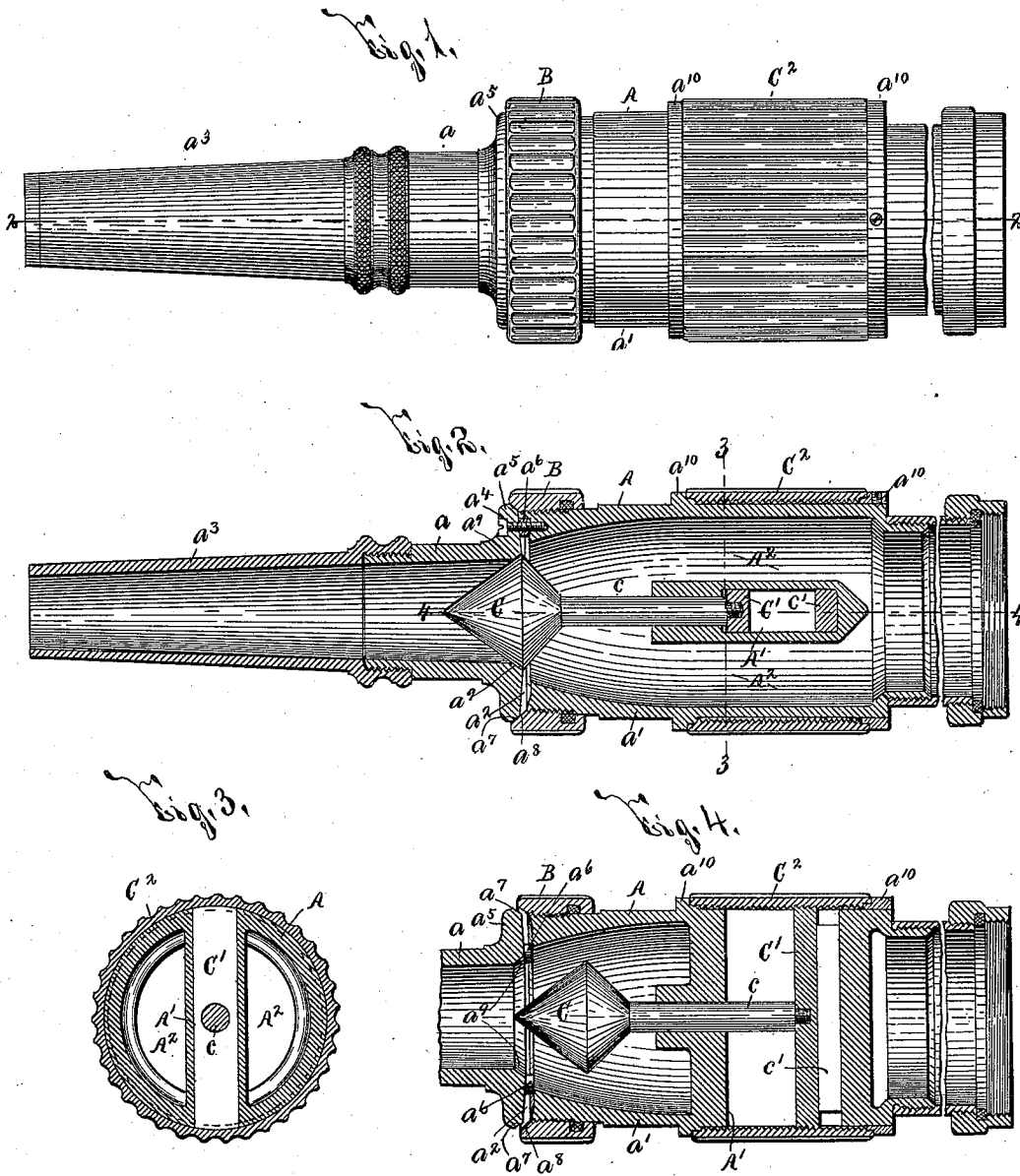


(No Model.)

P. B. MONTROIS.  
HOSE NOZZLE.

No. 575,036.

Patented Jan. 12, 1897.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

PETER B. MONTROIS, OF WATERTOWN, NEW YORK, ASSIGNOR OF ONE-HALF TO FREDERICK M. CARPENTER, OF SAME PLACE.

## HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 575,036, dated January 12, 1897.

Application filed April 17, 1896. Serial No. 587,968. (No model.)

*To all whom it may concern:*

Be it known that I, PETER B. MONTROIS, of Watertown, in the county of Jefferson, in the State of New York, have invented new and useful Improvements in Hose-Nozzles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in hose-nozzles, and has for its object the production of a device which is simple in construction, is readily adjusted, and operates to discharge the water in a spray and a solid stream, either separately or simultaneously; and to this end it consists, essentially, in the general construction and arrangement of the component parts of the hose-nozzle, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is an elevation, partly broken away, of my improved hose-nozzle. Figs. 2 and 3 are respectively longitudinal and transverse sections taken on lines 2-2 and 3-3, Figs. 1 and 2; and Fig. 4 is a longitudinal section taken on line 4-4, Fig. 2, the operating parts of the hose-nozzle being shown in their position assumed for simultaneously discharging a spray and a solid stream.

