No. 690,754. Patented Jan. 7, 1902.

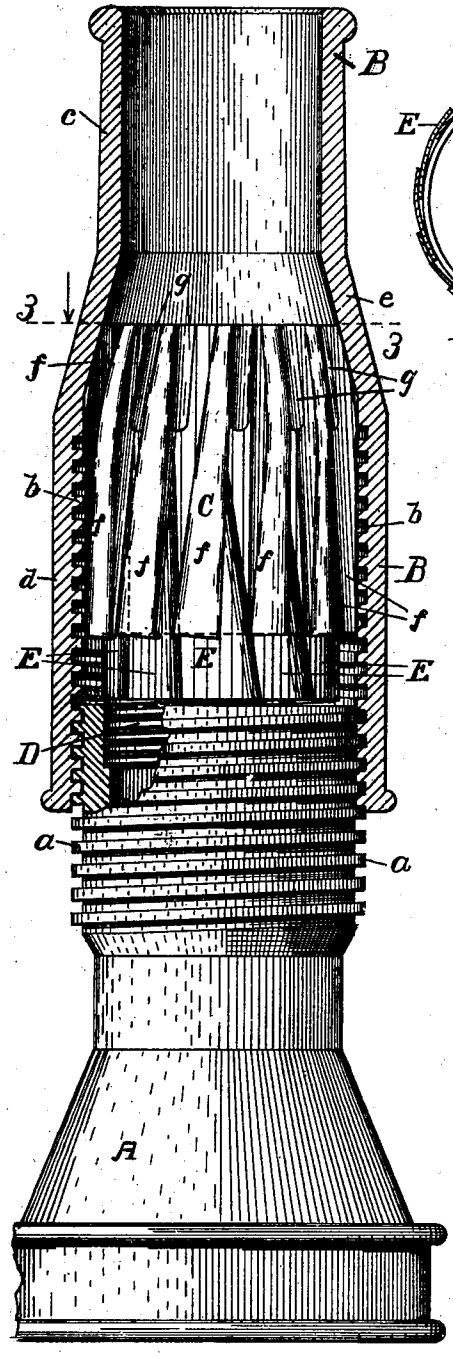
H. E. McKECHNEY.

HOSE TERMINAL.

(Application filed July 29, 1901.)

(No Model.)

Fig. 1.



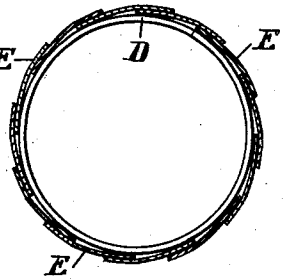


Fig. 5.

Fig. 2.

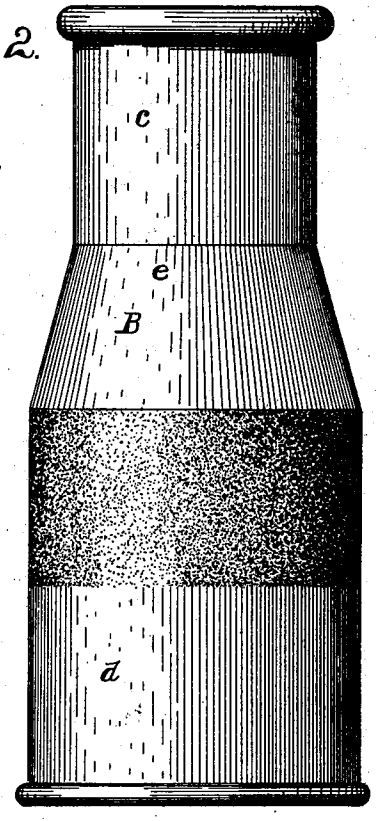


Fig. 4.

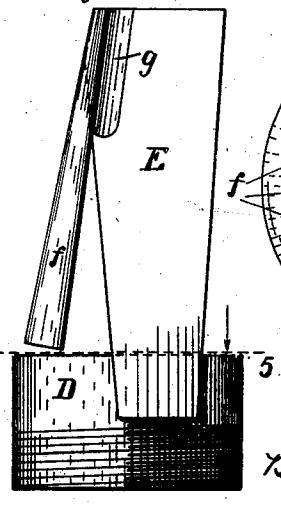
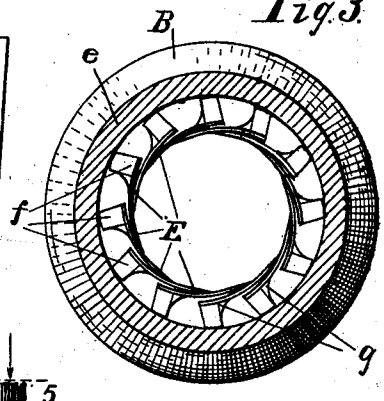


Fig. 3.



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UNITED STATES PATENT OFFICE.

HARRY E. McKECHNEY, OF ROCHESTER, NEW YORK.

HOSE-TERMINAL.

SPECIFICATION forming part of Letters Patent No. 690,754, dated January 7, 1902.

Application filed July 29, 1901. Serial No. 70,156. (No model.)

To all whom it may concern:

Be it known that I, HARRY E. McKECHNEY, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Hose-Terminals, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention relates to hose-terminals generally, but more particularly to the class known as "variable nozzles," the same being designed more especially to be used on hose connected with hydrants.

