W. A. & D. M. KIRBY.

Lawn-Sprinklers.

No. 197,733. Patented Dec. 4, 1877.

Fig. 1.

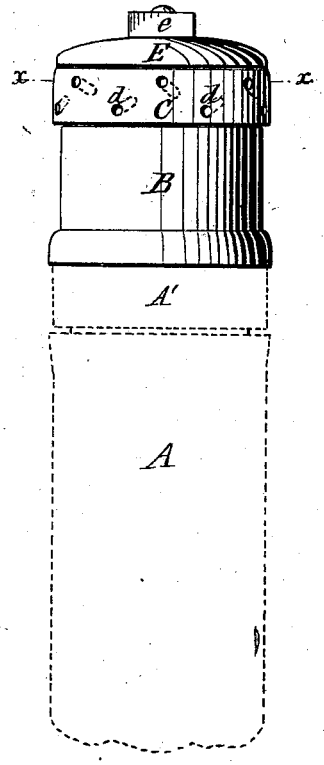


Fig. 2.

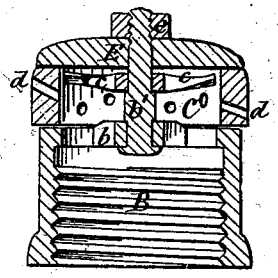
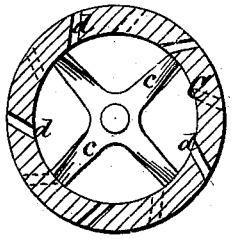


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM A. KIRBY AND DICK M. KIRBY, OF AUBURN, NEW YORK.

IMPROVEMENT IN LAWN-SPRINKLERS.

Specification forming part of Letters Patent No. **197,733**, dated December 4, 1877; application filed November 9, 1877.

To all whom it may concern:

Be it known that we, WILLIAM A. KIRBY and DICK M. KIRBY, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Lawn-Sprinklers; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side view of the lawn-sprinkler; Fig. 2, a vertical section of the same, and Fig. 3 a horizontal section on line *x x* of Fig. 1.

Our invention relates to an improved lawn-sprinkler, which can be attached to a standing pipe, or to the end of a garden or other hose, and be held in a vertical position, either from a portable stand or otherwise, and by means of which the ground will be sprinkled uniformly over a large surface, while water issues from perforations in a ring rotated by the action of the escaping water.

Our invention consists in a ring of thick metal, having perforations tangent, or nearly so, to its inside periphery, located so as to rotate between its support, or the coupling of a hose to which it may be attached, and a stationary cap that receives the thrust or direct pressure of water admitted in said sprinkler.

It also consists in the combination and arrangement of the parts to obtain the desired result.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

A represents a hose, to the end of which is attached a male screw-coupling, A′, that engages with the part B or coupling of the sprinkler. To this coupling B is attached, by means of radial arms *b*, the central spindle *b′*, around which the sprinkling-ring C revolves, the latter being loosely connected to the spindle by its radial arms *c*. The ring C is made of thick metal, and has a series of fine perforations, *d*, made at an angle to its radius, so that each perforation is nearly tangent to its interior circumference, and when water is forced through said perforations it will rotate the ring in the opposite direction from which it issues. To accelerate this rotating motion the face of the arms *c* may be slightly inclined on one side, in the form of a helicoid propeller. Although all the perforations *b* are nearly tangent to the ring C, they are formed at various angles to the horizon, so that the water or spray will be projected at various distances from the sprinkler. The cap E is placed above the ring C, upon the spindle *b′*, to arrest and receive the direct thrust or pressure of the water and direct it to the openings *d*. This cap is retained in position, close to the ring, by the nut *e*, engaging with the thread cut upon the upper portion of the spindle *b′*.

By this construction the ring C, or movable part of the sprinkler, sustaining no upward pressure from the water, can turn freely between two plane surfaces—viz., the top of the coupling and bottom of the cap—while a slight escape of water at these points lubricates the parts, so that there is no perceptible wear of the surfaces of the ring.

Having now fully described our invention, we claim—

1. A lawn-sprinkler formed with a thick metal ring, having perforations tangent, or nearly so, to its interior periphery, as and for the purpose described.

2. In a lawn-sprinkler, the combination of a hose-coupling, a ring with perforations tangent, or nearly so, to its interior periphery, and a cap, substantially as and for the purpose described.

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