

W. H. CANNER.
AUTOMATICALLY CLOSING HOSE NOZZLE
APPLICATION FILED FEB. 12, 1910.

1,011,314.

Patented Dec. 12, 1911.

2 SHEETS-SHEET 1.

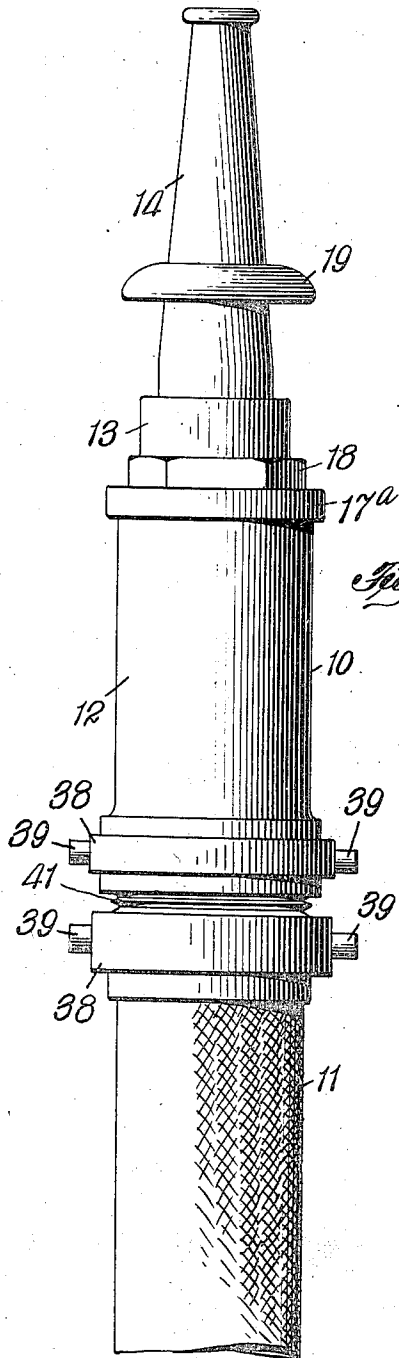


Fig. 1.

