(No Model.)

W. S. POWERS & A. J. REYNOLDS.

HOSE NOZZLE.

No. 594,554. Patented Nov. 30, 1897.

Fig. 2.

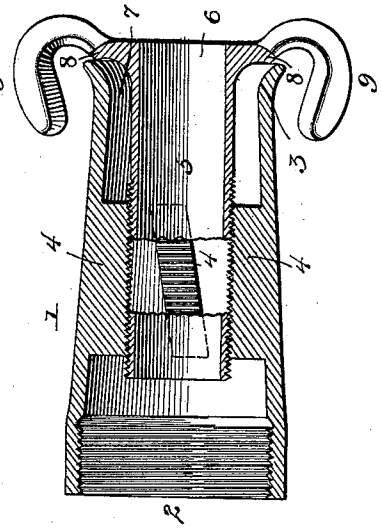


Fig. 3.

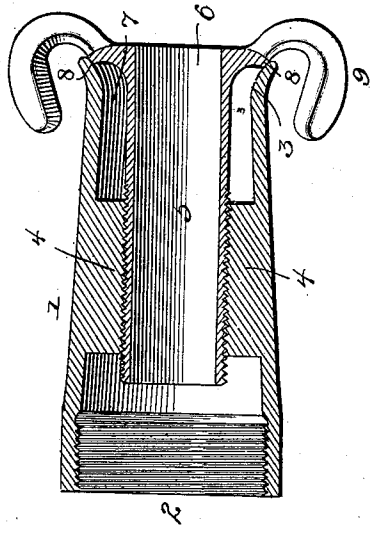


Fig. 1.

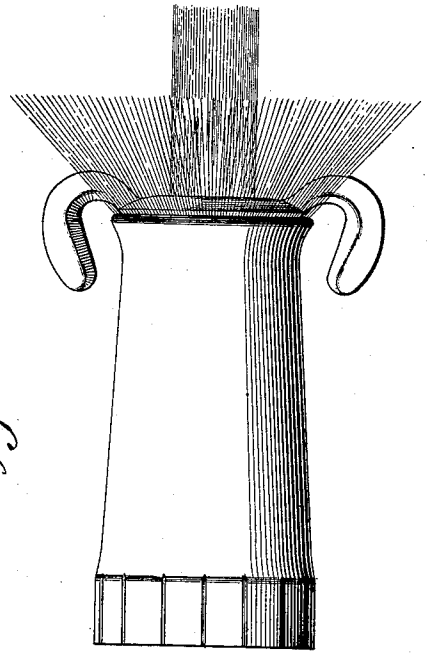


Fig. 4.

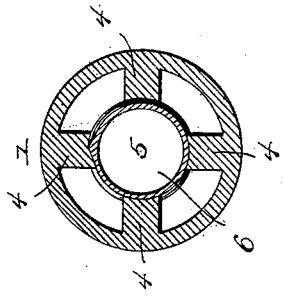
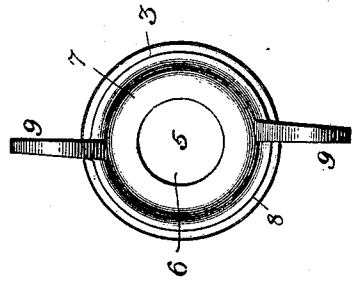


Fig. 5.



Witnesses

E. N. Monroe

J. S. Sapelinger

Inventors

Walter S. Powers

Adrian J. Reynolds

By their Attorneys,

C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER S. POWERS AND ADRIAN J. REYNOLDS, OF NASHVILLE, MICHIGAN.

HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 594,554, dated November 30, 1897.

Application filed April 6, 1897. Serial No. 630,999. (No model.)

To all whom it may concern:

Be it known that we, WALTER S. POWERS and ADRIAN J. REYNOLDS, citizens of the United States, residing at Nashville, in the county of Barry and State of Michigan, have invented a new and useful Hose-Nozzle, of which the following is a specification.

This invention relates to certain improvements in hose-nozzles, and more especially that class of such devices wherein the nozzles are adapted for use in throwing either a solid stream or a spray; and the object of the invention is to provide a device of this character of a simple and inexpensive construction which shall permit of convenient and ready adjustment for regulating the angle at which the spray is thrown.

The invention also contemplates certain novel features of the construction, combination, and arrangement of the various parts of the improved nozzle, whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted for use, all as will be hereinafter fully set forth. The novel features of the invention will be carefully defined in the claims.

In order that our improvements may be the better understood, we have shown in the accompanying drawings a hose-nozzle constructed in accordance with our invention, in which drawings—

Figure 1 is a side view showing the improved nozzle adapted for throwing a spray. Fig. 2 is a sectional view, drawn to an enlarged scale and taken axially through the nozzle, showing the same adjusted for throwing a spray. Fig. 3 is a view similar to Fig. 2, but showing the device adjusted for throwing a solid stream only. Fig. 4 is a transverse section taken through the nozzle. Fig. 5 is an end view of the same.

