

A. WORK.

Stop-Nozzles for Hose-Pipes.

No. 149,086.

Patented March 31, 1874.

Fig. 1.

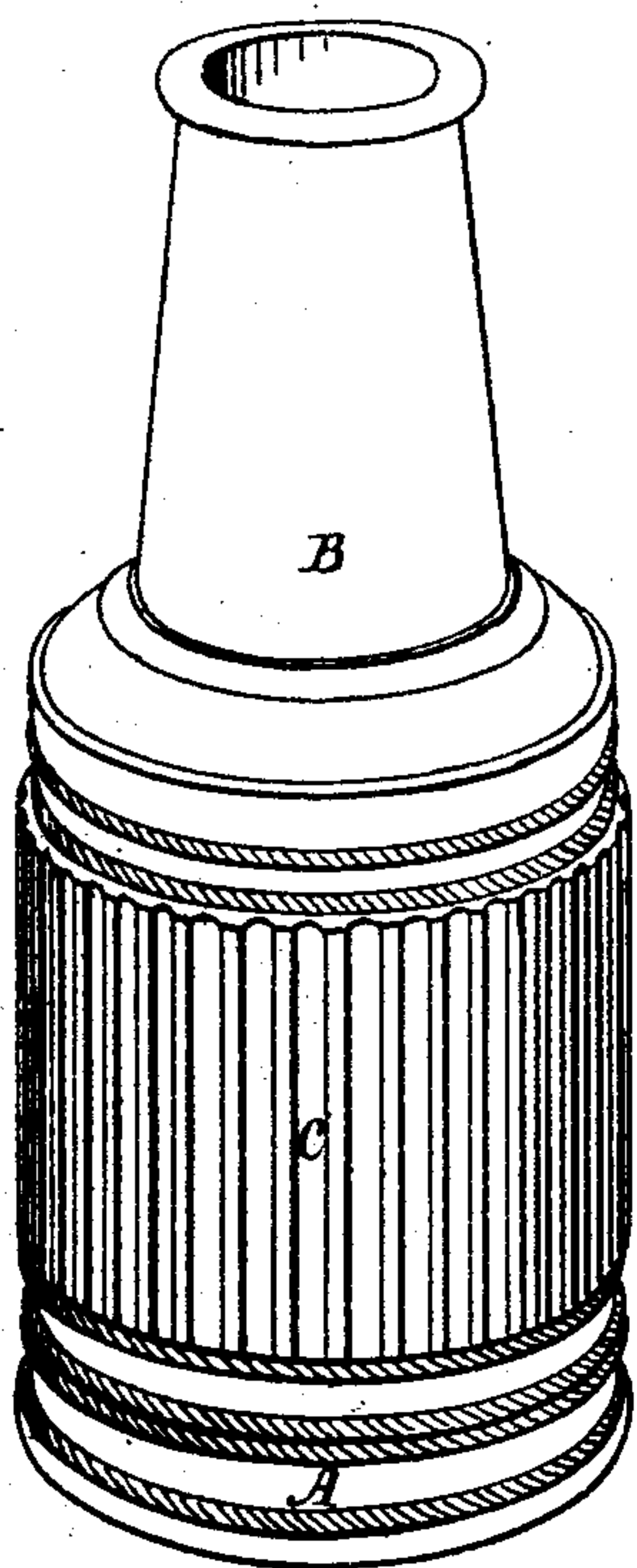


Fig. 2.

