

No. 851,603.

PATENTED APR. 23, 1907.

J. A. LONG.
HOSE NOZZLE.
APPLICATION FILED DEC. 3, 1906.

Fig. 1.

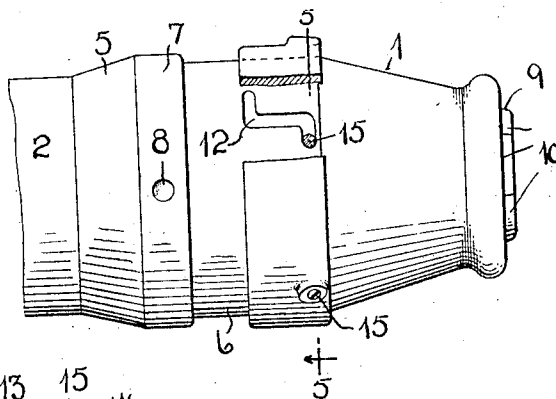


Fig. 2.

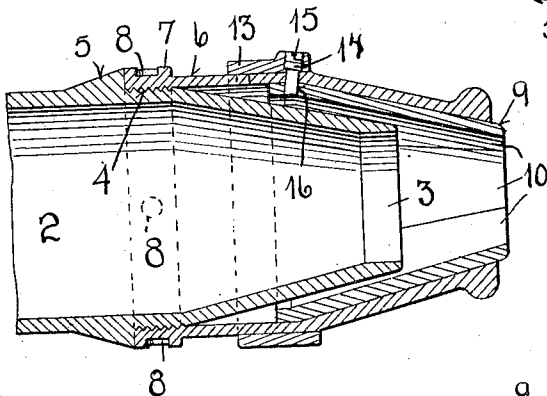


Fig. 3.

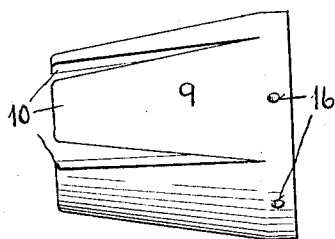
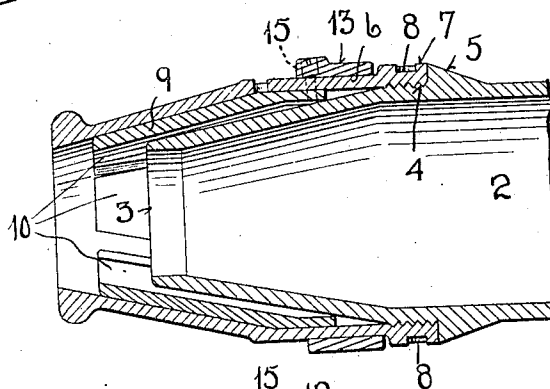


Fig. 4.

Witnesses
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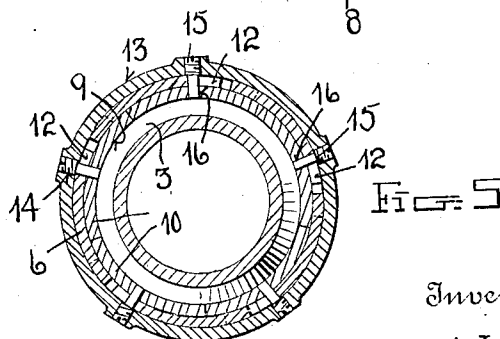


Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES ALBERT LONG, OF PORTLAND, OREGON.

HOSE-NOZZLE.

No. 851,603.

Specification of Letters Patent.

Patented April 23, 1907.

Application filed December 3, 1906. Serial No. 346,110.

To all whom it may concern:

Be it known that I, JAMES ALBERT LONG, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Hose-Nozzles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in hose nozzles.

The object of the invention is to provide a nozzle of this character particularly adapted for use in connection with fire-hose and having means whereby the stream passing from the nozzle may be regulated for short or long distance work.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side view of a nozzle constructed in accordance with the invention, parts of the same being broken away to disclose the construction of the nozzle; Fig. 2 is a longitudinal vertical sectional view of the nozzle, showing the reducing cone projected and its parts in position for throwing a small long-distance stream; Fig. 3 is a similar view with the reducing cone retracted to permit the nozzle to throw a large stream of water a short distance; Fig. 4 is a detail side view of the reducing cone, showing the parts expanded; and Fig. 5 is a transverse, vertical sectional view, on the line 5—5 of Fig. 1.

Referring more particularly to the drawings, 1 denotes the nozzle, which consists of an inner section 2 adapted to be secured onto the end of a hose, said section being reduced or tapered to form a conical-shaped outer end 3. At the inner end of the conical-shaped or reduced portion of the section 2 is formed a series of exterior screw-threads 4 at the inner end of which is formed an annular shoulder 5.

