J. D. HUMPHREY.

LAWN SPRINKLER.

APPLICATION FILED NOV. 6, 1916.

1,214,038. Patented Jan. 30, 1917.

Fig. 1.

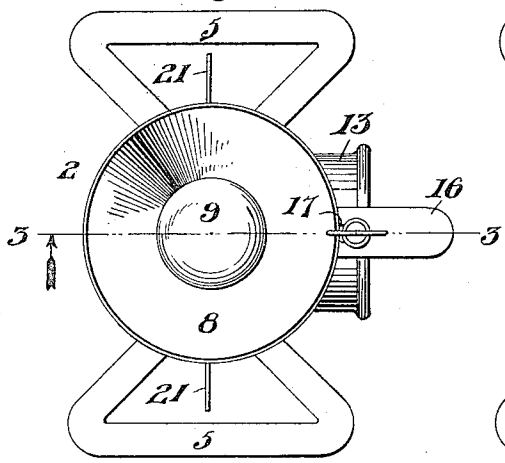


Fig. 4.

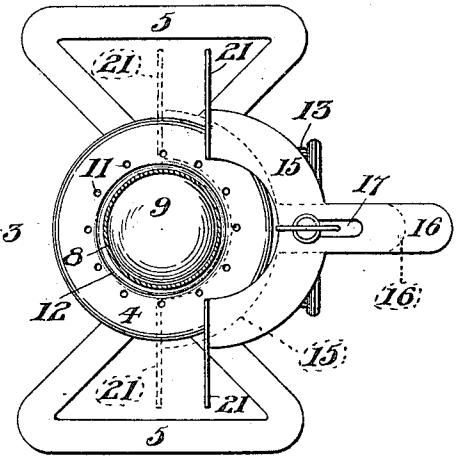


Fig. 2.

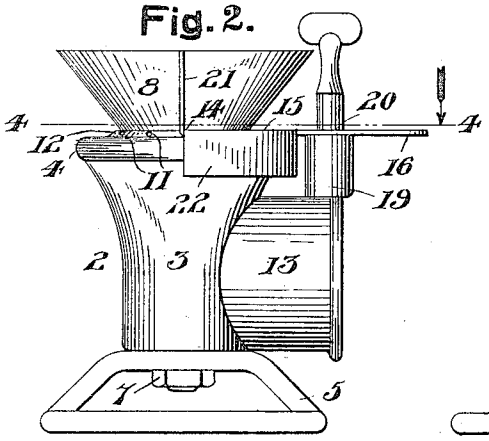


Fig. 5.

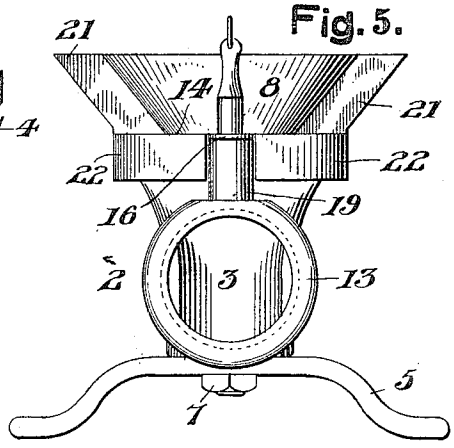
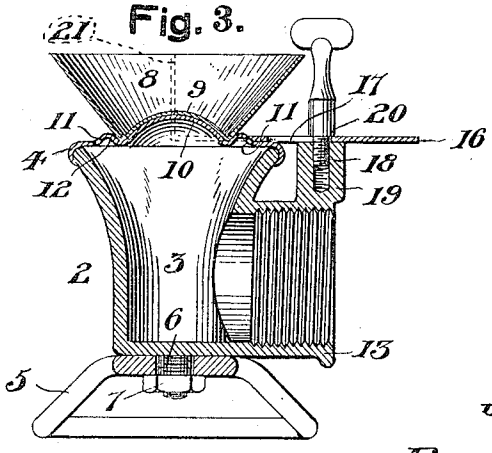


Fig. 3.



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LAWN-SPRINKLER.

