J. N. ALLEN.

Stop-Nozzles for Hose-Pipes.

No. 144,942. Patented Nov. 25, 1873.

Fig. 1.

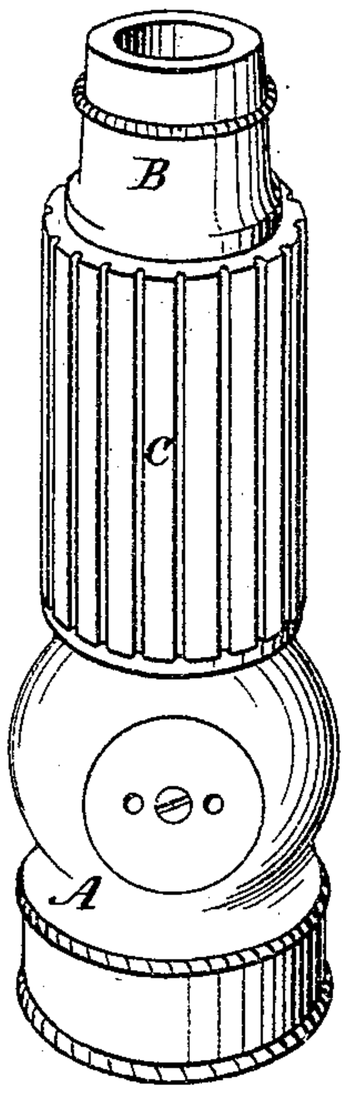


Fig. 2.

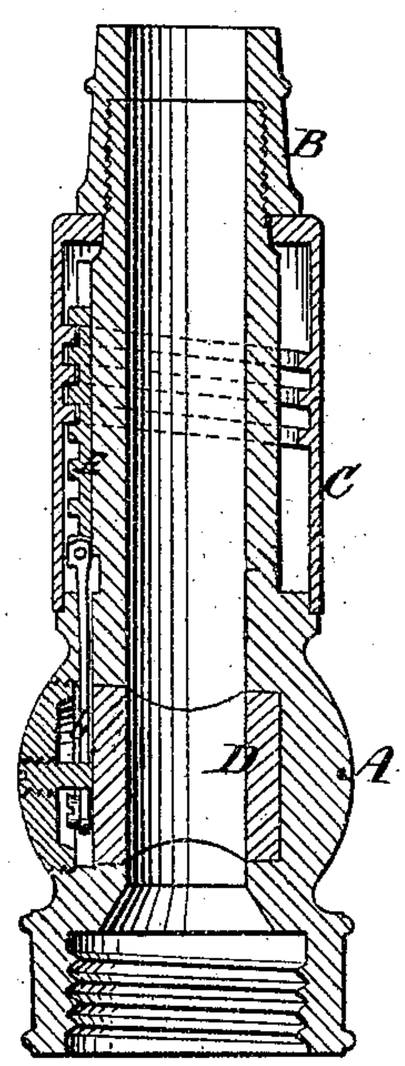
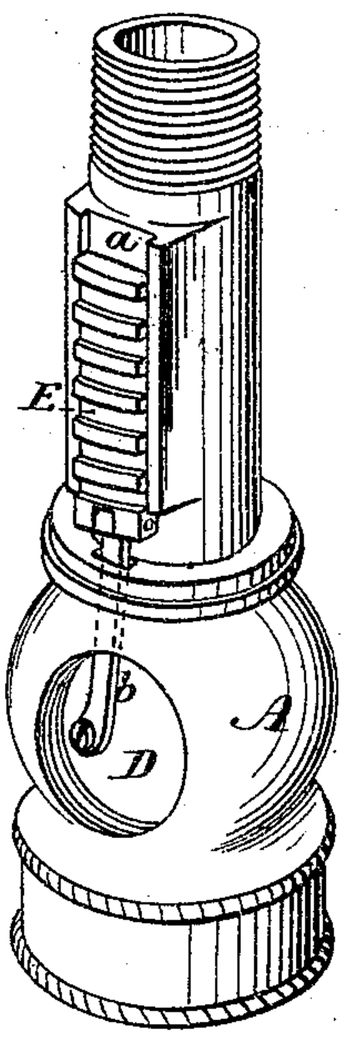


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES N. ALLEN, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN STOP-NOZZLES FOR HOSE-PIPES.

Specification forming part of Letters Patent No. **144,942**, dated November 25, 1873; application filed November 3, 1873.

To all whom it may concern:

Be it known that I, JAMES N. ALLEN, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Stop-Nozzle for Hose-Pipes, &c.

My invention relates to that class of nozzles which, by the rotation of an outer sleeve, cut off or close the interior passage to any desired extent; and it consists in providing the exterior sleeve with interior screw-threads or spiral actuating-surfaces, and combining therewith a longitudinal sliding bar or rack, provided with inclined teeth corresponding with the said screw-threads or spiral actuating-surfaces, and a rotating valve, so connected with the rack and sleeve that the rotation of the sleeve will effect a longitudinal movement of the rack and a rotation of the valve; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear and accurate description of a nozzle embodying my invention.

Figure 1 represents one of my nozzles in perspective. Fig. 2 represents the same in longitudinal section. Fig. 3 represents the same with the actuating-sleeve and the cap at the end of the valve removed.

A denotes the body of the nozzle. At its lower end or base it is provided with an interior screw for connection with the hose-pipe. At its upper end it is provided with a screw delivery-tip, B, which secures the actuating-sleeve C in position. The base, at its largest part, is provided with a transverse tubular chamber, to which is fitted a tapering plug-valve, D, which may or may not be mounted on axial pivots. As usual in plug-valves, the port therein will be of a capacity properly corresponding with that of the nozzle, so that when fully opened a free and unobstructed delivery of water will be permitted. Above the valve the exterior of the body of the nozzle, which is embraced by the sleeve, is provided with a longitudinal channel, as at *a*, formed by projecting edges on either side. The rack E is fitted to this channel, and its teeth are cut with inclined faces, which correspond and engage with the screw-threads or inclined surfaces shown on the interior surface of the sleeve C, in such a manner that the rotation of the sleeve will cause the longitudinal movement of the rack in either direction, according to the direction in which the sleeve is rotated. The rack-bar is connected to the plug-valve by the link *b*, which is pivoted to the end of the plug, as clearly shown in the drawings. The two ends of the sleeve are in bearing contact with properly-fitted surfaces, so that it will be incapable of any longitudinal movement, and therefore its rotation will promptly effect the longitudinal movement of the rack and the rotation of the valve.

The plug-valve is well known to be very durable, as well as simple, and comparatively inexpensive in its construction, and is preferred to any other form, although any similarly-rotating valve may be successfully combined with the operative mechanism. The pitch of the interior threads of the sleeve may be varied to a considerable extent, but can be readily so proportioned that two complete revolutions of the sleeve will fully open or close the valve. None of the operative mechanism occupies the water-way, and therefore no obstructions whatever are presented therein. It will always be preferable to make the nozzle of non-corrosive metal.

Having thus described my invention, I claim as new, to be secured by Letters Patent—

In a stop-nozzle, the combination of a rotating valve with an actuating threaded sleeve, a rack, and connecting-link, substantially as described.

JAMES N. ALLEN.

Witnesses:

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