a coupling member, said chamber having a tangential inlet leading from said coupling and an axial, circular discharge opening in the upper face of the spray box, said spray box having a guide-way upon its upper face at right angles to the axis of said chamber, a cut-off plate mounted to slide longitudinally in said guide-way, said plate having a beveled edge arranged to project over and partially close said discharge orifice to modify the spray, said plate being held by said guide-way with its beveled edge inclined at an acute angle to the axis of said coupling, substantially as described.

9. A lawn sprinkler comprising a spray box provided with a pair of supporting run-

ners and with a projection on its side threaded to form a coupling, the axis of which is parallel to said runners, said box having a chamber circular in section, a tangential inlet leading from said coupling to said chamber and a central, circular discharge orifice in the upper face of said spray box, said spray box having a guideway on its upper face, a cut-off plate adjustably mounted in said guide-way and arranged to project over and close the portion of said circular discharge orifice nearest to said coupling to modify the spray, and means for holding said cut-off plate in adjusted position, substantially as described.

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