No. 719,849. PATENTED FEB. 3, 1903.

W. C. OBERWALDER.

NOZZLE.

APPLICATION FILED JULY 5, 1902.

NO MODEL.

Fig. 1.

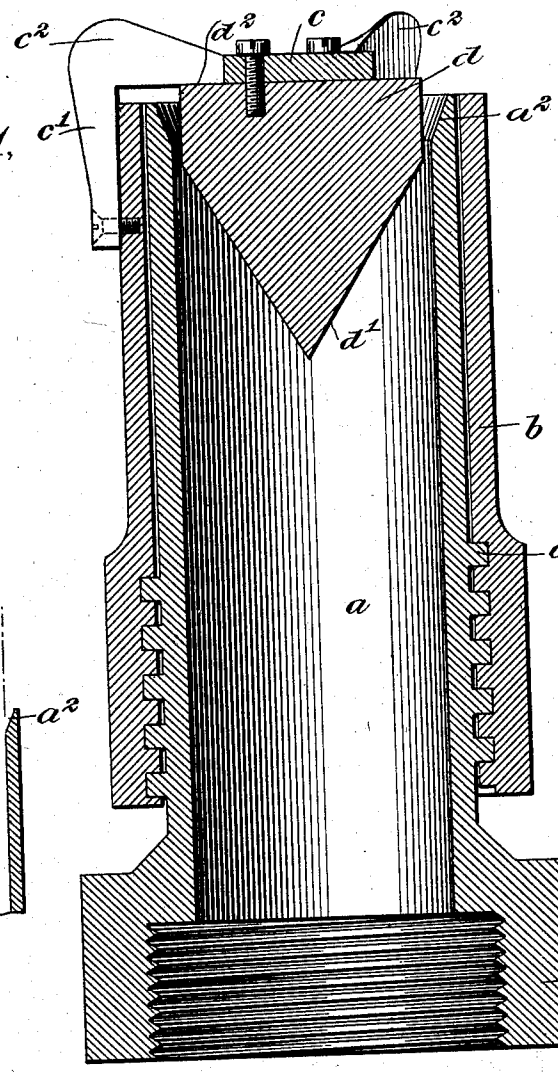


Fig. 3.

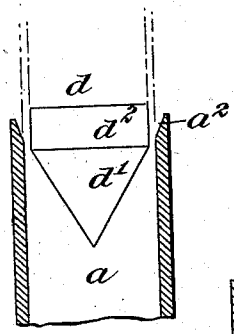


Fig. 4.

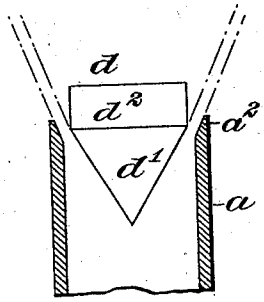
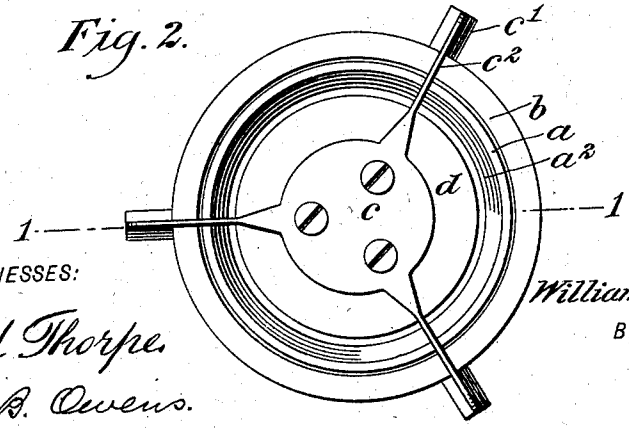


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM C. OBERWALDER, OF NEW YORK, N. Y.

NOZZLE.

SPECIFICATION forming part of Letters Patent No. 719,849, dated February 3, 1903.

Application filed July 5, 1902. Serial No. 114,500. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. OBERWALDER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Nozzle, of which the following is a full, clear, and exact description.

The object of this invention is to provide a nozzle for water-hose and like purposes which shall be provided with means upon the adjustment of which a stream of water of any desired form may be ejected—for example, a concentrated or direct stream or a spraying-stream—thus adapting the nozzle to a multiplicity of different uses. This end I attain by certain novel features of construction embodying a conical divider, which is placed in the mouth of the nozzle and which is adjustable longitudinally of the nozzle, so as to affect the form of the stream ejected.