1,214,038. Specification of Letters Patent. Patented Jan. 30, 1917.

Application filed November 6, 1916. Serial No. 129,717.

To all whom it may concern:

Be it known that I, JOHN D. HUMPHREY, a citizen of the United States, residing at Norfolk, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Lawn-Sprinklers, of which the following is a specification.

This invention relates to what I shall for convenience term a "lawn sprinkler".

While the invention is primarily designed for sprinkling lawns, for which reason I have selected the title given, it is conceivable that it can be used with equal advantage in other connections.

One of the primary purposes of the invention is the provision of an article of this character, having means of an effective nature, for the distribution of water or other liquid over variable areas.

In the drawings accompanying and forming part of the present specification I have shown in detail one convenient form of embodiment of the invention which to enable those skilled in the art to practice the same will be set forth fully in the following description. I do not restrict myself to this particular disclosure; I may depart therefrom in several respects within the scope of the invention defined by the claims following said description.

Referring to said drawings: Figure 1 is a top plan view of a sprinkler involving the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a section on the line 4—4 of Fig. 2, showing the regulator in two positions by dotted and full lines respectively, and Fig. 5 is a rear elevation of said sprinkler.

Like characters refer to like parts throughout the several views.

The sprinkler comprises in its construction a head which is perforated for the discharge of the liquid which in the case of a lawn sprinkler will be water. Associated with this head is a spreader which directs or diverts the streams of water over the area or zone to be covered. I provide means whereby this area can be regulated. In the present case there is provision for supplying the water over a full circle, and means whereby the supply can be directed over part of a circle for instance half a circle.

With the foregoing general observations I will now refer more in detail to the drawings which as will be understood show a highly advantageous structure to which I am not restricted except as demanded by the scope of my claims.

The device comprises in its organization a suitable head, that denoted in a general way by 2 answering satisfactorily in this connection. As represented this head consists of a body 3 and a crown as 4, the body usually consisting of a casting, while the crown piece or top ordinarily is in the form of a sheet metal disk rolled or spun over the upper edge of the body 3. The carrier for the head 2 may be of any suitable nature, for instance what is known as a "sled" 5 answering in this respect. This sled may as is the custom, consist of a skeleton-like casting adapted to rest on and when necessary to be drawn over the ground. The head 2 may be united to the carrier or sled 5 in any convenient way; as shown the head has a depending screw 6 projecting through a central perforation in the carrier or sled and adapted to receive a nut as 7.

In conjunction with the head 2 is a suitable spreader such as that denoted by 8, this spreader being in the form of an inverted frusto-conical shell. A shell is preferable to a solid body, owing to the fact that it can be made inexpensively. The bottom of the shell has a concavity as 9 to receive the convexity 10 of the top 4, the two parts being united in any desirable manner as by soldering. The top has a series of perforations 11 arranged in annular order, properly spaced and in proximity to the base portion of the spreader. The water or other liquid issues from these perforations or needle openings 11, and striking the outer tapered surface of the spreader is directed in the desired manner. As will hereinafter appear I provide for the discharge of the water or other liquid over different areas. As I have already observed I may deliver the water over a full circle of desired radius or can supply it over a part of the circle or as I have already noted practically half. The perforations or needle openings 11 as represented are formed in the top of the annular bead 12 rising from the top 4 and into which the base of the conical spreader 8 is received. The liquid to be sprinkled may be supplied to the head in any suitable manner for instance and as shown by a hose or similar connection, the body 3 being provided with an internally threaded tubular extension 13

to receive such hose or equivalent connection.

