W. B. SPROWL.

LAWN SPRINKLER.

APPLICATION FILED JULY 25, 1912.

1,056,847.

Patented Mar. 25, 1913.

2 SHEETS—SHEET 1.

FIG. 1.

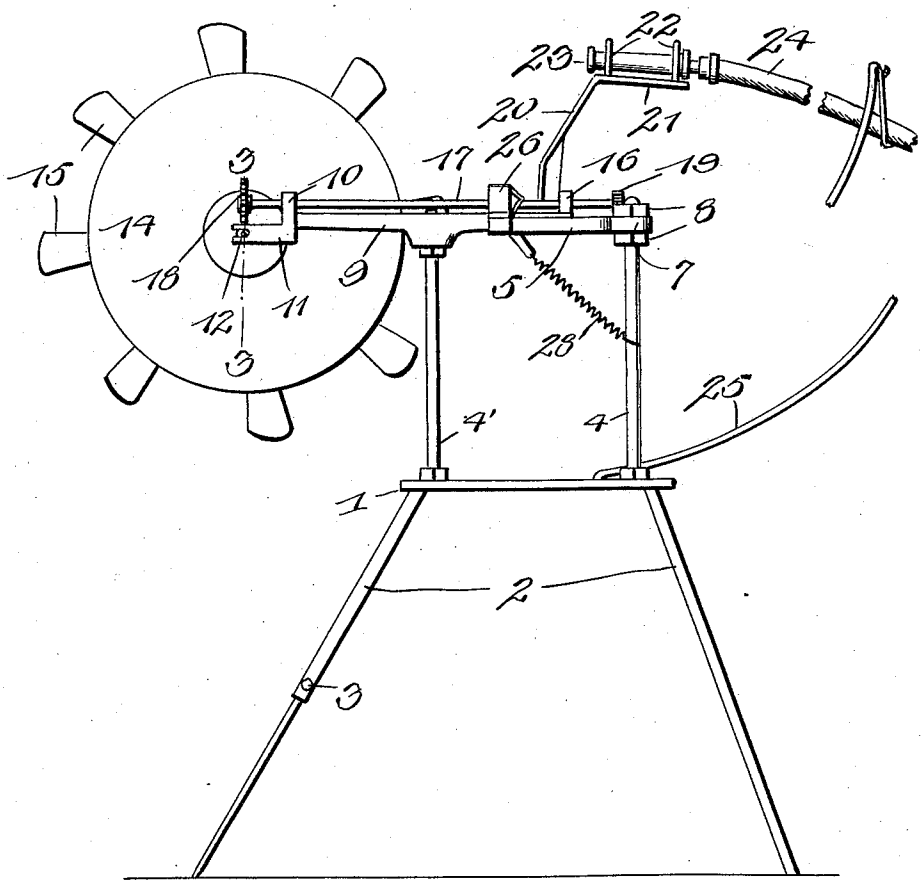
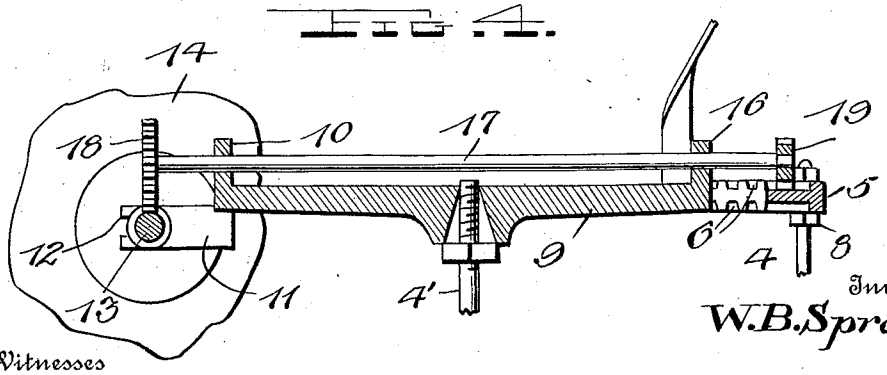


FIG. 4.



Witnesses

Chas. L. Friedauer.

A. B. Norton.

Inventor

W. B. Sprowl,

By Watson E. Coleman.

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

W. B. SPROWL.

LAWN SPRINKLER.

APPLICATION FILED JULY 25, 1912.

1,056,847.

Patented Mar. 25, 1913.

2 SHEETS—SHEET 2.

Fig. 2.

