

(No Model.)

J. H. HENDERSON & E. SCHUTZ.

REVOLVING SPRINKLER.

No. 270,664.

Patented Jan. 16, 1883.

Fig. 1.

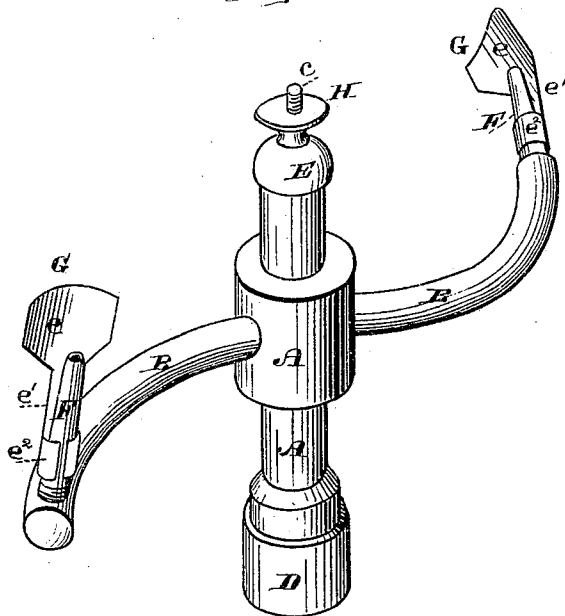
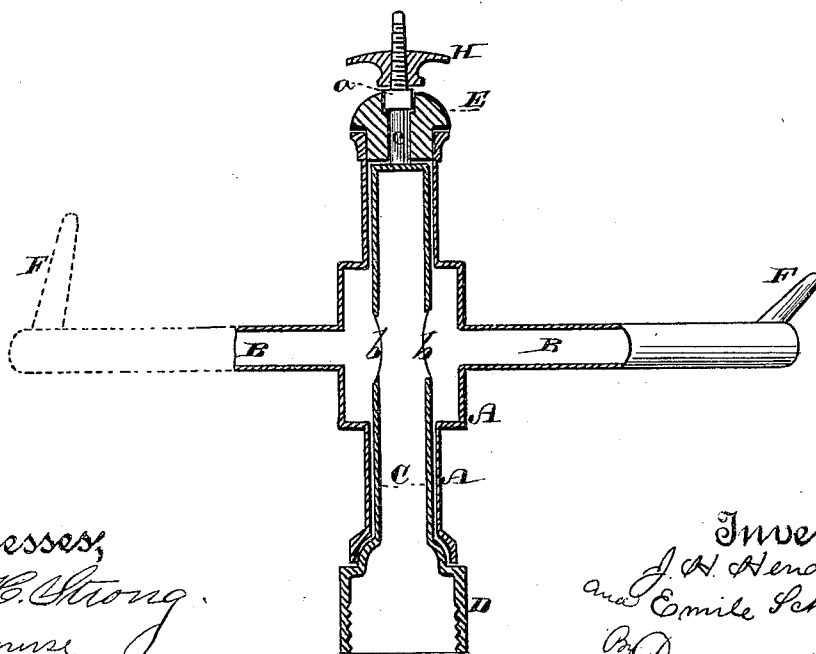


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN H. HENDERSON AND EMILE SCHUTZ, OF SIERRA BUTTES, CAL.

REVOLVING SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 270,664, dated January 16, 1883.

Application filed September 18, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. HENDERSON and EMILE SCHUTZ, of Sierra Buttes, county of Sierra, State of California, have invented an Improved Revolving Sprinkler; and we hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to an improved sprinkler of that class in which revolution is obtained by the unequal pressure of escaping water upon the familiar principle embodied in Barker's mill.

Our invention consists in providing revolving arms at their outer ends each with a single nozzle, one of which is directed to discharge its water to fall inside of the circle described by the ends of the revolving arms and the other to discharge outside of said circle, whereby both the center and outside of the circle to be sprinkled is supplied, and in connecting with said nozzles dashing devices, whereby the water is spread over the surface in any desired fineness of spray, said dashers being also made by changes in position to quicken or retard revolution by effecting reaction, as will hereinafter fully appear.