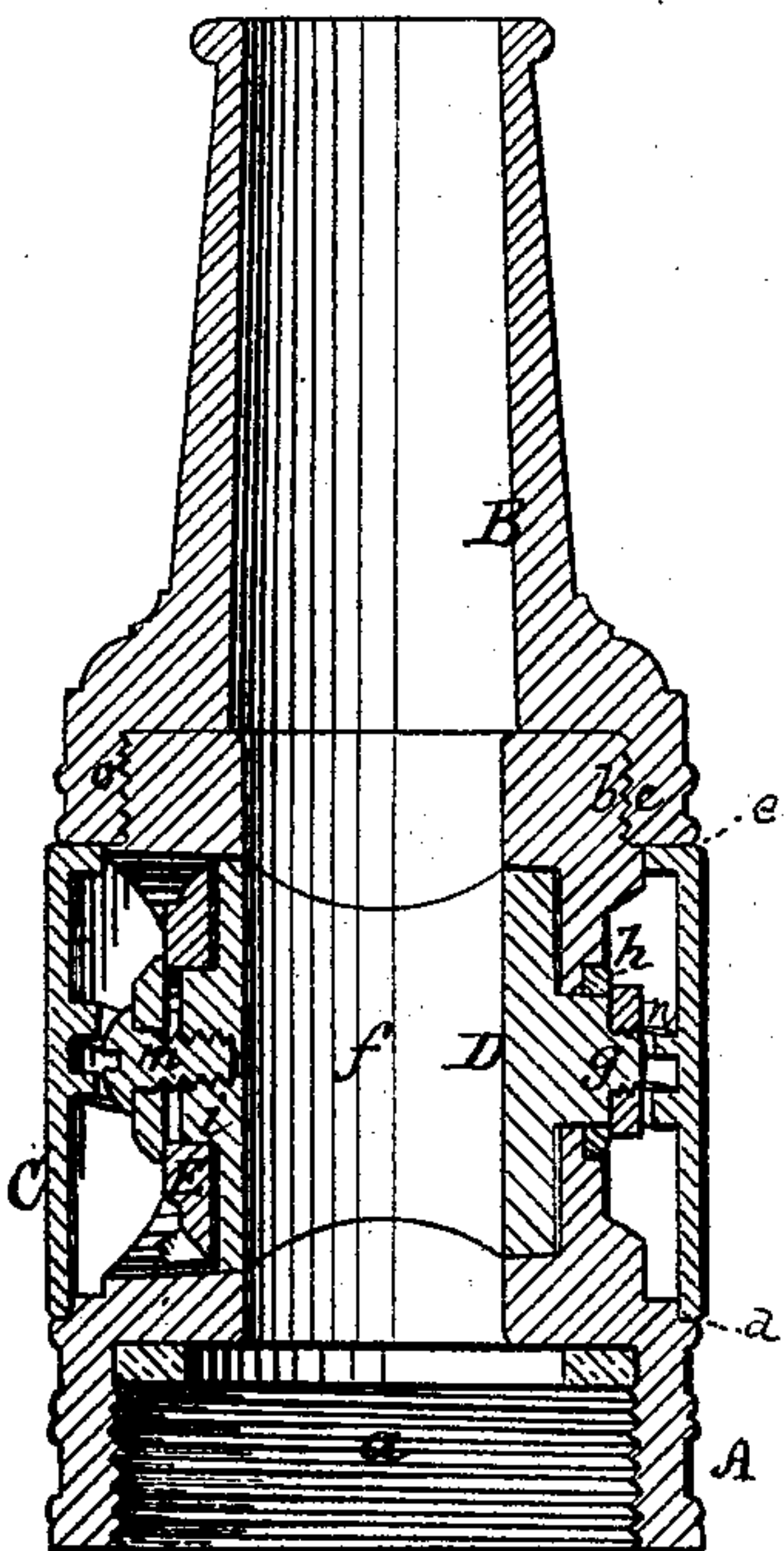


Fig. 3.

