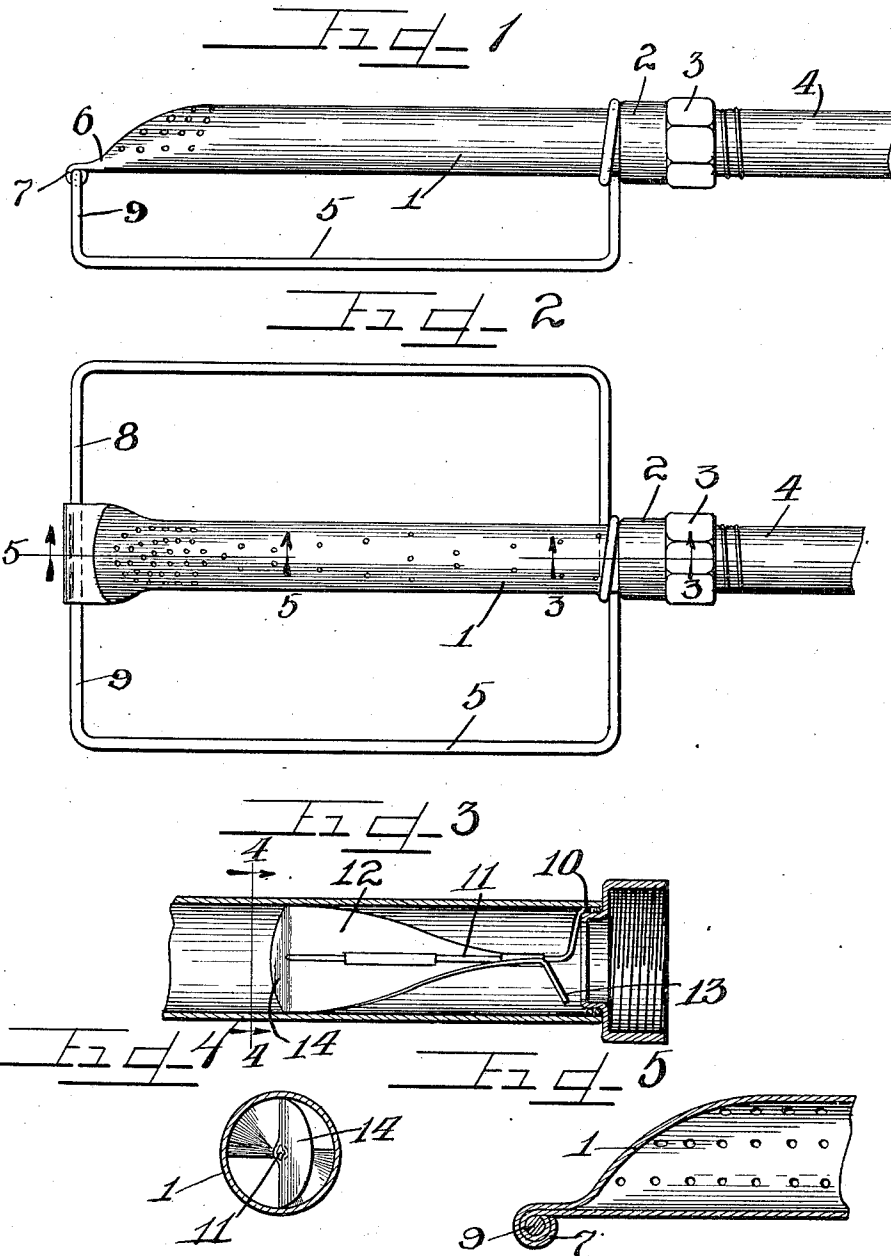


C. A. NELSON.
LAWN SPRINKLER.
APPLICATION FILED OCT. 30, 1912.

1,093,006.

Patented Apr. 14, 1914.