It frequently occurs at extensive fires that the water-mains are drawn upon to such an extent on account of the number of hose connected that the pressure in the mains becomes much reduced. As a result of this the streams through the hose lag and the water cannot be thrown to the height or the distance desired through nozzle-tips of ordinary discharge-openings.

The object of my invention is mainly to meet this difficulty by producing a terminal for the hose that may be quickly changed in any given case to reduce or vary the diameter of the discharge-opening while the stream is flowing, so as to utilize to the best advantage the quantity of water and the water-pressure at command. By reducing the diameter of the discharge-opening and the size of the stream the weakened pressure in the mains may be still made to throw water (in reduced quantities) to the height or distance desired. Furthermore, one difficulty heretofore experienced in using terminals of this class is the bending or springing outward of the yielding sections of the variable nozzle, particularly when contracted to form a small outlet-opening, this resulting in throwing a sputtering or feathered stream and an undue scattering or spraying of the projected water. In my invention I aim to overcome this objection also by providing stiffening pieces or bars for the yielding sections, which bars serve to hold the sections practically rigidly in position to counteract the internal pressure of the water.

Other objects and advantages of the invention will be brought out and made to appear in the following specification, reference being had to the accompanying drawings, the invention being more particularly pointed out in the claims.

Figure 1 of the drawings is a side elevation of parts of the hose-terminal, a part being broken away and the tip longitudinally sectioned along its axis. Fig. 2 is a side elevation of the tip detached. Fig. 3 is an end view of the parts, the tip being transversely sectioned, as on the dotted line 3 3 in Fig. 1. Fig. 4, detached, shows the form of the removable holding ring or thimble and one of the yielding sections or staves of the variable nozzle. Fig. 5 is an end view of the thimble, the sections being transversely sectioned, as on the dotted line in Fig. 4.

A is the nozzle base or butt, secured by ordinary means at the end of the hose.

B is the hollow end piece or tip, and C the variable center piece or nozzle proper.

The base A is formed with an external thread *a*, preferably a square thread, engaged by an internal square thread *b* of the tip, by means of which threads the tip is longitudinally adjustable upon the base A. The tip B consists of a cylindrical part *c* and a coaxial cylindrical part *d*, larger in diameter than the part *c*, the two cylindrical parts being joined by a conical part *e*.

D is a ring or thimble threaded longitudinally into the outer end of the base A, concentric with said base and the tip B.

E represents a series of tapered yielding elastic staves or sections lapped one upon another and secured rigidly to the thimble by some simple means, as soldering, said sections usually being formed of tempered sheet metal. The small ends of the sections are secured to the convex surface of the thimble, being first slightly curved longitudinally to correspond with the curvature of the thimble, said sections overlapping, with their outer edges slightly inclined or corresponding to spiral lines, as shown in Fig. 1. The sections are substantially longitudinal of the thimble, from which as a base they are adapted to bend inward at their outer ends toward the axis of the thimble or outward away therefrom, these sections being preferably made of elastic material. At the outer left corner of each section is rigidly secured, by solder at *g* or otherwise, a bar or rib *f*, Fig. 4, inclined to the section, as shown.

These bars or ribs *f* are preferably tapered throughout their lengths, as shown, the free inner ends being broader than the outer ends where secured to the sections. Furthermore, the small outer ends of the bars are beveled or curved inward, as clearly shown in Fig. 1. When the parts of the device are put together, as shown in the latter figure, the beveled or inclined exterior surfaces of the bars are in contact with the inner surface of the conical part *e* of the tip B, the broad free ends of the bars being confined against the inner threaded surface of the tip.

It will be understood that by turning the tip B back onto the base-piece A the sections E will be compressed to form a reduced discharge-opening, in which case the stream will be projected to a proportionately greater height or distance. By turning the tip backward or forward on the base-piece the diameter of the discharge-opening formed by the sections may be varied within limits at will, said diameter of opening and size of projected stream being determined by the relative position of the tip on the base-piece.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A hose-terminal comprising a threaded base-piece, an end piece or tip threaded to engage the threads of the base-piece, a thimble inserted in the base-piece, and yielding sections secured to the thimble and having portions disposed at an angle to said sections in position to be directly engaged and controlled by the tip or end piece, substantially as and for the purpose specified.

2. A hose-terminal comprising a base-piece, an end piece or tip adapted to move longitudinally upon the base-piece, and a variable nozzle comprising yielding sections with portions disposed at an angle thereto and adapted to be bent or compressed by the tip, substantially as and for the purpose stated.

3. A hose-terminal consisting of a base-piece, an end piece or tip adapted to move longitudinally upon the base-piece, and a center piece or variable nozzle having longitudinal yielding sections each provided with a bar or rib secured to its outer end, substantially as shown and described.

4. A hose-terminal consisting of a base-piece, an end piece or tip adapted to move longitudinally upon the base-piece, and a center piece or variable nozzle having longitudinal yielding sections each provided with a bar secured to its outer end, said sections lapping one upon another, substantially as shown.

5. A hose-terminal comprising a base-piece, and an end piece or tip, having a conical part, adapted to move longitudinally upon the base-piece, and a variable nozzle within the tip, having yielding sections each provided with a bar secured to its outer end, said bars being curved or tapered, at their outer or confined ends, to meet the conical part of the tip, substantially as shown and set forth.

In witness whereof I have hereunto set my hand, this 24th day of July, 1901, in the presence of two subscribing witnesses.

HARRY E. McKECHNEY.

Witnesses:
ENOS B. WHITMORE,
M. B. SMITH.