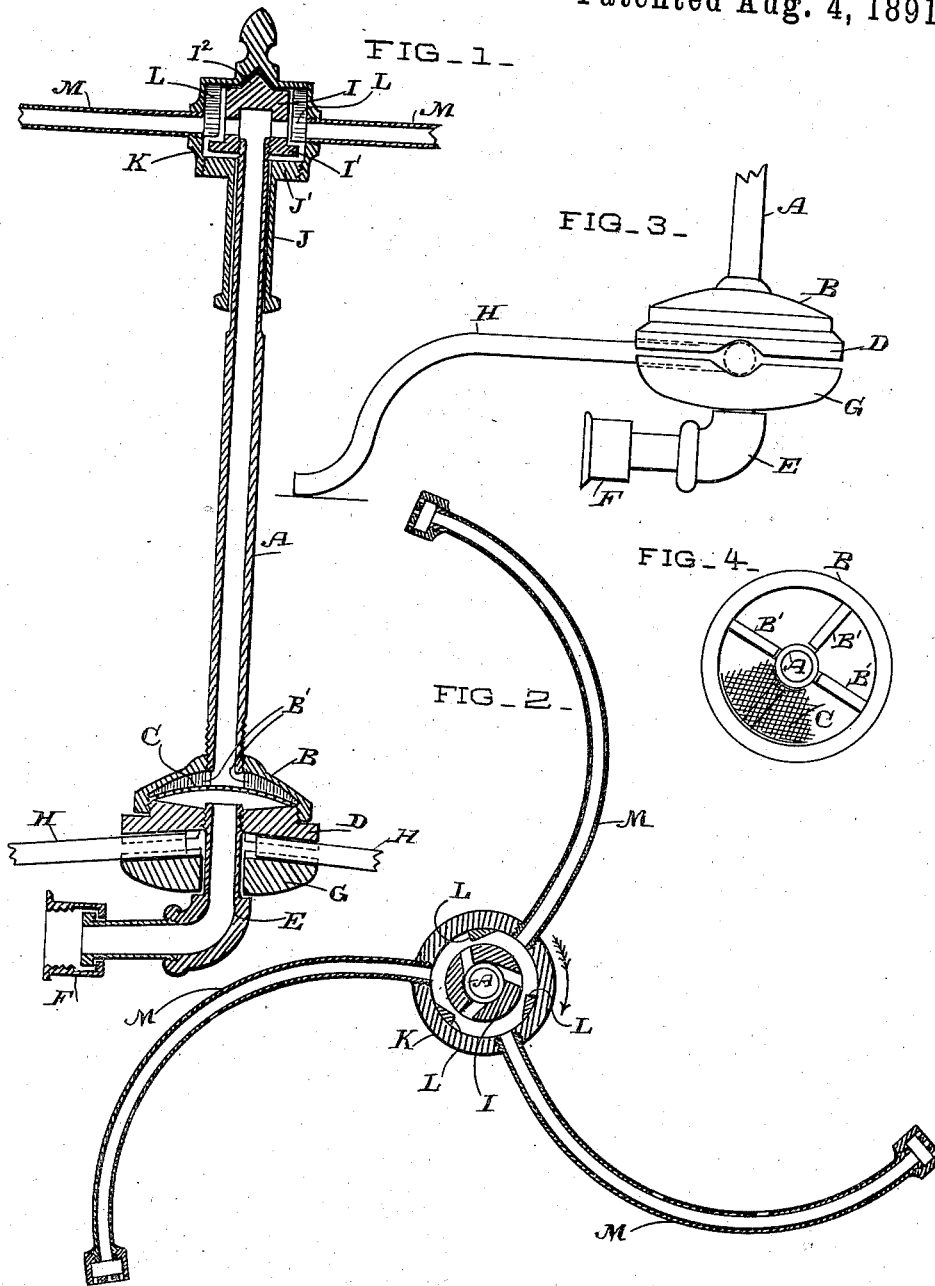


(No Model.)

J. S. WOOLSEY.
LAWN SPRINKLER.

No. 457,099.

Patented Aug. 4, 1891.



Witnesses,
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UNITED STATES PATENT OFFICE.

JOHN S. WOOLSEY, OF SAN JOSÉ, CALIFORNIA.

LAWN-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 457,099, dated August 4, 1891.

Application filed January 13, 1891. Serial No. 377,651. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. WOOLSEY, a citizen of the United States, residing at San José, Santa Clara county, State of California, have invented an Improvement in Lawn-Sprinklers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in lawn-sprinklers.

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of my sprinkler, showing a vertical section of the revolving head. Fig. 2 is a horizontal section taken through the head and the perforated cap at the top of the standard in the plane of the discharge-holes. Fig. 3 is a view of the lower end of the sprinkler. Fig. 4 shows the inside of the cap B.

A is the vertical tubular standard which serves to convey the water from the hose or source of supply at the base to the revolving head. This standard may be made of gas-pipe or any suitable tubular material, and has a thread cut at each end. Upon the lower end is fitted the cap B, having a diameter considerably larger than that of the tubular standard and adapted to contain the screen or filtering material C, which in the present case I have shown made of wire-cloth. Within the cap B are formed ribs B', upon which the wire-gauze rests, so as to leave a space beneath it for the escape of the water into the standard. This cap is screw-threaded at the lower end, so as to fit upon the base-piece D. This base-piece has a hole in the center, and into this hole screws one end of the elbow E. The hose-coupling F is connected with the outer end of the elbow, and through this water is conducted to the interior of the standard.