2 SHEETS-SHEET 1.



Witnesses

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Charles W. Hill

Inventor

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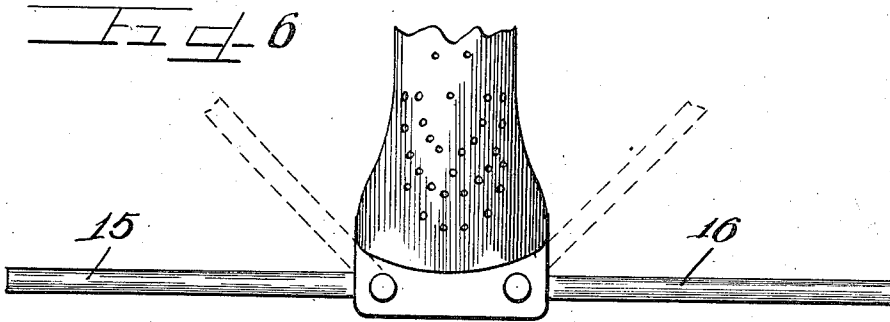


Fig. 8 Fig. 7

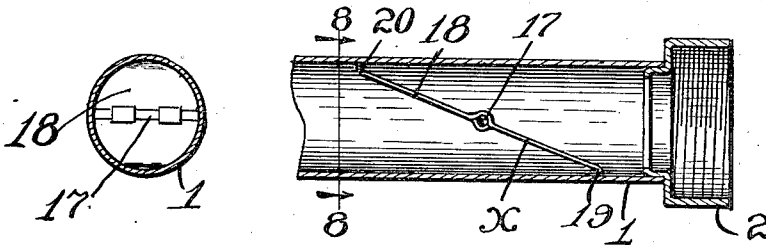
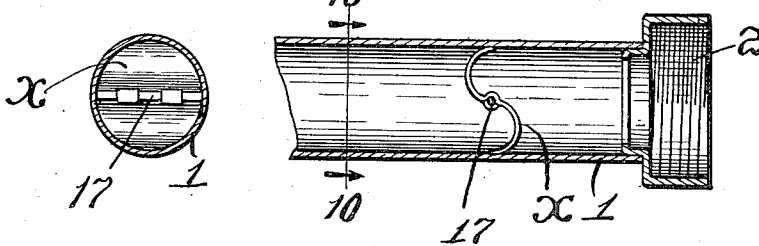


Fig. 10 Fig. 9



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UNITED STATES PATENT OFFICE.

CHARLES A. NELSON, OF CHICAGO, ILLINOIS.

LAWN-SPRINKLER.

1,093,006.

Specification of Letters Patent.

Patented Apr. 14, 1914.

Application filed October 30, 1912. Serial No. 728,526.

To all whom it may concern:

Be it known that I, CHARLES A. NELSON, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lawn-Sprinklers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to improvements in lawn sprinklers and more particularly to that class of lawn sprinklers adapted to afford a plurality of intermittent jets of water adapted to cover a wide area of ground.

It is also an object of this invention to provide a sprinkler head or nozzle which may readily be connected to a hose to afford a plurality of intermittent jets which may be manually directed without danger of wetting the person holding the end of the hose.

It is a further object of the invention to provide a spray nozzle having a jet regulating member therein adapted to be actuated by the pressure of water against the same to insure the delivery of water from said spray nozzle in a plurality of intermittent jets.

It is also an important object of this invention to provide a cheap, simple and durable device of the class described which will not be likely to get out of order or require renewal of parts.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 illustrates a side elevation of the device embodying my invention. Fig. 2 is a top plan view thereof. Fig. 3 is a fragmentary section taken on line 3—3 of Fig. 2. Fig. 4 is a section taken on line 4—4 of Fig. 3. Fig. 5 illustrates a fragmentary section taken on line 5—5 of Fig. 2. Fig. 6 is a fragmentary top plan view of one end of the device embodying my invention and illustrates a modification of the stand therefor. Figs. 7 and 9 illustrate modifications of my invention. Figs. 8 and 10 are sections taken on lines 8—8 and 10—10 of Figs. 7 and 9 respectively.