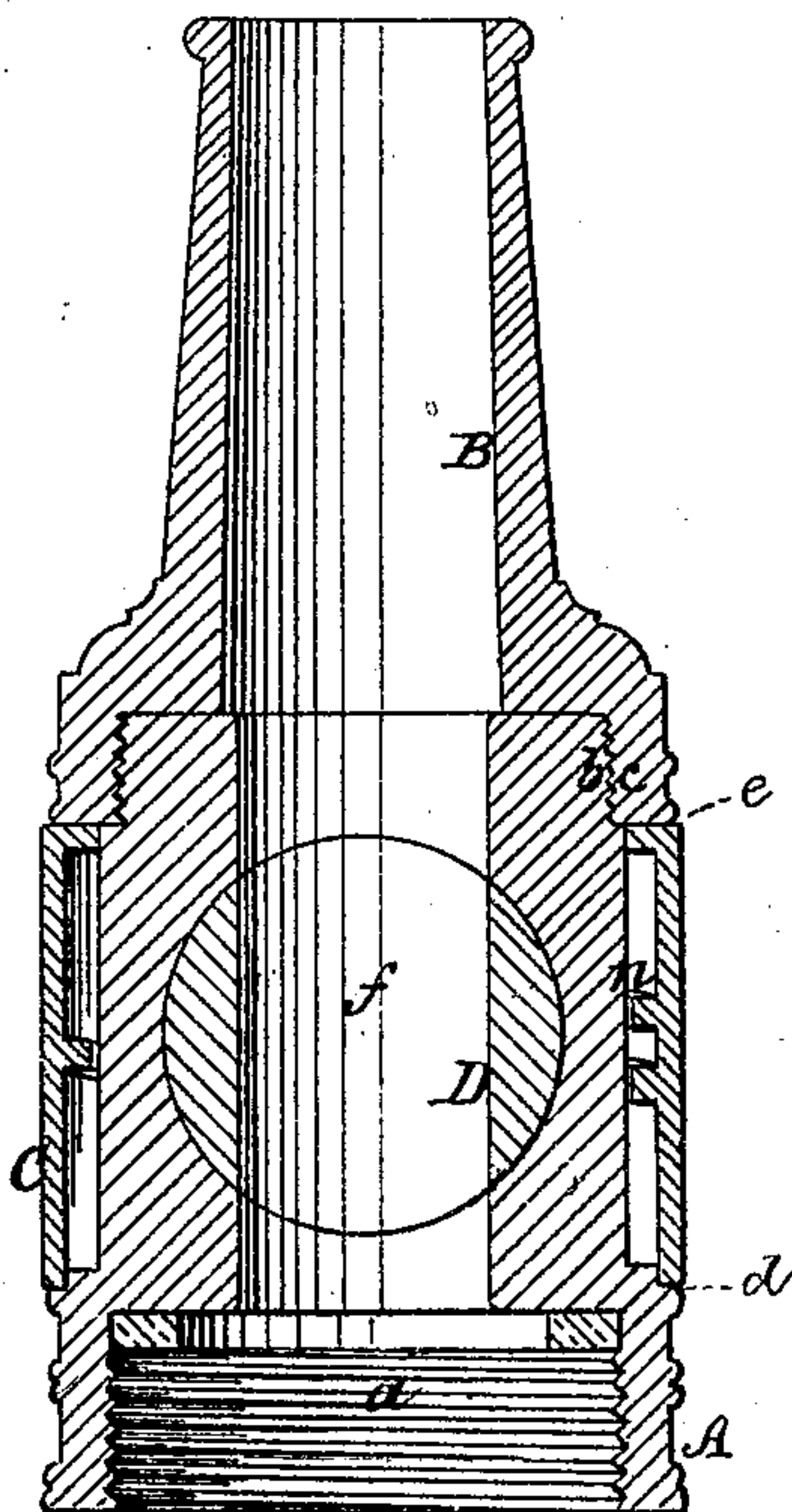


Fig. 4.