The base-piece D has radial grooves or depressions made in its lower surface, and a collar G, which turns loosely upon the upper end of the elbow, before described, has corresponding grooves made in its upper surface, so that the legs H may be introduced between the collar and the base. It will be seen that by screwing the elbow strongly into the base the collar will be forced up toward the base so as to clamp the legs firmly in the depres-

sions or grooves between the two, and the legs may thus be fitted without screwing them in or making any especial construction to bring them to the proper position.

Upon the upper end of the standard A is fitted a cap I, having a flange I' at its bottom. This cap is hollow and screws upon the threaded portion of the upper end of the standard. The standard is turned off for a certain distance below the cap, and the sleeve J is fitted so as to revolve freely upon this turned-off portion. This sleeve has a flange at the upper end of slightly larger diameter than that of the flange I', and these two flanges I' and J' are faced off, so that when brought together the two faces form a smooth-working joint, and essentially water-tight.

K is the rotary head, having an interior diameter large enough to allow it to slip over the cap I of the standard A, and the lower part of the head K is screw-threaded, so that it screws upon the flange J' of the sleeve J. A concave step is made in the center of the upper part of this rotary head, and a corresponding conical or other suitably-shaped point I², which projects from the top of the cap I, enters the step when the parts are put together, and thus forms a support and center about which the head turns, and when the head has been screwed upon the flange J' just sufficient play is allowed so that it turns freely on this step.

The interior of the head K has the vertical ribs or floats L formed in it, and the interior diameter between these ribs is just sufficient to allow them to fit over the cap I. Between these ribs or floats holes are made, into which the arms M are screwed, these arms having the usual perforated cap at the outer end and holes or perforations made in the arms for the discharge of water to produce a reactionary centrifugal motion.

The cap I has holes bored in it, which are made diagonally, as shown in the horizontal section, so that the water is discharged from these holes against the ribs or floats within the rotary head K, and by this action the head may be revolved independent of the centrifugal action caused by the escape of the water through the holes in the arms. By this construction I am enabled to apply a positive force to assist in revolving the head K, in ad-

dition to the reactionary force caused by the escape of the water through the holes in the projecting arms. The screen in the bottom of the standard A prevents the small holes in the discharge-arms from becoming clogged by substances which may be contained in the water, and by simply unscrewing the standard from the base at this point the screen may be easily cleaned at any time. The revolving head K being closed at the top and having considerable interior area, it will be manifest that when a considerable pressure of water is allowed to flow through the standard A the head will be forced upward, so as to bring the surfaces between the flanges I' and J' into contact, and thus form a close but freely-moving joint at this point, and this, taken in connection with the length of the sleeve J, will prevent any appreciable escape of water at this point, the water forming the well-known water-packing between these long surfaces, and the upward pressure against the head will keep the two surfaces so closely in contact that little or no water will escape at this point, which is the only opening through which the water could pass. As the head is raised by the pressure of the water within it, the bearing upon the step I² will be relieved while the device is running and under water-pressure.

The direct action of the water upon the floats within the rotary head, in addition to the reactionary force of the arms, causes the sprinkler to rotate with a less head of water than any form depending simply upon reactionary force, while the water will be thrown correspondingly farther.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lawn-sprinkler, the vertical hollow water-conveying standard having a cap fitted upon its upper end with a projecting flange around the bottom of the cap, a sleeve fitting around the standard below the cap and having a flange around its top of larger diameter than that of the cap, a hollow rotary head having its lower end fitted to screw upon the flange of the sleeve, a step at the upper end, and a corresponding projection from the cap of the standard upon which the head is supported and rotates, substantially as herein described.

2. In a lawn-sprinkler, the vertical stand-

ard having the flanged perforated cap at its upper end, a sleeve fitted to rotate about the standard beneath the cap and having a flange at its upper end of larger diameter than the cap, a rotary head fitting over the cap of the standard and screwing upon the flange of the sleeve with centrifugally-acting perforated arms projecting from the head, and projections or floats within the head, against which the water escaping from the cap of the standard impinges before escaping through the reactionary arms, substantially as herein described.

3. A lawn-sprinkler consisting of a vertical standard having the flanged cap at its upper end, perforations made diagonally in said cap, a rotary head carrying perforated centrifugally-acting arms and having projections or floats made in its interior, against which the water escaping through the holes in the cap of the standard impinges before escaping into the reactionary arms, substantially as herein described.

4. A lawn-sprinkler consisting of the vertical standard, the perforated cap at the upper end, a rotary head with perforated centrifugally-acting arms fitted over said cap, an enlarged hollow base-cap upon the lower end of the standard containing a filter, a base to which the filter-cap is screwed, legs upon which said base is supported, and an elbow and coupling through which water is delivered into the base and through the filter into the standard, substantially as herein described.

5. In a lawn-sprinkler, a standard and revolving head, a base to which the standard is attached, an elbow and coupling through which water is admitted through the base into the standard, screw-threads upon the upper end of the elbow, whereby it may be screwed into the base, a loose collar turning upon the elbow, and legs fitted into grooves or depressions in the adjacent faces of the base and collar, so as to be clamped and secured in place by screwing the elbow into the base, substantially as herein described.

In witness whereof I have hereunto set my hand.

JNO. S. WOOLSEY.

Witnesses:

A. B. HUNTER,
WM. TOPHAM.