(No Model.)

D. A. HOYT.

LAWN SPRINKLER.

No. 437,118. Patented Sept. 23, 1890.

Fig. 1.

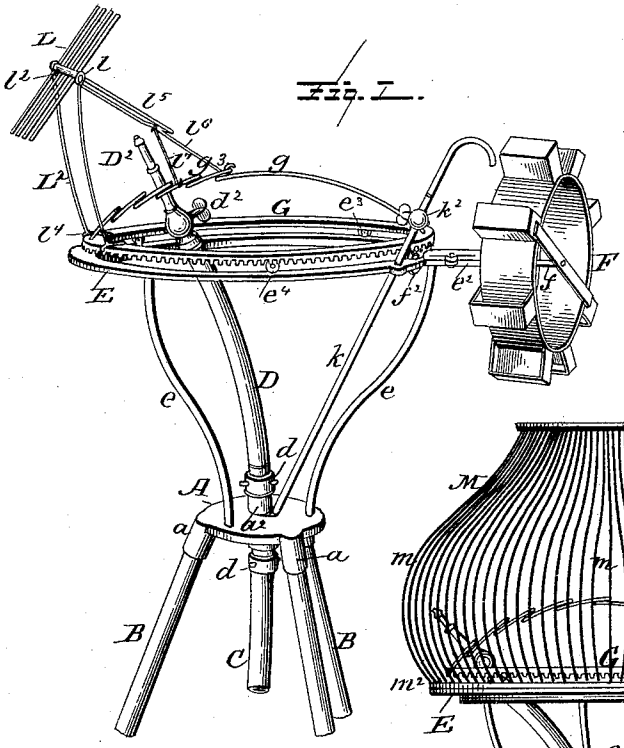


Fig. 2.

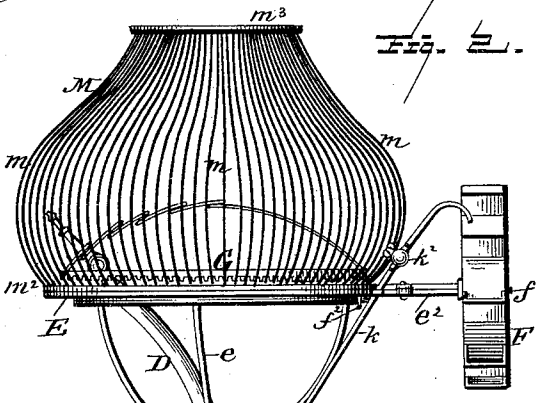


Fig. 3.

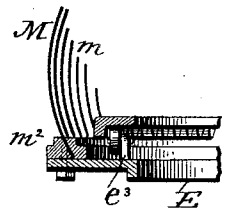


Fig. 4.

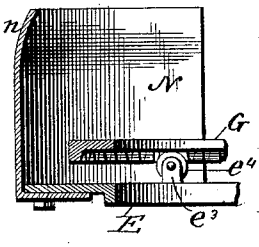
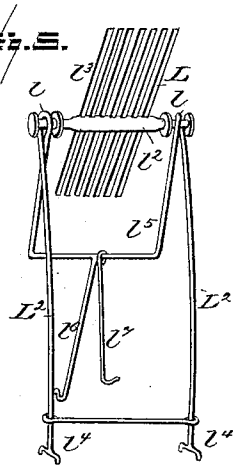


Fig. 5.



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LAWN-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 437,118, dated September 23, 1890.

Application filed May 17, 1890. Serial No. 352,127. (No model.)

To all whom it may concern:

Be it known that I, DENNIS A. HOYT, a citizen of the United States, residing at St. Cloud, in the county of Stearns, State of Minnesota, have invented certain new and useful Improvements in Lawn-Sprinklers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to portable sprinklers of that class known as "revolving" sprinklers, in which the water issuing from the nozzle is uniformly distributed at a distance therefrom upon a large surface; and the objects of my invention are to produce a sprinkler of attractive appearance in which the direction and force of the current can be regulated. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a sprinkler constructed in accordance with my invention with a pivoted sprayer thereon. Fig. 2 is a side view of the same with a modified sprayer in position. Fig. 3 is a transverse vertical section of a portion of the circular sprayer, illustrating its construction. Fig. 4 is a transverse vertical section of a portion of the device, showing a spray-deflecting plate attached thereto. Fig. 5 is an enlarged view of the pivoted sprayer.

In said drawings, A represents a circular plate provided with diverging sockets *a* on the under side thereof to receive one end of the legs B, of suitable length, and form therewith a tripod for the support of the operating parts. In the center of the plate A is formed integral therewith or attached thereto a tubular boxing a^2, provided at its top and also at its bottom with suitable well-known means for connection with a hose-coupling *d*. The upper coupling forms a part of the flexible rubber nozzle D. The lower coupling *d* forms a part of the flexible hose C, through which the water is conducted to the apparatus.