To control the discharge of liquid from the head 2 a suitable regulator such as that denoted in a general way by 14 may be provided. This regulator comprises the body portion 15 represented as consisting of a semi-annular plate having a rearwardly extending projection 16, there being formed jointly in the body or plate 15 and extension or projection 16, the longitudinal slot 17 to receive the reduced threaded portion of the screw 18 which is tapped into the boss or enlargement 19 rising from the tubular extension 13. Said extension or plate 16 fits flatwise against and is supported against the upper flat surface of the boss or enlargement 19. The shouldered portion 20 of the screw 18 is adapted to clamp this projection or extension 16 against the boss or enlargement 19 to hold the extension and therefore the body or plate 15 in a desired position. The body or plate 15 is shown as occupying by full lines in Fig. 4 its rear position at which time it uncovers all the perforations or needle openings. If, therefore, when said body or plate is in this particular relation water be supplied to the head 2, it will issue in a multiplicity of small streams from the perforations or needle openings 11 and these streams striking the outer tapered surface of the spreader 8 will be directed by the latter over a full circle. From the ends of the plate or valve body 15, the wings 21 extend outwardly and upwardly; as a matter of fact the wings converge downwardly. When the cut off or valve plate 15 is in the dotted line position, its inner edge will practically engage the base portion of the conical spreader 8 and at the same time the inner inclined edges of the two outwardly directed wings 21 will follow the taper of the exterior of the conical spreader. When the valve or cut-off plate 15, therefore, is in the dotted line position virtually half the perforations 11 will be closed, so that theoretically no water can issue from them. Certainly no streams will emerge from these openings thus covered. The wings 21, of course, direct any water that strikes them laterally in practically straight lines, these wings when the cut-off plate 15 is in its water shut-off position being approximately diametrically opposite each other and abutting against the spreader 8 throughout their complete length.

I do not necessarily provide for the firm fitting of the valve or cut off plate over the openings 11 which for the time being may be required to be shut off. I may of course do this, but it is not essential. In view of this condition water may flow from the openings thus covered and will pass under the plate 15. Means are provided for directing this water in a downward direction, and the means shown for this purpose consist of a flange 22 which is coextensive with the body or plate 15 and depends from the outer edge thereof. When said valve plate is in its cut off position, this depending flange engages the peripheral portion of the top 4 and naturally prevents backward movement of the water should any escape from the openings covered, the water being directed straight downward. As a result of this when the said plate is in the cut off position, the area at the rear of the sprinkler is left dry or comparatively so, so that the device can be reached without fear of wetting the feet.

I have mentioned the fact that the body 3 usually consists of a casting. As will be clear this is a very small point, but I might note the fact that it can be made from wrought metal if desired.

What I claim is:

1. A sprinkler comprising a head and a spreader rising from the head, the head having a series of perforations to direct streams of water against the spreader, and a plate movable to cover one or more of the perforations and provided with laterally extending wings to engage the spreader when the valve member closes said perforations.

2. A sprinkler comprising a head and an approximately frusto-conical spreader rising from the head, the head having a series of perforations arranged in annular order around the base of the spreader to direct streams of liquid against said spreader, and a plate movable across approximately half the perforations, said plate having laterally disposed wings to fit against the spreader when the plate is in perforation-closing relation.

3. A sprinkler comprising a head and an approximately frusto-conical spreader rising from the head, the head having a series of perforations arranged in annular order around the base of the spreader to direct streams of liquid against said spreader, and a plate movable across approximately half the perforations, said plate having laterally disposed wings to fit against the spreader when the plate is in perforation-closing relation, said plate also having a depending flange practically coextensive therewith.

4. A sprinkler comprising a head, and a frusto-conical spreader rising from the head substantially centrally thereof, the head having a series of perforations disposed approximately in annular order to direct streams of liquid against the spreader, and an approximately semi-annular plate movable to cover a number of said perforations and terminating in laterally disposed wings which engage the spreader when the plate is in perforation-closing relation, said plate also having a depending flange to fit against

the head when said plate is in said relation.

5. A sprinkler comprising a head, and a frusto-conical spreader rising from the head substantially centrally thereof, the head having a series of perforations disposed approximately in annular order to direct streams of liquid against the spreader, and an approximately semi-annular plate movable to cover a number of said perforations and terminating in laterally disposed wings which engage the spreader when the plate is in perforation closing relation, said plate also having a depending flange to fit against the head when said plate is in said relation, said head having an interiorly threaded boss and the plate having a rearward longitudinally slotted extension, and a screw tapped into said boss extending through said slot and engaging said extension to hold the plate in a desired position.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN D. HUMPHREY.

Witnesses:

PAUL B. ELMORE,

GEO. H. GREEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."