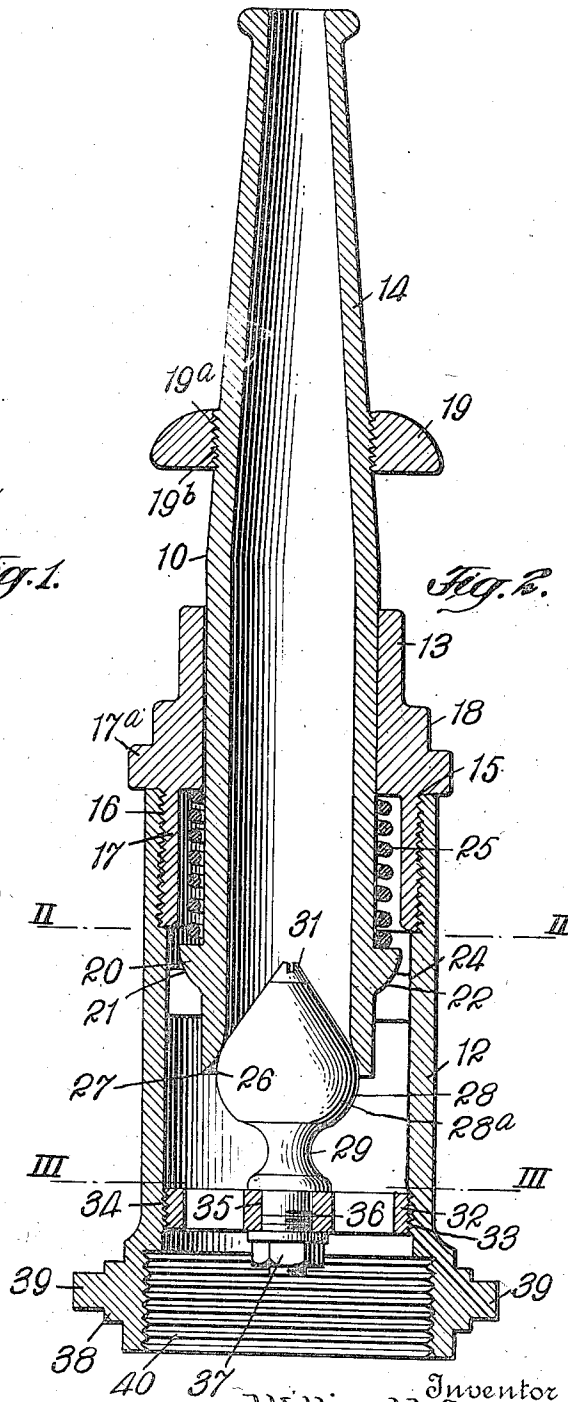


Fig. 2.

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2 SHEETS-SHEET 2.

Fig. 3.

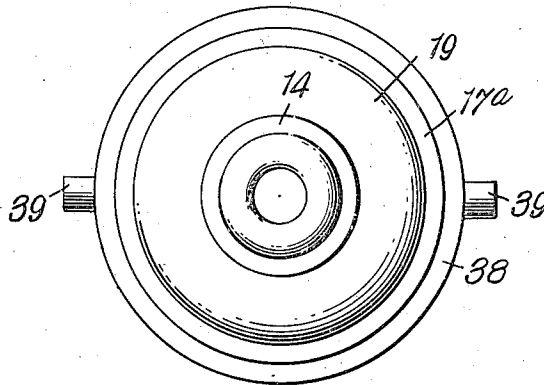


Fig. 4.

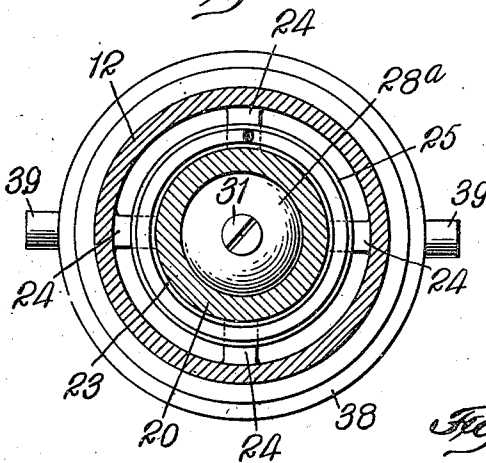


Fig. 5.

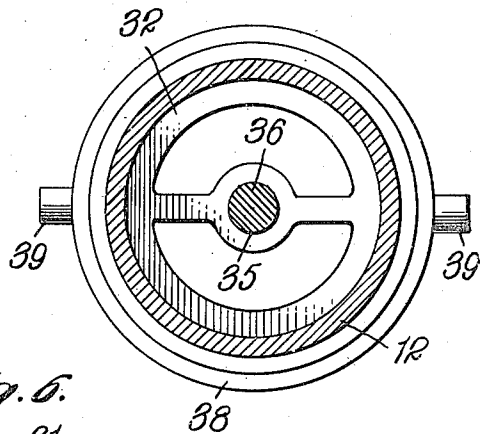
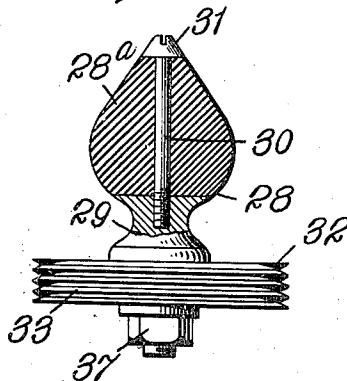


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. CANNER, OF CORONA, NEW YORK, ASSIGNOR TO SANGER NOZZLE COMPANY, INC., A CORPORATION OF NEW YORK.

AUTOMATICALLY-CLOSING HOSE-NOZZLE.

1,011,314.

Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed February 12, 1910. Serial No. 543,594.