Adapted to be screwed upon the threaded portion of the section 2 and projecting beyond the reduced end thereof is an outer section 6, said section having a tapered or conical-shaped outer end, which for a portion of its distance extends substantially parallel with the reduced or conical-shaped outer end of the inner section 2. On the inner end of the section 6 where the same screws upon the

threaded portion 2 is formed an annular enlargement or shoulder 7, in which is formed a series of radially-disposed sockets 8 adapted to receive a spanner wrench to facilitate the screwing on or off of the section 6.

In the conical-shaped outer end of the section 6 is arranged a reducing cone 9 formed of a plurality of tapering sections or plates 10, which are brought together to form a conical-shaped sleeve or thimble adapted to be slipped forwardly and rearwardly within the tapered portion of the outer section 6. When the cone 9 is slipped forwardly or toward the outer end of the section 6, the parts of the cone will be drawn together and will project slightly beyond the outer end of the section 6 and will thereby reduce the size of the section 6 and cause the stream of water passing from the hose to be reduced and thus thrown to a greater distance. When the cone 9 is drawn inwardly, the sections or parts 10 of the same expand to fit the inner walls of the reduced end of the section 6, thereby permitting the stream to be thrown from the hose to the full size of the inner diameter of the outer end of the section 6, thus enabling the hose to throw a large stream for short distance work. In order that the cone 9 may be retracted and projected in the section 6 of the nozzle, the cylindrical portion of said section immediately in rear of the tapered portion thereof is provided with a series of bayonet-shaped slots 12, which are arranged at equidistant points around the section 6.

Slidably and revolvably mounted on the cylindrical portion of the section 6 is an operating sleeve or collar 13, in which is formed a series of threaded bolt holes 14, through which are adapted to be screwed cone operating pins or bolts 15. The inner ends of the bolts 15 project through the bayonet slots 12 and engage apertures 16 formed in the inner end of each of the sections 10 of the cone 9, so that when the sleeve or collar is turned in one direction the pins will be moved in the forward offset portions of the bayonet slots 12 into alinement with the longitudinal portions thereof, at which time the sleeve or collar 13 together with the cone-section 10 may be drawn rearwardly, thus retracting the same into the section 6 of the nozzle and permitting the parts of the cone to expand and increase the size of the discharge opening of the nozzle. As soon as the movable parts of the nozzle have been retracted to bring the pins or bolts 15 opposite to the inner offset

portions of the slots 12, the collar or sleeve 13 is given a further turn, which will engage said pins with said inner offset portions of the slots, thereby locking the same and the parts of the cone into a retracted position. When the sleeve or collar 13 is turned in the opposite direction to disengage the pins from the inner offset end of the slot, said collar and the sleeve and the parts of the cone may be pushed forwardly, thus projecting said cone from the forward end of the section 6 and reducing the size of the opening of said sections. The cone is locked in its projected position by turning the sleeve or collar 13 to engage the pins 15 with the forward offset portions of the bayonet slots, as will be understood. If desired the outer surface of the sleeve or collar may be knurled or milled to facilitate the operation of the same. The reducing cone 9 may be constructed of any number of sections, there being five of the same shown in the present instance, a bayonet slot 12 and an operating pin or bolt 15 being provided for each of the sections of the cone.

By providing a nozzle constructed as herein shown and described, the size of the stream thrown therefrom may be quickly and easily regulated to enable the hose to be used for throwing a large stream to a short distance or a small stream to a longer distance.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

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

1. In a hose nozzle, the combination with an inner hose engaging section having a tapered outer end, and an annular series of screw-threads formed thereon at the inner

end of said tapered portion, of an outer section having an interiorly threaded inner end adapted to be screwed onto the threaded portion of said inner section, a reducing cone formed of a plurality of tapering sections or plates arranged between said inner and outer sections of the nozzle, an operating sleeve or collar slidably and revolubly mounted on said outer section, and pins or bolts arranged in said sleeve or collar and adapted to project through slots in said outer section and into engagement with the plates of said cone, whereby the same are projected and retracted by said sleeve or collar, substantially as described.

2. In a hose nozzle, the combination with an inner hose engaging section having an annular shoulder and a tapered outer end, of an outer section adapted to be screwed into engagement with the shoulder on said inner section, said outer section having formed therein an outer series of longitudinally-disposed bayonet slots, a reducing cone arranged in said outer section between the inner wall of the same and the outer wall of the inner section, an operating sleeve or collar slidably and revolubly mounted upon the outer section of the nozzle, and a series of pins arranged in said sleeve or collar and adapted to project through the bayonet slots in said outer section and into engagement with the reducing cone, whereby the latter may be projected or retracted, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES ALBERT LONG

Witnesses:

EDWARD T. TAGGART,
MARIS D. CURTIN.