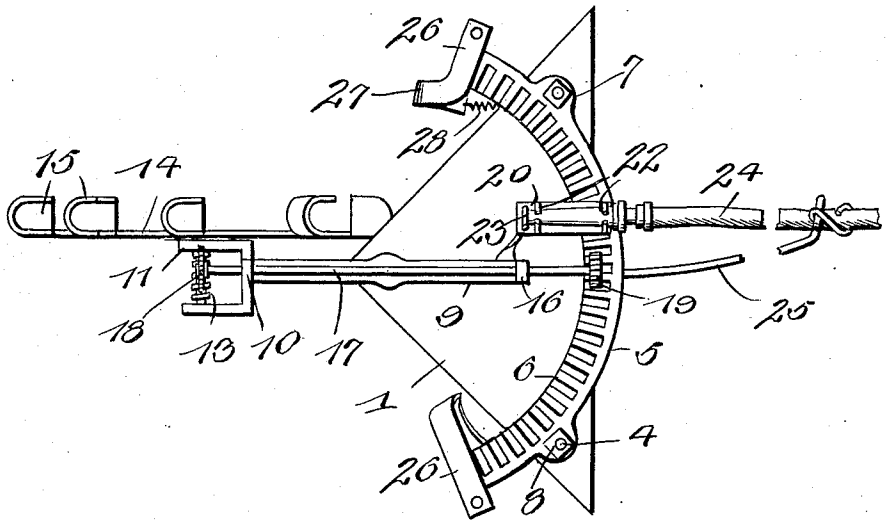


Fig. 3.

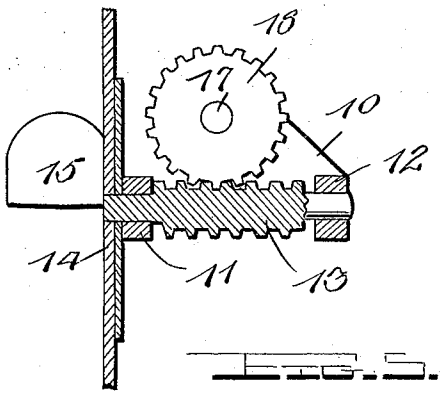


Fig. 6.

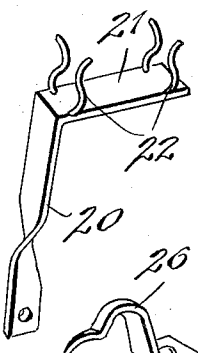
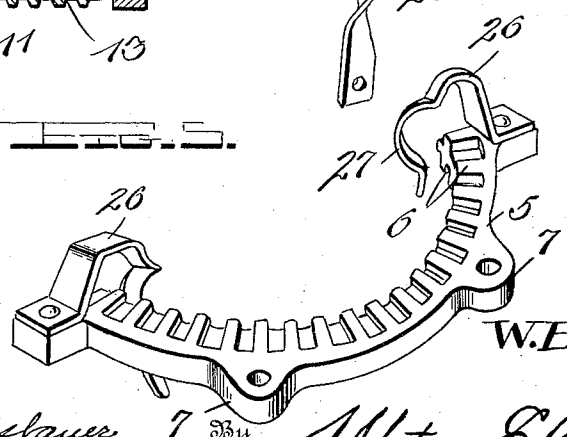


Fig. 5.



Witnesses

Chas. L. Grisbauer

A. B. Norton.

Inventor

W. B. Sprowl,

By Watson E. Coleman.

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILSON B. SPROWL, OF MARION, INDIANA.

LAWN-SPRINKLER.

1,056,847. Specification of Letters Patent. Patented Mar. 25, 1913.

Application filed July 25, 1912. Serial No. 711,515.

To all whom it may concern:

Be it known that I, WILSON B. SPROWL, a citizen of the United States, residing at Marion, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Lawn-Sprinklers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to new and useful improvements in lawn sprinklers, the object of the invention being to provide a sprinkler which comprises a standard upon the upper end of which is mounted a water wheel adapted to be rotated by means of a stream of water from a nozzle mounted upon the standard, whereby the stream of water will be broken into a fine spray.

Another object of the invention is to provide a sprinkler of the above character which will possess advantages in points of efficiency and durability, is inexpensive to manufacture and at the same time is simple in construction and operation.

With the above and other objects in view, the invention consists in the novel features of construction and the combination and arrangement of parts hereinafter more fully described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a side elevation. Fig. 2 is a top plan view. Fig. 3 is a sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a sectional view. Fig. 5 is a detail perspective view of the curved rack, and Fig. 6 is a detail perspective view of the nozzle support.

Referring more particularly to the drawings, 1 indicates a supporting base which is mounted upon suitable standards 2. The supporting base is preferably of triangular form and the supporting standard located at one corner thereof is formed in two sections, adjustably connected together and adapted to be held in various adjusted positions by means of the thumb screw 3 so that one corner of the supporting base may be raised or lowered as desired. Mounted upon the supporting base and arranged at each corner thereof are the upwardly extending rods 4 which are adapted to support the operating mechanism. Mounted upon the two rear rods is a semicircular bar 5 which is provided upon its upper and lower faces with a plurality of teeth 6. The bar 5 is mounted upon the rods 4 by means of the outwardly extending ears 7 provided with suitable openings to receive the upper ends of the rods, said ears being held in place by means of the nuts 8 which are threaded upon the rod and arranged upon the upper and lower face of the ears 7.

