F. N. FORSTER.
Lawn-Sprinkler.

No. 220,277. Patented Oct. 7, 1879.

Fig. 1

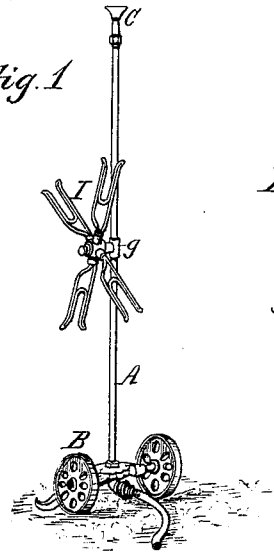


Fig. 2.

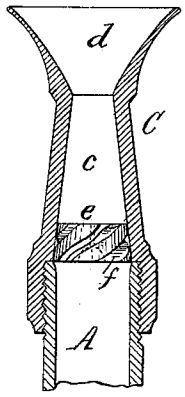


Fig. 3.



Fig. 4.

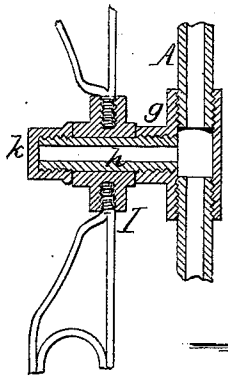


Fig. 5

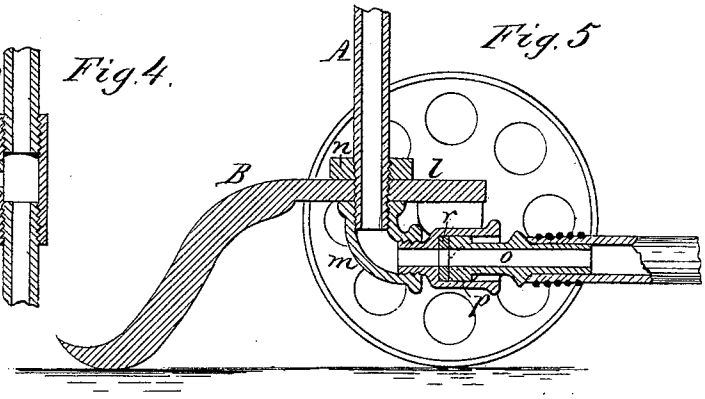


Fig. 8.

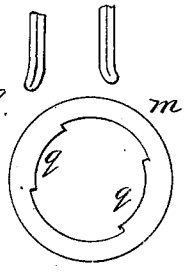
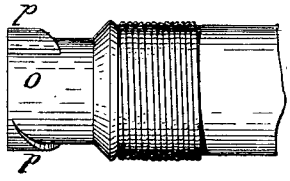


Fig. 7.



Fig. 6



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UNITED STATES PATENT OFFICE.

FRANK N. FORSTER, OF BUFFALO, NEW YORK.

IMPROVEMENT IN LAWN-SPRINKLERS.

Specification forming part of Letters Patent No. **220,277**, dated October 7, 1879; application filed June 12, 1879.

To all whom it may concern:

Be it known that I, FRANK N. FORSTER, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Lawn-Sprinklers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to that class of lawn-sprinklers which consist of a vertical pipe supported by a suitable base, and having a suitable distributing-nozzle at its upper end.

My invention has for its object to simplify the construction of this class of sprinklers; and it consists, first, in constructing the nozzle with an open flaring mouth and an inner plug having spiral water passages, whereby the water is distributed in a fine spray; second, in constructing the sprinkler-pipe with a horizontal branch, which forms the arbor of the hose-reel; third, in securing the vertical pipe to the base by an elbow on the lower side of the base and a screw-nut on the upper side thereof, as will be hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of my improved lawn-sprinkler. Fig. 2 is a detached sectional elevation of the nozzle. Fig. 3 is a perspective view of the grooved plug; Fig. 4, a detached sectional elevation of the arbor of the hose-reel; Fig. 5, a detached sectional elevation of the lower portion of the sprinkler. Fig. 6 is a side elevation of the coupling, which is attached to the hose. Fig. 7 is an end elevation thereof. Fig. 8 is an end elevation of the elbow at the lower end of the sprinkler-pipe.

Like letters of reference designate like parts in each of the figures.

A represents the vertical sprinkler-pipe, and B the base supporting the same. C is the sprinkler-nozzle, composed of a tubular body, *c*, and a flaring mouth-piece, *d*. *e* is a plug, made slightly conical, and provided on its periphery with several spiral grooves, *f*. The plug *e* is tightly driven into the inner end of the tubular body *c* of the nozzle, and its spiral grooves form water-passages, which impart a spiral movement to the water as it passes through the nozzle, and, in connection with the flaring open mouth-piece, break up the stream of water into a fine spray, which is distributed over a greater or less area, according to the pressure under which the water issues from the pipe. This nozzle is very simple and cheap in construction, and not liable to become clogged by any solid impurities which the water may carry, like ordinary rose-jets made of perforated plates. The nozzle is provided with a female screw-thread for connecting it with the upper end of the sprinkler-pipe in an ordinary manner.

If desired, the plug *e* may be provided with a fine central bore, *e'*, through which a fine stream is thrown in the line of the axis of the nozzle, for ornamentation.

g is a T-piece, arranged in the sprinkler-pipe A at a suitable height above the base for supporting the hose-reel; and *h* is a short horizontal pipe screwed into the T-piece *g*, and forming an arbor, upon which the hose-reel I revolves. The end of the pipe *h* is tightly closed by a screw-cap, *k*, which at the same time serves to hold the reel on the arbor *h*. The lower end of the pipe A passes through the body or plate *l* of the base B, and is provided with an external screw-thread, by means of which it is screwed into an elbow, *m*, bearing against the under side of the plate *l*.

n is a screw-nut, which is placed upon the threaded lower end of the pipe A previous to inserting into the opening of the base B. After the pipe A is so inserted the nut *n* is screwed down upon the plate *l*, whereby the pipe A is firmly secured to the base.

The horizontal portion of the elbow *m* is provided with an enlarged end for the reception of the coupling *o*, attached to the hose. The coupling *o* is made cylindrical, and provided at its end with two concentric lugs, *p p*, having their rear sides made inclined or in the form of a steep screw-thread. The bore of the enlarged end of the elbow *m* is made of such size as to freely admit the coupling *o* with its lugs *p p*, and has on its inner side two lugs, *q q*, fitting in the spaces between the lugs *p p*, and having their rear sides made correspondingly inclined, so that by inserting the coupling *o* into the elbow *m* and giving a quarter-turn it will be drawn tightly against the seat at the inner end of the enlarged portion of the elbow *m*. A

washer, *r*, of leather or other suitable material, is preferably placed between the end of the coupling *o* and its seat in the elbow *m*. In this manner the hose is tightly connected with the sprinkler in a very simple manner, which permits the easy attachment and removal of the hose.

I am aware that hose-nozzles having plugs provided with spiral grooves are well known, and this I do not broadly claim; but

I claim as my invention—

1. The nozzle C, composed of the tubular body *c*, open flaring mouth-piece *d*, and the fixed plug *e*, provided with spiral grooves *f*, substantially as set forth.

2. The combination, with the sprinkler-pipe A, of the T-piece *g*, horizontal pipe *h*, and cap *k*, forming an arbor for the hose-reel, substantially as set forth.

3. The combination, with the base B and threaded sprinkler-pipe A, of the elbow *m* and screw-nut *n*, bearing respectively against the lower and upper sides of the base, substantially as set forth.

FRANK N. FORSTER.

Witnesses:
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