To all whom it may concern:

Be it known that I, WILLIAM H. CANNER, a citizen of the United States, and resident of Corona, county of Queens, and State of New York, have invented certain new and useful Improvements in Automatically-Closing Hose-Nozzles, of which the following is a full, clear, and exact specification.

My invention relates more particularly to a class of nozzles used in conjunction with hose-pipe for sprinkling purposes or for fire-fighting apparatus, and the primary object thereof is to provide a nozzle of simple and inexpensive construction which is adapted to be normally closed against the discharge of water or liquid therethrough, and after the water is turned on from the source of supply efficient means is provided for readily and conveniently opening the nozzle and which automatically closes when the controlling means is not operated by the person using the nozzle, thus economically regulating the distribution of the water.

A further object of the invention is to provide means which will permit the flow of water through the nozzle to be periodically interrupted when it is desired to play the stream over the area of one place and leave the adjacent space thereto dry, thereby saving the time and labor required to turn-off or turn-on the water at the supply pipe at intervals as is customary with nozzles in ordinary use, and a still further advantage obtained through the use of my improved automatically closing hose nozzle consists in avoiding all waste of water and damages resulting from overflows or the like caused by nozzles being carelessly left open by the attendant.

These objects and advantages of my invention are attained by providing a movable mouth-piece or tube slidably held within the valve-casing of a nozzle the inlet end of said mouth-piece providing a seat for an interiorly arranged valve which normally remains seated and thereby closes the nozzle against the passage of water. The slidable mouth-piece is under the action of a retaining spring which is compressed when said mouth-piece is forced outwardly and on being released the tension of the spring serves to restore said mouth-piece to its original position and automatically closes the valve.

A practical embodiment of the invention

is represented in the accompanying drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views, the said invention being more fully described hereinafter and then pointed out in the appended claims.

In the drawing, Figure 1 is a side elevation of one form of my convertible hose nozzle connected to a hose pipe. Fig. 2 is a vertical longitudinal section through the nozzle showing a detail view of the valve. Fig. 3 is a top plan view of the nozzle. Fig. 4 is a horizontal section thereof taken on the line II—II of Fig. 2. Fig. 5 is a similar section taken on the line III—III of Fig. 2, and Fig. 6 is a fragmentary section of the valve used in connection with my improved hose nozzle.

To the hose pipe 11 may be connected in any suitable manner the nozzle 10, which consists principally of the tubular body 12, a sleeve 13 and a mouth-piece 14, all of which may be made of any desired metal and so constructed as to be very durable and the parts may be readily assembled.

The sleeve 13 is adapted to be screwed into the open interiorly threaded end, as at 15, of the body 12 by engagement with the threads 16 of an annular flange 17 provided at the lower end of said sleeve. A rim, as at 17^a, rests with its underside upon the upper edge of the nozzle body and adjacent thereto a seat 18 is provided so as to be engaged by a wrench for the purpose of conveniently and securely connecting the sleeve 13 to the body 12. The mouth-piece 14 of the nozzle is slidably guided intermediate its length within the sleeve 13 and carries somewhat above the upper end of said sleeve a collar or annular flange 19. This collar 19 is interiorly threaded, as at 19^a, for the reception of the threaded part, as at 19^b, of the mouth-piece 14, and as indicated in cross section the said collar 19 is substantially semi-spherical in form so as to adapt the same to be firmly gripped by the hand in forcing the mouth-piece 14 outwardly in operating the nozzle. Near the lower end of the outer wall of the mouth-piece or tube 14 an annular projecting flange, as at 20, is provided, and the underside of said flange is curved, as at 21, and rests within a curved groove 22 around the upper periphery of the inner opening 23, Fig. 4 of a spider plate 24. The spider

plate 24 is arranged substantially centrally of the interior of the body 12, and serves as a guide for the tube 14 in its forward or return movement.