In the views, 1 indicates the casing of the improved nozzle, which is made in a conical or tapered form, the smallest diameter thereof being shown adjacent to the discharge end of the nozzle, said casing being provided at its larger end with interior screw-threads, as shown at 2, by means of which the device is connected with the hose. The discharge end of the casing 1 is provided with an enlarged or flared mouth 3 and the interior hollow of the casing is provided with a series of longitudinal ribs or projections 4 4, as clearly shown in Fig. 4, which are threaded to permit of the engagement therewith of the tubular core 5 of the nozzle, which is provided with exterior threads engaging the screw-threads of the projections 4, as clearly shown in the drawings. In this way it will be seen that the core 5 of the nozzle is made adjustable longitudinally in the interior hollow of the casing 1, and said core 5 is provided with an axial bore or hollow 6, serving for the discharge of a solid stream of water from the nozzle. As clearly shown in the drawings, the external diameter of the core 5 is less than the internal diameter of the hollow of the casing, so that a space is formed between the inner wall of the casing and the said core serving for the discharge of the water to form the spray. If desired, the projections or lugs 4, formed in the interior of the casing 1, may be arranged spirally with relation to the axis of the nozzle, so as to impart to the water flowing through said passage 6 a somewhat rotative action.

The discharge end of the core 5 of the nozzle is formed with an enlargement or head 7, the outer surface of which is flared or enlarged and has its greatest diameter adjacent to the discharge end of the core, and at the extremity of said core is formed a flange 8, projecting substantially at right angles from the same and of a diameter adapted to fit snugly inside the mouth 3 of the casing, the periphery of said flange 8 being for this purpose beveled to correspond with the inner surface of the mouth, as clearly shown in the drawings. By this construction of the end of the core it will be seen that the passage 6 between the core and the casing is made gradually reduced in width at the discharge end of the nozzle. The flange 8 of the core of the nozzle is provided, as clearly shown in Fig. 5, with oppositely-projecting thumb-pieces or lugs 9, which are bent back, as shown in Fig. 1, so as to extend rearward over the outer surface of the mouth of the casing 1, and said thumb-pieces 9 serve to permit of readily and conveniently adjusting the core 5 longitudinally in the casing 1.

In use when it is desired to throw only a solid stream the core 5 will be screwed into the casing 1 until the flange 8 on the core fits snugly within the mouth of the casing, so

that the passage between the parts will be entirely closed, and when it is desired to throw a spray as well as a solid stream the core will be screwed in the opposite direction, so as to open said space or passage between the said parts, so as to permit the escape of the water in the form of a spray. When the core is unscrewed but slightly from the casing, so that the beveled surface of the flange is still adjacent to, although separated from, the interior of the mouth 3 of the nozzle, it will be seen that the spray discharged from the nozzle will be directed forward or in front of the same, and when the core is still further unscrewed from the casing, so as to bring the flange 8 of the core in front of the forward edge of the casing, it will be seen that the water escaping from the space or passage 6 will be diverted, so as to be discharged at right angles to the axis of or behind the forward end of the nozzle, as will be readily understood.

From the above description of the improved nozzle it will be seen that the device is of an extremely simple and inexpensive nature and is especially well adapted for use, since it permits of conveniently and readily adjusting the parts so as to regulate the direction in which the spray is thrown, and it will also be obvious that the invention is susceptible of some modification without material departure from its principles and spirit, and for this reason we do not wish to be understood as limiting ourselves to the precise form and arrangement of the parts herein set forth.

What we claim is—

1. In a hose-nozzle, the combination of a casing having an interior hollow, a core adjustable longitudinally in said hollow and having a central bore for the discharge of a solid stream, the diameter of said core being less than the diameter of the hollow of the casing, said core having at its discharge end a projecting annular flange extending substantially at right angles to the axis of the core and adapted to fit at its edge inside of the discharge end of the casing, substantially as set forth.

2. In a hose-nozzle, the combination of a casing having an interior hollow, a core adjustable longitudinally in said hollow and having a central bore for the discharge of a solid stream, the diameter of said core being less than the diameter of the hollow of the casing, said core having at its discharge end a projecting annular flange extending substantially at right angles to the axis of the core and having its periphery beveled to fit inside of the discharge end of the casing, said discharge end of the casing being tapered or flared, substantially as set forth.

3. The combination of a casing having a series of longitudinal ribs or projections formed in its interior, a core of less diameter than the interior diameter of the casing arranged inside said casing and movable longitudinally between the lugs or projections inside the same, said core having a longitudinal bore for the discharge of a solid stream of water and forming between it and the inner wall of the casing a space or passage for the discharge of the spray, said core having at its discharge end a projecting annular flange adapted to fit inside of the mouth of the casing, substantially as set forth.

4. The combination of a casing having a hollow provided with longitudinal projections or lugs having screw-threads formed in them, a core having a screw-threaded exterior adapted for engagement with the screw-threads of the projections or lugs of the casing and having a longitudinal hollow for the discharge of a solid stream of water, the diameter of said core being less than that of the hollow of the casing so as to form a passage or space between the parts for the discharge of a spray, and said core having at its discharge end a projecting annular flange adapted to fit inside the mouth of the casing, substantially as set forth.

5. The combination of a casing having a longitudinal hollow and a core having threaded engagement with the casing to permit of longitudinal adjustment in said hollow and of less diameter than the same so as to form a space or chamber between the parts for the discharge of the spray, the core being formed with a longitudinal hollow for the discharge of a solid stream of water and having at its discharge end an annular projecting flange arranged to fit in the mouth of the casing, said flange having at opposite sides projecting thumb-pieces bent to extend over the outside of the casing, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WALTER S. POWERS.
ADRIAN J. REYNOLDS.

Witnesses:
THEOD. C. DOWNING,
G. W. GRIBBIN.