A represents the inclosing shell of my hose-nozzle, B a sleeve for regulating the discharge of the spray, and C a valve for controlling the flow of the solid stream. The inclosing shell A preferably consists of front and rear sections  $a$  and  $a'$ , having their adjacent end faces separated and inclined forwardly for forming an annular forwardly-inclined spray-opening  $a^2$ . The front section  $a$  may be provided with a detachable extremity  $a^3$  and is preferably formed of less internal diameter than the remaining portion of the shell, and the front end of the inner peripheral face of the rear section  $a'$  is contracted forwardly for deflecting the water against the adjacent end face of the former section. The sections  $a$  and  $a'$  are connected by screws  $a^4$ , having their heads engaged with an annular flange  $a^5$ , formed

upon the section  $a$ , and their opposite ends passed through said end faces and provided with sleeves  $a^6$ , which are interposed between said end faces and determine the amount of their separation. The section  $a$  is preferably formed with an annular shoulder  $a^7$ , inclining forwardly from its inclined end face for facilitating the desired deflection of the spray, and the outer peripheral face of the adjacent end of the section  $a'$  is preferably screw-threaded. The sleeve B engages the screw-threads of the section  $a'$ , is movable lengthwise of the shell A, and is provided with a forwardly-inclined annular face  $a^8$  for engaging the shoulder  $a^7$  and shutting off the spray. The arrangement of the spray-opening and the inclination of its walls add greatly to the formation of a solid sheet of spray, and this result is facilitated by the relative internal diameter and the construction of the adjacent ends of the sections  $a$  and  $a'$ .

The valve C, previously mentioned, is usually formed with conical extremities and is movable against a valve-seat  $a^9$  in the rear end face of the section  $a$  for regulating the flow of the solid stream through the hose-nozzle. A stem  $c$  preferably projects from the rear extremity of the valve C into a guide-chamber A', supported within the section  $a'$ , and is provided with a head C', movable in said chamber toward and away from a buffer  $c'$ . The chamber A' is comparatively thin for forming water-passages A<sup>2</sup> on opposite sides thereof and its opposite ends open to the exterior of the shell A, as clearly seen at Fig. 4. The front end of the chamber A' is arranged at the rear of the contracted portion of the inner peripheral face of the section  $a'$ , and the internal diameter of the portion of said section at the rear of the chamber A' is contracted rearwardly. This arrangement and construction of the section  $a'$  and the chamber A' greatly facilitate the ready and effective passage of the water through the section  $a'$ . A revoluble sleeve C<sup>2</sup> encircles the shell A and is prevented from endwise movement by annular shoulders  $a^{10}$  upon said shell. The inner peripheral face of the sleeve C<sup>2</sup> is screw-threaded and is engaged with screw-threads formed upon the opposite ends of the head C', and consequently

as the sleeve C<sup>2</sup> is revolved in opposite directions the valve C is forced toward and away from the seat a<sup>3</sup>.

The operation of my invention will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be particularly noted that the spray and the solid stream discharged from the hose-nozzle may be regulated at will by the sleeves B C<sup>2</sup> and that said sleeves may be so adjusted as to effect the simultaneous discharge of the water in a solid stream and a sheet of spray for protecting the fireman.

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

1. In a hose-nozzle, the combination of an inclosing shell having an annular spray-opening in its outer peripheral wall inclining forwardly from the inner face of said wall, said inner face being contracted forwardly toward the spray-opening, a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, and a valve having a substantially conical rear face for deflecting the water through the spray-opening, substantially as and for the purpose specified.

2. In a hose-nozzle, the combination of an inclosing shell having an internal passage and an annular spray-opening in its outer peripheral wall inclining forwardly from the inner face of said wall, for communicating with the internal passage, said inner face being contracted forwardly toward the spray-opening, and the front side of the spray-opening being extended inwardly beyond the rear side of said opening, and being formed with a forwardly-inclining annular shoulder at its outer edge projecting beyond the outer edge of said rear side, and a sleeve screwing upon the inclosing shell at the rear of the spray-opening for opening and closing said opening, said sleeve being provided with a forwardly-inclined annular face for engaging said shoulder, substantially as and for the purpose described.

3. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections inclosing an internal passage and arranged end to end with their adjacent end faces separated for forming an annular spray-opening between said faces opening from said internal passage, means for connecting the sections, and a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, substantially as and for the purpose set forth.

4. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections having their adjacent end faces separated and inclined forwardly for forming an annular spray-opening between said faces, screws passed through said end faces for connecting the sections, sleeves encircling the portions of the screws interposed between the end faces of the sections, and a sleeve mov-

able lengthwise of the inclosing shell for opening and closing the spray-opening, substantially as and for the purpose described.

5. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections having their adjacent end faces separated and inclined forwardly for forming an annular spray-opening between said faces, the front section being formed with an annular shoulder inclined forwardly from the inclined end face of the front section, means for holding the sections together, and a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, said sleeve being provided with a forwardly-inclined annular face for engaging said shoulder, substantially as and for the purpose set forth.

6. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections inclosing an internal passage and arranged end to end, means between the adjacent end faces of the sections for separating the same and forming an annular spray-opening between said faces opening from the internal passage, means for connecting the sections, and a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, substantially as and for the purpose described.

7. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections having their adjacent faces separated for forming an annular spray-opening between said faces, the front section being of less internal diameter than the remaining portion of the shell, and the front end of the inner peripheral face of the rear section being contracted for deflecting the water against the end face of the front section, means for connecting the sections, and a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, substantially as and for the purpose set forth.

8. In a hose-nozzle, the combination of an inclosing shell consisting of front and rear sections having their adjacent faces separated for forming an annular spray-opening between said faces, the front section being provided with an annular flange, screws for holding the sections together having their heads engaged with the flange and their opposite extremities passed through said end faces and engaged with the rear section, and a sleeve movable lengthwise of the inclosing shell for opening and closing the spray-opening, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 10th day of April, 1896.

PETER B. MONTROIS.

Witnesses:

K. H. THEOBALD,  
E. A. WEISBURG.