As shown in the drawings: 1, indicates a

spray nozzle having a plurality of spray apertures on one side of the same, 2 an externally threaded female pipe fitting connected in one end thereof, 3 a union nut or collar for connecting the nozzle to the hose 4, and 5 a frame adapted to support the nozzle in position. The tubular spray nozzle is slightly flattened at its outer end 6, and is folded or rolled back upon itself to afford a loop 7, adapted to engage the ends 8 and 9, of the frame 5. As shown clearly in Figs. 1 and 2, said frame member extends laterally of the outer end of the spray nozzle, then parallel with said spray nozzle and then back to and around the opposite or inner end of the same to afford a rigid frame. The pipe fitting 2, is secured within the inner end of the spray nozzle in the usual or any preferred manner and one end 10, of a relatively stiff wire is rigidly secured between the same and said spray nozzle, and the free end thereof is directed downwardly to the axis of said nozzle and then outwardly to afford an axial spindle 11. A sheet of metal 12, bent to afford a spiral spinning head is rotatably secured upon said axial shaft 11, in such a manner that the water delivered through a hose against the end 14, of said head will be directed through said nozzle in a whirling flow and thereby cause the water to be forced through the apertures in the nozzle in jets of varying length.

The construction illustrated in Fig. 6 is substantially the same as that described with reference to Figs. 1 to 4 inclusive, the only important difference being that arms 15 and 16, which are pivoted on the flattened end of the spray nozzle are substituted for the rigid frame 5, previously described.

The construction illustrated in Figs. 7 to 10 inclusive, is substantially identical with that previously described with reference to Figs. 1 to 5 inclusive, practically the only important difference being that a transverse shaft 17, is secured in the tubular spray nozzle 1, and a jet regulating member X, is secured upon said shaft 17, in position to be actuated by the water passing through the nozzle to intermittently interrupt the flow through the same.

As shown in Figs. 7 and 8, the plate 18, is pivotally engaged upon the shaft 17, and is of a size and shape adapted to be actuated by the water delivered to the spray nozzle

to intermittently close the passage through said spray nozzle and prevent the passing of water through the same momentarily. The ends 19 and 20, of said plate are bent oppositely in such a manner that the flow will be deflected upwardly by the downwardly directed end of the same, when in the position indicated by full lines in Fig. 7, and thereby force the outer end of said plate downwardly to the position indicated by dotted lines in said figure. The plate is then forced back to the position shown by full lines by the pressure of the water on the outer end of the plate and between the downwardly directed end 19, and the nozzle.

As shown in Figs. 9 and 10, the jet regulating member is rotatably secured upon the transverse shaft 17, and is bent to present a concave surface to the flow of the water above the shaft, and a convex surface to the flow of the water below the shaft.

The operation is as follows: It is believed to be obvious from the construction described in connection with Figs. 1 to 5 inclusive that water delivered through a hose to the spraying nozzle will be deflected by the end 13, on the spindle head and the pressure of the water against the wings of said spinning head will rotate the same and thereby effect the delivery of a whirling flow of water through the same which will in turn cause the jets of water delivered through the apertures in the nozzle to vary greatly in length. The operation of the jet regulating members shown in Figs. 7 to 10 inclusive is likewise effected by the pressure of the water forced against the same. It is apparent from the construction illustrated and described that the swinging of the plate 18 in Figs. 7 and 8 and the rotation of the member X illustrated in Figs. 9 and 10 will effect an intermittent interruption of the flow of water through the spray nozzle and thereby cause the water to be delivered through the apertures in said spray nozzle

in a plurality of intermittent jets of constantly varying length.

It is obvious from the construction described that many important details of construction may be varied without departing from the spirit of my invention. I therefore do not purpose limiting the patent granted upon this application for patent otherwise than necessitated by the prior art.

I claim as my invention:

1. A device of the class described embracing a tubular spray nozzle provided with a series of perforations on one side thereof and having one of its ends closed, an internally threaded female pipe member secured in one end thereof, a shaft secured in said spray nozzle and a rotatable jet regulating vane secured on said shaft in position to be actuated by the pressure of the water delivered against the same to effect the delivery of water from the spray nozzle in a plurality of intermittent jets of varying length.

2. A device of the class described, embracing a tubular spray nozzle provided with a series of discharge perforations in one side thereof, and a movable jet regulating member disposed in said spray nozzle and operated by the flow of liquid therethrough to produce a constant but pulsating delivery of fluid from said spray nozzle.

3. In a device of the class described, a casing having a plurality of apertures in the side thereof, a shaft mounted in said casing, and a vane pivoted thereon and adapted to be rotated by a fluid flowing through said casing, said vane acting by such rotation to produce a constant but pulsating delivery of the fluid through said apertures.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

CHARLES A. NELSON.

Witnesses:

CHARLES W. HILLS, Jr.,
GEORGE R. MOORE.