This specification is an exact description of one example of my invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional view of the invention on the line 1 1 in Fig. 2. Fig. 2 is a plan view thereof, and Figs. 3 and 4 are diagrams showing two adjustments of the divider or separator cone.

a indicates the nozzle proper, having a means *a'* at its inner end or butt for facilitating its connection with the hose or other source of water-supply. At its mouth or discharge end the nozzle *a* is formed with a flaring inner surface a^2, which coacts with the divider-block, as will be hereinafter set forth. On the outside of the nozzle *a* are formed threads a^3, and on these threads screws a sleeve *b*, so that by turning the sleeve it may be moved longitudinally of the nozzle. This sleeve *b* carries the arms *c'* of a spider *c*, said arms being formed intermediate their ends with flattened knife-like portions c^2, which extend over the mouth of the nozzle and which owing to their thinness do not materially obstruct or disrupt the stream ejected.

d indicates the divider-block, which has a conical part *d'* and a cylindrical part d^2. The conical part *d'* is projected into the nozzle *a*, and the cylindrical part d^2 lies outward and has the spider *c* attached. By means of this spider the divider-block is fastened to the sleeve *b* and may be adjusted therewith to assume the position shown in Fig. 3 or to be moved outward from said position to or beyond the position shown in Fig. 4. When the nozzle is in the adjustment shown in Fig. 3, the cylindrical part d^2 of the block lies opposite the cylindrical inner portion of the nozzle proper, and a truly tubular stream is then ejected, as indicated by the dotted lines in Fig. 3. Should the nozzle be moved outward from this position to or beyond that shown in Fig. 4, thereby placing the conical walls of the divider-block opposite to and in parallelism with the flaring surface a^2 of the nozzle, a flaring or diverging tubular stream will be ejected. This adjustment may be continued until the stream flares so much as to become a mere spray. It will be observed that the knife-like portions c^2 in serving to support the divider-block do not interfere with the stream, since they are so thin as to offer no material obstruction.

Various changes in the form and details of my invention may be resorted to at will without departing from the spirit thereof. Hence I consider myself entitled to all forms of the invention as may lie within the intent of my claims.

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

1. The combination of a nozzle having a flaring surface at its mouth, and a divider-block having a conical portion and a cylindrical portion of less diameter than that of the interior of the nozzle, said block being capable of projecting into the nozzle and its conical and cylindrical portions working respectively with the inner walls of the nozzle and the said flaring surface thereof.

2. The combination of a nozzle having a flaring surface at its mouth, a divider-block of less diameter than that of the interior of the nozzle and having a conical portion and a cylindrical portion, both capable of projecting into the nozzle and working respectively with the inner walls of the nozzle and the said flaring surface thereof, a sleeve longitudi-

nally adjustable on the nozzle, and means carried by the sleeve for holding the divider-block.

3. The combination of a nozzle, a sleeve longitudinally adjustable thereon, a spider attached to the sleeve, and a divider-block carried by the spider and located at the mouth of the nozzle, the said divider-block being of less diameter than that of the interior of the nozzle.

4. The combination of a nozzle having a straight bore and a flaring surface at its discharge end, and a divider-block capable of projection into the nozzle and comprising an outer portion of less diameter than that of the interior of the nozzle, and having straight or longitudinally-extended walls, and an inner portion having tapered or diagonally-disposed walls, the walls of the said portions of the divider-block coacting respectively with the inner walls and flaring surface of the nozzle.

5. The combination with a nozzle having a flaring surface at its mouth, of a sleeve longitudinally adjustable thereon, a divider-block located at the mouth of the nozzle and having a conical portion and a cylindrical portion of less diameter than that of the interior of the nozzle, the said conical and cylindrical portions working respectively with the inner walls of the nozzle and the flaring surface thereof, and a spider carrying said divider-block and provided with arms attached to the said sleeve, the said arms being formed intermediate their ends with thin portions extending over the space between the divider-block and the inner surface of the mouth of the nozzle, the said thin portions of the arms being arranged with the edges facing the mouth of the nozzle, for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM C. OBERWALDER.

Witnesses:
ISAAC BURNESTON OWENS,
EVERARD BOLTON MARSHALL.