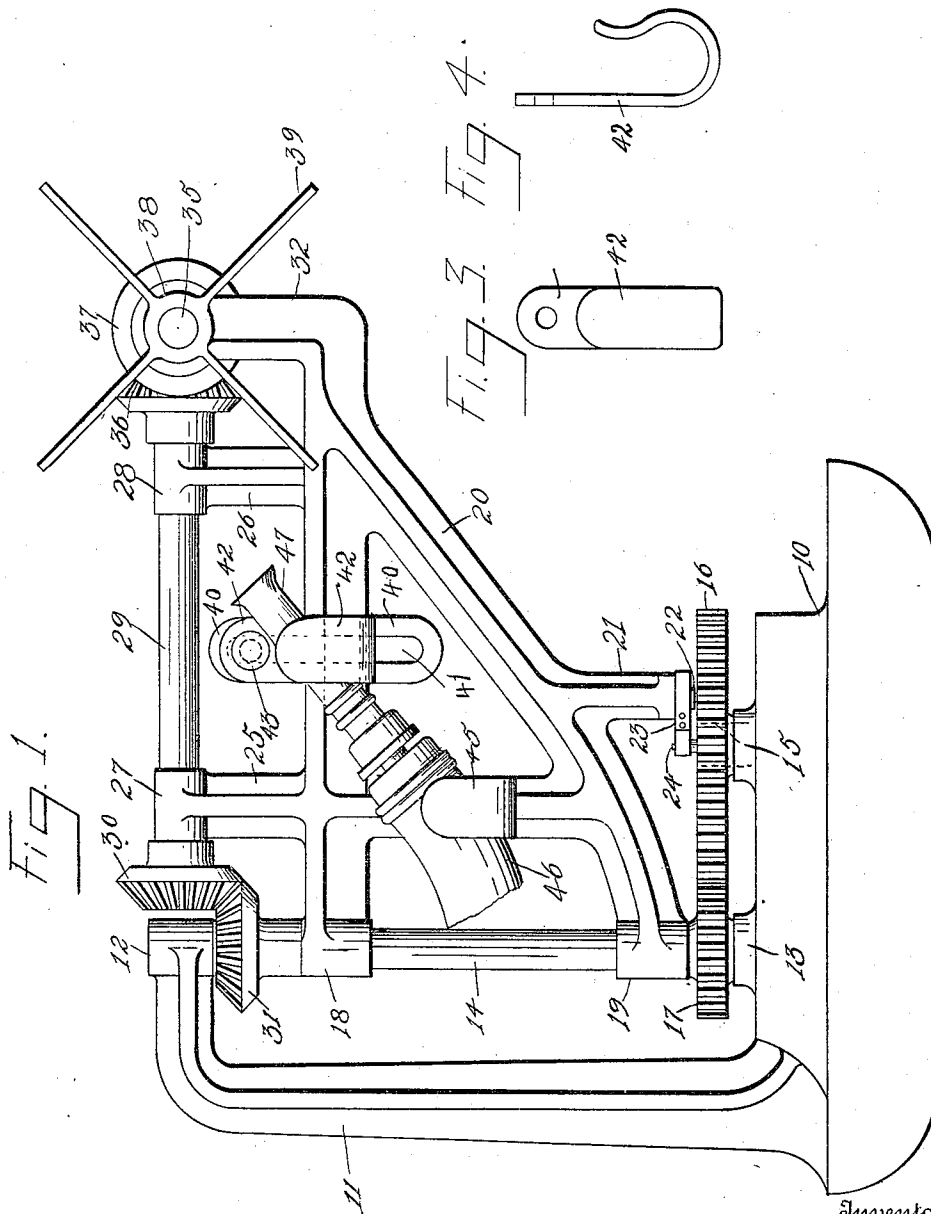


M. S. LANTZER.  
 AUTOMATIC LAWN SPRINKLER.  
 APPLICATION FILED SEPT. 21, 1909.

968,487.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses

J. E. Strobel

C. H. Woodward

Inventor  
 MILLER S. LANTZER

By

*Charles Chandler*

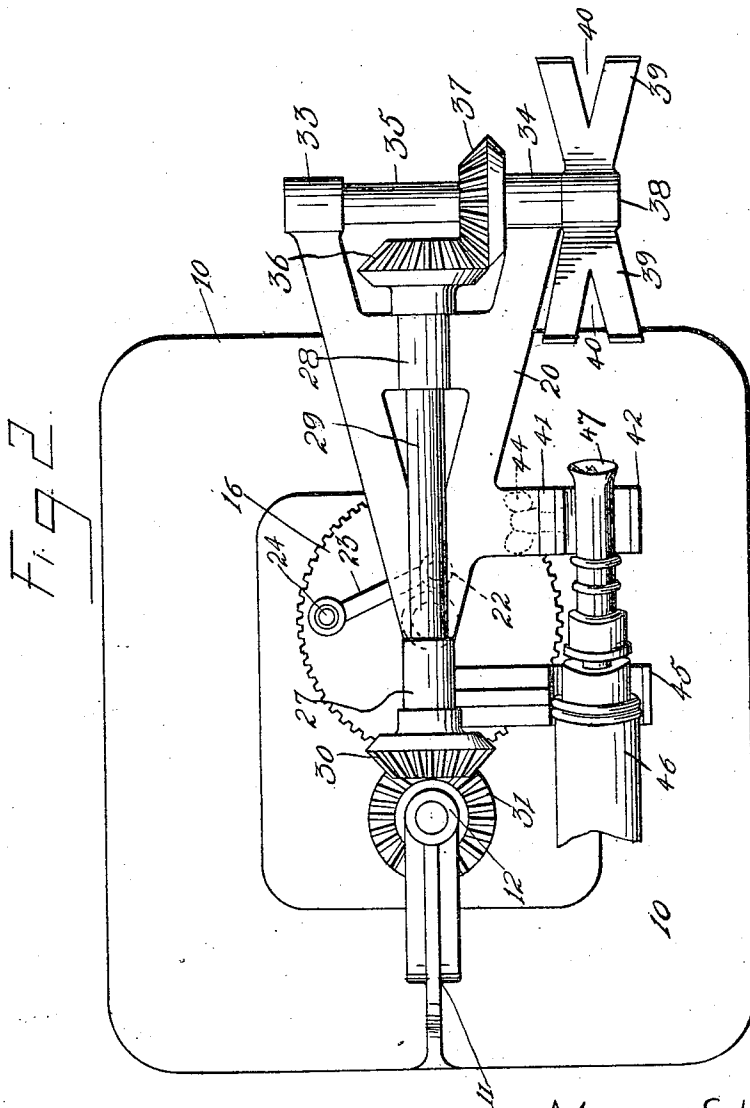
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C. H. Woodward.

Inventor  
 MILLER S. LANTZER

By

*Charles Chawla*

Attorneys

# UNITED STATES PATENT OFFICE.

MILLER SAMUAL LANTZER, OF STREATOR, ILLINOIS.

AUTOMATIC LAWN-SPRINKLER.

968,487.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed September 21, 1909. Serial No. 518,772.

*To all whom it may concern:*

Be it known that I, MILLER S. LANTZER, a citizen of the United States, residing at Streator, in the county of Lasalle, State of Illinois, have invented certain new and useful Improvements in Automatic Lawn-Sprinklers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to lawn sprinklers, more particularly to devices of this character wherein the force of the water flowing from the hose is utilized to cause the nozzle of the sprinkler to swing back and forth and thus sprinkle a relatively large area of the lawn, and the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention. Figure 1 is a side elevation of the improved device. Fig. 2 is a plan view of the same. Fig. 3 is a front view, and Fig. 4 is a side view of the adjustable nozzle supporting hook, detached.

The improved device comprises a base member 10, which may be of any desired form or construction, and of any suitable size, but will preferably be of sufficient size and weight to maintain the operating mechanism in position, and can be readily moved over the ground so that it may be placed at any desired point on the lawn. The base 10 will preferably be in sled-like form, so that it may be drawn over the lawn without injury thereto.

Rising from the base 10 is a supporting standard 11 having a vertical bearing 12 at its upper end, while the base 10 is provided with a step 13, the bearing 12 and the step 13 being designed to support a vertical shaft 14, as shown. Rising from the base 10 is a stub shaft indicated at 15, and mounted for rotation upon this stub shaft is a relatively large gear 16, which engages with a small pinion 17 fast upon the shaft 14.

Mounted to swing by bearings 18—19 upon the shaft 14 is a frame, represented as a whole at 20. The frame 20 is provided with a depending portion 21 having a pin 22 at its lower end and connected by a rod 23 to a crank pin 24 which rises from the gear 16. By this arrangement it will be obvious that when the shaft 14 is rotated the pinion

17 will impart rotary motion to the gear wheel 16, and this rotary motion will cause the frame 20 to swing back and forth upon the shaft 14, the object to be hereafter explained.