Pivotally mounted upon the rod 4′ at the front of the supporting base is a supporting arm 9, one end of which is provided with an upwardly extending portion 10 having the spaced arms 11 formed integral therewith and extending forwardly therefrom. The arms 11 are provided at their outer ends with suitable bearings 12 in which is mounted a shaft on which a worm 13 is formed. The shaft upon which the worm is formed extends outwardly at one end and a water wheel 14 is mounted upon the outwardly extending end, said water wheel being provided upon its outer periphery with a plurality of curved blades 15 extending outwardly therefrom. Extending upwardly from the inner end of the arm 9 is a bearing 16 in which is mounted the shaft 17, the other end of said shaft being suitably mounted in the upwardly extending portion 10. Mounted upon one end of the shaft 17 is a gear 18 which is adapted to mesh with the worm 13 to rotate said shaft when the wheel 14 is turned. Mounted upon the inner end of the shaft 17 is a small gear 19 which is adapted to mesh with the teeth 6 formed upon the upper and lower faces of the bar 5, thus when the wheel 14 is rotated the rotation of the shaft 17 will engage the gear 19 with the teeth 6 and rotate the arm 9 which carries with it the wheel 14.

Secured to the inner end of the arm 9 and extending upwardly therefrom is the hose supporting bracket 20 the upper end of which is bent at substantially right angles and arranged in a horizontal plane as shown at 21. Secured to the upper face of the horizontal portion 21 are the spring clips 22 adapted to receive the nozzle 23 of the hose 24 to support the same so as to direct the stream of water issuing from the nozzle against the curved blades of the wheel 14. Pivotally mounted upon the base member 1 at the rear side thereof is a curved supporting rod 25 which extends rearwardly and upon which the hose 24 is supported. Secured to each end of the curved bar 5 is a bracket 26, one end of which is curved outwardly as shown

at 27 and then secured to the coil springs 28, the other end of said springs being fastened to the two rear rods 4.

From the above description, it will be readily apparent that a stream of water issuing from the nozzle 23 will be directed against the curved blades 15 of the wheel 14, the force of the water striking against the blades will tend to rotate the wheel and the worm 13 which in turn will rotate the shaft 17 through the gear 18, the gear 19 mounted upon the inner end of the shaft 17 will thus be rotated and engage the teeth 6, so that the arm 9 which is pivotally mounted upon the upper end of the rod 4' will be revolved, the gear 19 traveling to one end of the curved bar 5. As soon as the gear 19 reaches the end of its travel at one end of the bar 5, the shaft 17 will strike the curved portion 27 and force the gear 19 beneath the bar 5 so that the gear will travel upon the teeth on the lower side of the bar to the other end thereof, the tapering opening 29 in the arm 9 will allow the same to oscillate enough so that the gear 19 will easily travel on the under side of the bar 5. When the gear 19 reaches the other end of the curved bar 5, the shaft 17 will strike the curved portion 27 and force the shaft upwardly so that the gear 19 will again engage the teeth upon the upper face of the bar and travel to the other end thereof. It will be noticed that when the shaft 17 strikes the curved portion of the brackets 26, the resiliency of the springs 28 will force the gear 19 back into engagement with the teeth either upon the upper or lower face of the bar.

From the above description taken in connection with the drawings it will be readily apparent that I have provided a simple and durable lawn sprinkler whereby a stream of water issuing from the nozzle of a hose will be broken into a fine spray and at the same time will be distributed over a large area.

While I have shown and described the preferred form of my invention, it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying my invention into practice without sacrificing any of the novel features or departing from the scope of the appended claims.

What I claim is:—

1. In a device of the character described, the combination of a base, a curved rack bar mounted in spaced relation with the base and having teeth formed upon the upper and lower faces, an arm mounted upon said base and adapted for oscillation, a transverse shaft mounted in one end of said arm, a worm formed upon said shaft, a water wheel mounted upon one end of said shaft, a longitudinal shaft upon said arm, a gear upon one end of the longitudinal shaft and adapted to engage said worm, a second gear upon the other end of the longitudinal shaft and adapted to engage the teeth upon the rack bar, whereby when said water wheel is rotated, the arm will be oscillated in the arc of a circle, curved brackets arranged at each end of said rack bar against which the longitudinal shaft strikes as it reaches the ends of the rack bar so that the same will be returned upon the opposite face of said bar.

2. In a device of the character described, the combination of a base, a curved rack bar mounted upon said base, a pivoted arm mounted upon said base, a water wheel mounted upon one end of said arm, a supporting bracket secured to the other end of said arm and extending upwardly, the upper end of said bracket being bent at substantially right angles and disposed in a horizontal plane, clips carried by said horizontal portion to secure the nozzle of the hose thereto whereby the water therefrom is directed against the water wheel to rotate the same, and means carried by the arm and adapted to engage said rack bar whereby the arm will be oscillated in the arc of a circle when the wheel is rotated.

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

WILSON B. SPROWL.

Witnesses:
OLIVER D. CLAWSON,
ROBT. SWANSON.

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