

H. F. GOETZ.
HOSE NOZZLE.

APPLICATION FILED MAY 31, 1911.

1,017,966.

Patented Feb. 20, 1912.

Fig. 3.

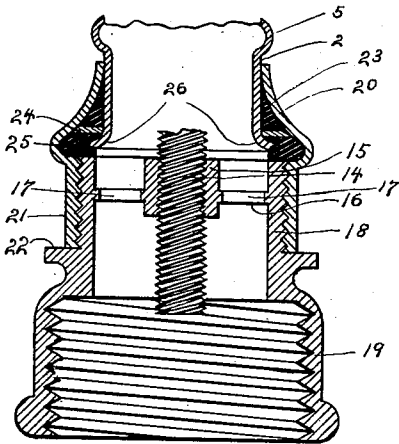


Fig. 1.

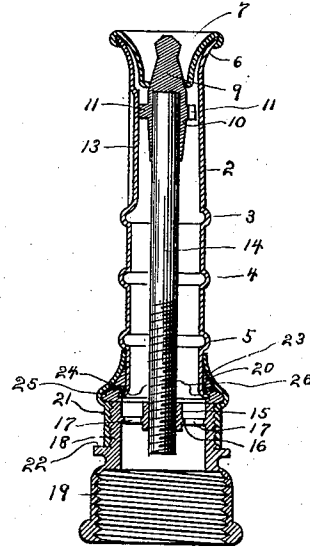


Fig. 2.

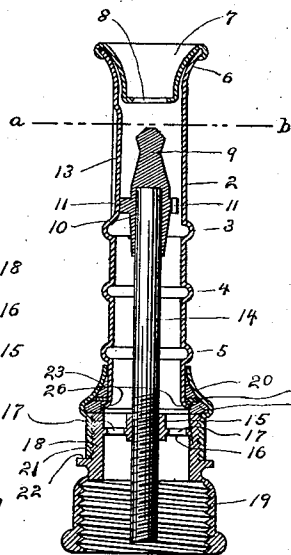


Fig. 5.

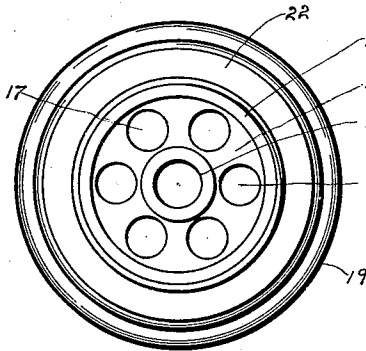
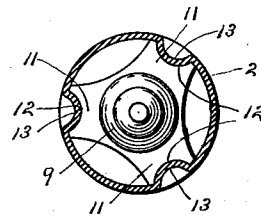


Fig. 4.



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UNITED STATES PATENT OFFICE.

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HOSE-NOZZLE.

1,017,966.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY F. GOETZ, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Hose-Nozzles; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in vertical section of a hose-nozzle constructed in accordance with my invention and shown as adjusted for spraying. Fig. 2 a similar view showing the nozzle as adjusted for throwing a stream of water. Fig. 3 a broken view on an enlarged scale showing the mode of pivotally connecting the rotatable shell with the coupling-head. Fig. 4 a view in transverse section on the line *a—b* of Fig. 2 to show the means employed to transmit the rotation of the shell to the valve for moving the same longitudinally with respect to the said shell. Fig. 5 a detached plan view of the head.

My invention relates to an improvement in that class of hose-nozzles which are convertible for throwing the water in the form of a stream, or in the form of a spray, the object being to produce a simple, cheap, convenient and durable hose-nozzle of the character described.

With these ends in view my invention consists in a hose-nozzle having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claim.

In carrying out my invention as herein shown, I employ a rotatable tubular sheet-metal shell 2 formed with three hollow outwardly projecting concentric beads 3, 4 and 5 which may, or may not be knurled, as desired. The outer end of the said shell is flared as at 6 and receives a flaring sheet-metal cup 7 having its outer edge clasped over the said edge of the shell and formed at its inner end with a valve-seat 8 receiving a valve 9 formed at the outer end of a plug 10 having three radial arms 11 the outer ends of which are formed with notches 12 for the reception of three equi-distant longitudinal ribs 13 struck inward from the outer face of the shell. The said plug 10 is lo-

cated upon the outer end of a rotatable and longitudinally movable valve-stem 14 the inner end of which is threaded and entered into a threaded hub 15 located in the middle of a diaphragm 16 provided with a circular series of perforations 17 and formed integral with and within an externally threaded collar 18 made integral with the internally threaded cast metal coupling-head 19. For swiveling the rotatable shell 2 upon the said coupling-head 19, I employ a tapering sheet-metal coupling-sleeve 20 the upper end of which is reduced to the external diameter of the said shell 2 and abutted against the bead 5 thereof, while its lower end is formed with a collar 21 internally threaded to adapt it to be screwed over the collar 21 of the head 19, the lower edge of the said collar 21 abutting upon the annular bearing-shoulder 22 formed between the said collar 18 and the head 19.

In assembling my improved hose-nozzle, the inner end of the shell 2 is inserted into the coupling-sleeve 20 after which a packing-washer 23 is slipped over the inner end of the shell which at this time is cylindrical. A metal-washer 24 is then slipped over the said end of the shell so as to rest upon the packing-washer 23. A packing-washer 25 is then slipped over the end of the shell so as to rest upon the metal washer 24, after which the extreme inner end of the shell is spun outwardly so as to form a retaining flange 26, whereby the shell is permitted to rotate freely in either direction with respect to the head 19, and at the same time held against longitudinal movement with respect thereto. Now when the coupling-sleeve 20 has its collar 21 screwed over the collar 18 of the head 19, the packing-washer 25 is seated firmly upon the upper end of the collar 18, forming a water-tight joint.

It will be readily understood that by rotating the shell 2 in one direction, the valve 9 will be backed away, so to speak, from the valve-seat 8 so as to provide sufficient clearance for the water to permit it to issue from the nozzle in the form of a stream. On the other hand, when the shell 2 is turned in the opposite direction, the valve 9 is advanced toward the valve-seat 8 to such an extent that the water issues from the nozzle in the form of spray.

It will be noted that inasmuch as the lower edge of the collar 21 is seated upon

the shoulder 22 when the parts forming my improved hose-nozzle are assembled, the screwing of the collar 21 home does not affect the swiveling of the shell 2 in the coupling-sleeve 20.

I claim:—

In a hose nozzle, the combination with a coupling-head, of a rotatable tubular sheet-metal shell provided at its outer end with a valve-seat, a valve plug located within the outer end of the shell and co-acting with the said valve-seat, a stem for the said plug, connection between the plug and shell for the rotation of the plug and stem with the shell, a tapering sheet-metal coupling sleeve interposed between the said shell and the

coupling-head and having its upper end reduced to fit the said shell and its lower end adapted to take a bearing upon said coupling-head, packing washers located within the said sleeve and applied over the inner end of the shell which is flared for the retention of the washers in place, and a washer interposed between the said packing washers.

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

HENRY F. GOETZ.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."