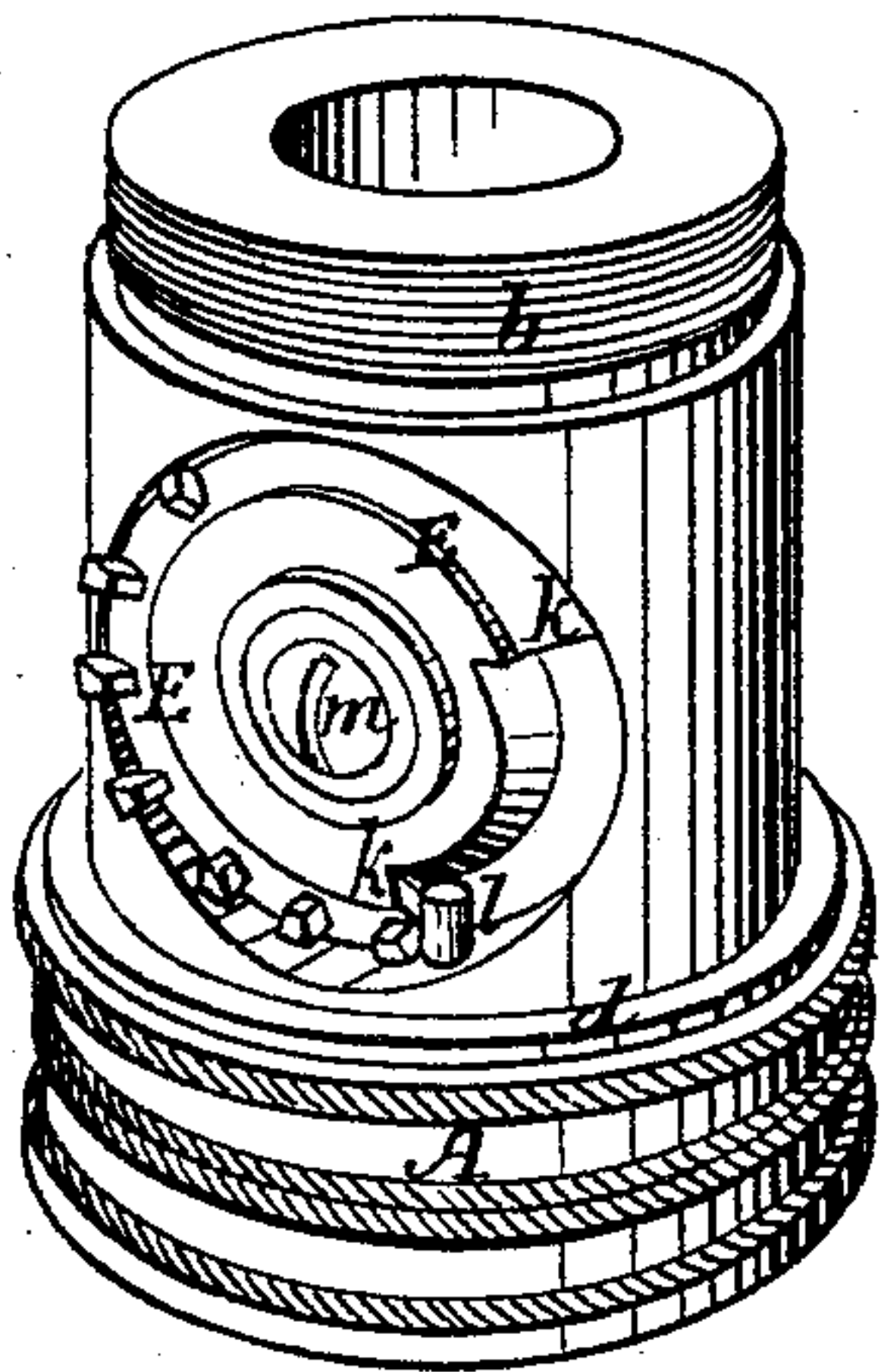
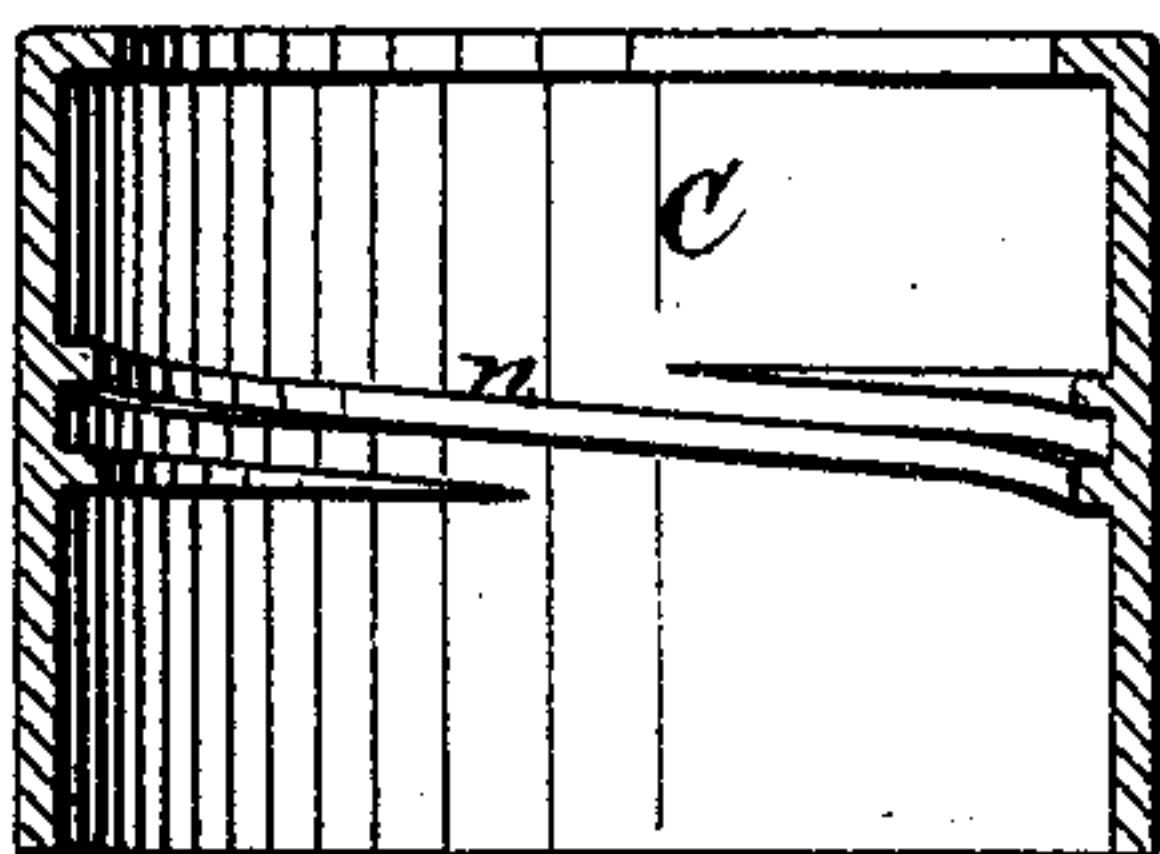


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN STOP-NOZZLES FOR HOSE-PIPES.