At a suitable distance above the plate A a flat ring E is supported upon bent rods *e*, which have their upper ends inserted into said ring and their lower ends inserted into the plate A. This ring has a lateral extension which forms a bushing e^2 to receive a shaft *f*, which carries on its outer end a water-wheel F, of any suitable construction, and on its inner end a pinion f^2, which is received in a groove in the top of the ring E. Said ring is also provided with three upwardly-projecting lugs e^3, each having a stud projecting outwardly therefrom, upon which there is mounted a roller e^4, and upon said rollers there is placed a flat ring G, having adjacent to its periphery a series of pendent teeth adapted to mesh with the pinion f^2 and be rotated thereby.

To retain the nozzle D adjustably connected with the rotary ring G, an upwardly-bent wire *g* has its ends secured upon diametrically-opposite sides of said ring, and said wire is provided with a series of loops g^3, into either one of which the metal tip D^2 of the nozzle can be inserted, and the desired stream of water to issue from said tip is regulated by a cock d^2. To revolve the water-wheel, a small stream of water is directed by a pipe *k* to a point preferably above the wheel F, but nearly tangential thereto, so that in the escape it will impinge against or fill the buckets or paddles of said wheel. The lower end of the pipe *k* is inserted within the tubular boxing a^2, and its upper end is provided with a flow-regulating cock k^2.

To break into spray the jet of water issuing from the tip of the nozzle, a wire sprayer L is placed upon and secured to the rotary ring G by its support L^2, the latter consisting, preferably, of wire bent to form eyes *l* to receive the ends of shaft l^2, to which are secured in any suitable manner a series of metal strips or wires l^3, arranged thereon parallel to each other. The ends of the supporting-wire L^2 can be inserted in perforations in the top of the ring G, or can have feet l^4 to clasp said ring. The middle portion of the wire L^2 is bent to form a loop l^5, of preferably rectangular form, within which the sprayer can revolve under the impulse of a jet of water issuing from the nozzle. A prop for the middle portion of the loop l^5 is obtained either by twisting together the wires constituting an extension of said loop or by securing to the center of said loop a rod or wire l^6, having its lower end doubled over to enter and be retained in one of the loops g^3 of the nozzle-guide *g*. To the bottom of the loop l^5

there is also pivoted a hook l^7, which has its lower end adapted to enter another of the loops g^3.

In place of having a wire sprayer revolving in front of the jet of the nozzle, the arrangement of these parts may be reversed and the wire sprayer be retained stationary while the nozzle revolves therein, and the jet of water issuing from said nozzle will be converted into spray by contact with the wires. In this case a wire sprayer or deflector M is placed upon and secured to the stationary ring E of the frame. Said deflector consists of a series of metal strips or wires m, having their lower ends secured at any desired angle into a ring m^2 and their upper ends preferably secured together by ring m^3. The location of said sprayer and of its lower end is such as not to interfere with the revolutions of the cogged ring E or of the nozzle therein, the elasticity of the rubber nozzle permitting it to revolve with said ring.

To protect a path or walk, a house, or any other object from the jet or spray of water during a portion of the rotation of the nozzle, a sheet-metal shield or deflector N is secured to the stationary ring E, and the tripod is so located as to have its shielded side toward the object to be protected. Said shield is preferably in the form of a segment of a cylinder with its upper portion bent inwardly at n to properly deflect downwardly the jet or spray of water, as said shield can be used on the device either in connection with the wire sprayer or independently thereof.

Having now fully described my invention, I claim—

1. A lawn-sprinkler consisting of a tripod-frame having bent rods e divergent therefrom, a ring E, secured to said rods and having rollers e^4, a cogged ring G, a pinion meshing with said ring, and a water-wheel upon the shaft of said pinion, with a tubular boxing secured in the top of the tripod-frame, a flexible nozzle coupled to the upper end of said boxing, a hose to the lower end, and a tube k, inserted in its sides, substantially as described.

2. In a lawn-sprinkler, the combination of its frame, a rotary nozzle and nozzle-carrier, and a sprayer consisting of a series of wires united together and located in front of the end of the nozzle and its carrier, substantially as described.

3. In a lawn-sprinkler, the combination of its frame, a rotary nozzle and nozzle-carrier, and a sprayer mounted upon the nozzle-carrier and consisting of a series of wires united together and mounted upon a rotatable shaft and located in front of the end of the nozzle, substantially as described.

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

DENNIS A. HOYT.

Witnesses:

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M. D. L. BROWN.