The object of our invention is to provide a revolving sprinkler, which shall spread the water efficiently, is not liable to become choked, and which may be operated at varying rates of speed, irrespective of the head or pressure of water from the main source.

Referring to the accompanying drawings, Figure 1 is a perspective view. Fig. 2 is a vertical section.

Let A represent a pipe, from the center of which, in opposite directions, extend the curved arms B, the two together forming the S-shape, so common in sprinklers of this class. These arms are tubes and open into the main pipe A. Provision is made for the rotation of the pipe A and arms B as follows:

C is a pipe, to the lower end of which the threaded coupling-ring or nut D is secured. To its upper end, which is closed, is secured a spindle, *c*, provided with a square portion, *a*, and a threaded end. The pipe C has side apertures, *b*, and is fitted inside of the main pipe or sleeve A, the lower end of the latter abutting against and finding a bearing upon the upper shoulder of the coupling-nut D. The apertures *b* are in relation with the inner ends

of the arms B, and the spindle *c* projects through the top of the pipe A. Upon the spindle is fitted a cap, E, a square hole in the top of which fits over the square portion *a* of said spindle. A thumb-nut, H, screwing down upon spindle *c*, secures the inner pipe, C, in place, and holds the cap E down, and the cap being fitted upon the square of the spindle is prevented from turning and binding against the nut.

In the outer end of one of the arms B we fit a nozzle, F, either permanently or by screwing or in any other suitable manner. This nozzle we lead from near the top of the arm and incline it slightly toward the center of the device, so that the water which it discharges may fall within the circle described by the ends of the arms. Upon the end of the other arm B is a nozzle, F'. This leads from a point nearly opposite to that from which the nozzle F extends to provide for the necessary revolution of the arms. It is directed away from the center of the device to discharge its water outside of the circle described by the ends of the arms.

G are the dashers. These consist of pieces of metal having fan-like blades, *e*, a shank, *e'*, and a socket, *e''*. They are slipped upon the nozzles F F', which pass through the sockets *e''*, and their blades are bent at any inclination to receive the impact of the water. By these dashers the water is spread out over the ground, the spray from nozzle F falling toward the center of the circle and that from the nozzle F' to the outside. The object of this construction is that it does away with the necessity of providing a number of holes at the end of each arm. These are always liable to clog; but by providing a single discharge at each end and placing the spraying devices on the outside there is no danger of clogging, while at the same time the water is as efficiently distributed. The inclination at which each nozzle is fixed provides for the complete sprinkling of the vicinity. Another object in having these attached dashers G is, that by turning them upon the nozzles we can vary the speed of revolution of the sprinkler according to the plane of resistance which they oppose to the free discharge of the stream, to assist or diminish reaction.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In a revolving sprinkler, a swiveled pipe, A, with oppositely-extending arms B, and means for coupling it to the water connection, in combination with the nozzles F and F' in the ends of the arms and inclined, one to discharge its water to fall inside and the other to discharge its water to fall outside of the circle described by the revolving arms, and the dashers G, secured to the nozzles F F', whereby the water is sprayed and spread over the ground, substantially as herein described.

2. A revolving sprinkler having arms B, and oppositely-placed discharging-nozzles to cause revolution, in combination with the dashers G, consisting of the fan-blade *e*, shank *e'*, and socket *e''*, said dashers being fitted on

the discharge-nozzles by their sockets *e''*, substantially as and for the purpose herein described. 20

3. In a revolving sprinkler, the pipe A, having arms B, and oppositely-placed discharge-nozzles, in combination with the inner pipe, C, having coupling D, side apertures, *b*, spindle *c*, with square portion *a*, the cap E, and thumb-nut H, all arranged and operating substantially as and for the purpose herein described. 25

In witness whereof we hereunto set our hands. 30

JOHN H. HENDERSON.
EMILE SCHUTZ.

Witnesses:

ANGLE BUSCH,
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