Specification forming part of Letters Patent No. **149,086**, dated March 31, 1874; application filed February 5, 1874.

To all whom it may concern:

Be it known that I, ALANSON WORK, of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Stop-Nozzles for Hose-Pipes.

My improvements relate to that class of nozzles in which the delivery-aperture is closed by the rotation of a portion of the nozzle; and my invention consists in the novel combination of a rotating threaded sleeve, a plug-valve, and a toothed plate axially attached to said valve, whereby, when the sleeve is rotated, the valve will also be rotated, and the bore of the nozzle be opened or closed; and I do hereby declare that the following specification, taken in connection with the drawings forming a part of the same, is a clear and true description of a stop-nozzle embodying my improvement.

Referring to the drawings, Figure 1 represents one of my nozzles in perspective. Figs. 2 and 3 represent the same in longitudinal vertical section. Fig. 4 represents the base of the nozzle with the tip and the sleeve removed. Fig. 5 represents the sleeve in section.

In each figure, A denotes the base of the nozzle; B, the tip, and C the rotating sleeve. The base is provided at its lower or rear end with an internal screw, *a*, for engaging with a hose-pipe in the usual manner. At its upper end it is provided with an exterior screw, *b*, whereby it is connected to the nozzle-tip B by engaging therewith the internal screw *c*. The base of the nozzle has three different exterior diameters, the lower end being the largest for a sufficient distance to afford the proper threaded recess for connection with the hose-pipe. Next above its diameter is abruptly lessened, forming the shoulder at *d*, and for a greater portion of its length this diameter is maintained until at its top it is again reduced slightly for receiving the exterior screw *b*. The nozzle-tip when in position presents a base of sufficient size to afford a shoulder, *e*, which corresponds with and faces the shoulder *d* on the base, and it is between these shoulders that a recess is formed for the reception of the sleeve C, and the shoulders prevent its longitudinal movement. D denotes

the plug-valve, with the usual circular passage *f*, which corresponds in size with the bore of the tip. As is common with plug-valves, this is fitted to a tapering seat. At its smallest end the plug is provided with an axial extension, as at *g*, which is threaded to receive a nut. In the base of the nozzle, adjacent thereto, is an annular recess, to which a washer, *h*, is fitted, which, with or without an interposed layer of packing, will, by the pressure induced by the nut, maintain a water-tight joint. The larger end or head of the plug-valve has also an axial projection, as at *i*, to which is fitted a segmental gear-plate, E, secured thereto, in this instance, by means of a dowel-pin projecting from its inner face into a hole in the end of the plug-valve adjacent to its outer edge. The gear-plate has two stop-shoulders, *k*, which are formed by cutting out a segmental portion of the periphery of the plate, and serve as a means for limiting its range of rotative movement by contact with a stop-pin, *l*, which projects upward from the interior of the base, and occupies a position closely in rear of the large end of the plug.

The gear-plate may be made of brass, bronze, or steel; but if the latter metal be used, which is preferable, it would be advisable to plate it with nickel to obviate corrosion.

Between the gear-plate E and the coincident end of the plug, an expansive packing may be placed, if necessary, whereby, when the plate is forced toward the plug by the screw *m*, which enters a threaded hole in the center of the plug, the packing may be forced outward, and by engaging with the sides of the recess or combination of the valve-seat, a water-tight joint may be maintained.

Within the sleeve C, encircling its inner periphery, is a raised spiral thread with square sides and edges, as at *n*, with sufficient space between the threads to receive the teeth of the gear-plate E. In practice the pitch of the thread may be varied to meet special requirements.

In operation, with the several parts properly adjusted, the rotation of the sleeve to the right hand will close the valve, and a reverse movement will open it.

The advantages accruing from my present improvement may be fairly stated as simplicity

in construction, economy of metal and manufacture, and great durability of the operative mechanism.

Under the highest pressure attainable in a line of hose, the plug-valve may be closed with ease, by reason of the direct connection of the threaded sleeve with the gear-plate and plug.

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

The combination, in a stop-nozzle, of the rotating sleeve, having a threaded interior, with the plug-valve and the gear-plate, communicating direct with the plug and the sleeve, substantially as described.

ALANSON WORK.

Witnesses:

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