Rising from the frame 20 are standards 25—26, having bearings 27—28 at their upper ends to support a longitudinal shaft 29. The shaft 29 is provided with a bevel gear 30 engaging with a similar bevel gear 31 on the shaft 14. The frame 20 diverges toward the outer or free end, and is provided at its free outer end with vertical standards, one of which is represented at 32, the standards being provided at their upper ends with bearings 33—34 to support a transverse shaft 35. Connected to the shaft 29 is a bevel gear 36 which is arranged to engage with a similar bevel gear 37 on the shaft 35. Connected to the shaft 35 at one end is a hub 38 having radially extending wings 39, the sides of the wings being arranged to converge as shown in Fig. 2, and each provided with a V-shaped recess 40.

Projecting from the frame 20 at the same side upon which the device 38—39 is located, is a vertical bracket 40 having a longitudinal slot 41 therein, and bearing upon this bracket is a nozzle supporting hook 42, the hook being adjustably connected to the bracket by a clamp bolt 43 which passes through the slot 42 and is retained in position by a wing nut indicated at 44. By this means the hook may be adjusted vertically within the range of the slot. Extending from the frame 20 between the bracket 41 and the shaft 14 is another hook 45 to cooperate with the hook 42 to support the hose in position.

A portion of the hose is represented at 46 and a conventional sprinkler nozzle at 47. The nozzle and the hose adjacent to the nozzle are supported in the hooks 42—45 in position to cause the water escaping from the nozzle to impinge against the radial blades 39 and thus impart rotary motion to the shaft 35, and thence through the gears 36—37, shaft 29, gears 30—31, to shaft 14, and thence through the gears 16—17 to the rod 23 and cause the backward and forward movement of the frame 20 and its attachments. By this simple means a portion of the force of the water escaping from the nozzle 47 is utilized to impart the vibratory motion to the frame 20, and thus cause the

spray from the nozzle to be distributed over a relatively large area of the lawn. The throw of the frame 20 is controlled by the length of the rod 23, and this throw may be increased or decreased by increasing or decreasing the length of the rod. The flexibility of the hose 46 permits this vibratory movement of the frame 20 and its attachments without detriment to the hose or interfering with its operation, as will be obvious. The throw of the frame 20 and its attachments will usually be about one-half of a complete circle, but this distance may be varied, as before stated, as required, by altering the length of the rod 23.

The device is constructed entirely of metal, and may be inexpensively manufactured and operates effectually for the purposes described.

What is claimed is:—

1. In a lawn sprinkler, a base member, a frame mounted to swing upon said base, a water motor carried by said frame, means whereby the motion of said motor causes the reciprocal movement of said frame, hose nozzle supports connected to said frame, and a hose nozzle carried by said nozzle supports in position to operate said motor.

2. In a lawn sprinkler, a frame mounted to swing, a water motor carried by said frame, means whereby the motion of said motor causes the reciprocal movement of said frame, and a hose nozzle carried by said frame in position to actuate said motor.

3. In a lawn sprinkler, a base member, a vertical shaft mounted for rotation upon said base, a frame mounted to swing upon said shaft, a horizontal shaft carried by said frame, a water motor carried by said frame, means for imparting the motion of said motor to said shafts, a wheel mounted for rotation upon said base, coupling means between said wheel and said frame, means for imparting the motion of said motor and shaft to said wheel, and a hose nozzle connected to said frame in position to actuate said motor.

4. In a lawn sprinkler, a base member, a frame mounted to swing upon said base, a

water motor carried by said frame, means whereby the motion of said motor causes the reciprocal movement of said frame, a hose nozzle support, means for adjustably connecting said hose nozzle support to said frame, and a hose nozzle carried by said support in position to actuate said motor.

5. In a lawn sprinkler, a frame mounted to swing, a water motor carried by said frame and including a plurality of radially directed blades, a hose nozzle carried by said frame and so arranged that a portion of the water therefrom engages said motor blades, and means whereby the motion of said motor causes the reciprocal movement of said frame.

6. In a lawn sprinkler, a frame mounted to swing, a water motor carried by said frame and including a plurality of radially directed blades with their side edges diverging outwardly and with V-shaped notches in their outer ends, a hose nozzle carried by said frame in alignment with the longitudinal plane of the blades and centrally thereof, so that a portion of the water engages the blades centrally of the V-shaped notches.

7. In a lawn sprinkler, a base member, a frame mounted to swing upon said base, a water motor carried by said frame, means whereby the motion of said motor causes the reciprocal movement of said frame, and hose nozzle supports connected to said frame and adapted to support a hose in position to operate said motor.

8. In a lawn sprinkler, a frame mounted to swing, a water motor carried by said frame, means whereby the motion of said motor causes the reciprocal movement of said frame, and hose nozzle supports adapted to support a hose in position to actuate said motor.

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

MILLER SAMUAL LANTZER.

Witnesses:

CHESTER A. LANTZER,  
FRED C. LANTZER.