5 Upon the flattened upper face of the projecting flange 20 is seated one end of a strong spiral spring 25 encircling the exterior of the wall of the mouth-piece 14, and the other end of said spring resting against
10 the underside of the sleeve rim 17^a serves to normally force said mouth-piece inwardly or downwardly into the body 12. The inlet opening, as at 26, of the mouth-piece 14 is peripherally beveled or grooved, as at 27,
15 and provides a seat for the head of a cone-shaped valve 28 which normally closes said opening. This valve-head 28^a which may be made of fiber, leather, rubber or any other suitable material, is securely fastened to the
20 stem 29 by a pin 30, Fig. 6, passing through the head, and said pin having one end threaded and the other end provided with a head or cap, as at 31, is adapted to be screwed into a threaded opening in the top
25 of the stem 29. A spider-plate or apertured disk 32 is provided with peripheral threads, as at 33, adapted to engage the interiorly threaded part, as at 34, in fastening said disk within the lower part of the body 12,
30 and said spider-plate 32 is provided with a central opening 35 for the reception of the threaded end 36 of the valve-stem 29 upon which is screwed the nut 37 underneath said disk for rigidly holding on the upper face
35 thereof the valve 28.

For connecting the nozzle to a hose-pipe the usual rim 38 and projecting lugs 39 are provided upon the lower end of the outer wall of the body 12 and similar parts are
40 provided upon the upper end of hose-pipe for engagement of spanning wrenches in turning the nozzle when the inner threaded end, as at 40, thereof receives the outer threaded end, as at 41, of said hose-pipe.

45 As previously mentioned my nozzle is adapted to be normally closed against the discharge of water or liquid therethrough. In operating for the distribution of a stream of water or the like the body 12 is grasped
50 by the hand of a person and with one or more of the fingers of the same hand pressing against the underside of the ring 20, or by grasping said ring with the other hand, the mouth-piece 14 is forced forward or out-
55 ward unseating the valve 28 so that the water immediately enters the inlet opening 26 passing onward through and out of the discharge opening of the tube 14. Simultaneously with this operation the spring 25
60 is compressed, and upon being released the said mouth-piece is restored by tension of said spring to its initial position at the same time automatically closing the inlet opening 26 by contact of the valve 28 with the valve-
65 seat 27.

It is clear that changes may be made in the shape and proportions of the parts forming my improved automatically closing hose nozzle without departing from the spirit and scope of the present invention as de- 70 scribed and illustrated, therefore I do not wish to be limited to the particular form herein set forth.

Having thus described my invention I claim as new and desire to secure by Letters 75 Patent:

1. An automatically closing hose nozzle of the character described, comprising a body, a sleeve securely held in said body from above, a mouth-piece slidably held 80 within said sleeve, means to limit the outward movement of said mouth-piece, a valve with its body adapted to be seated in the lower opening of said mouth-piece and means to hold said valve seated, substan- 85 tially as described and for the purpose set forth.

2. An automatically closing hose-nozzle of the character described, comprising a body, a sleeve securely held in said body from 90 above, a wrench-seat upon the lower rim of said sleeve, a mouth-piece slidably held within said sleeve, a flange provided exteriorly upon the mouth-piece and having a flattened upper part, means to limit the out- 95 ward movement of the mouth-piece, a valve for closing and opening the lower opening of said mouth-piece, and a spring interposed between the underside of the sleeve rim and the flattened upper part of the flange of 100 said mouth-piece for the purpose of holding said mouth-piece in position for closing the valve, substantially as described and for the purpose set forth.

3. An automatically closing hose nozzle 105 of the character described, comprising a body flanged at its lower end, projecting lugs upon said flange adapted to be engaged by a spanning wrench to connect the body with the end of a hose, a sleeve secured in 110 said body from above, a mouth-piece slidably held within said sleeve and being provided with a collar adapted to be pressed against to cause the outward movement of said mouth-piece, a spider-plate having a 115 central opening for guiding the lower flanged end of the mouth piece, a spring having one of its ends resting upon said flange and encircling the outer wall of the mouth-piece and its other end pressing 120 against the underside of the sleeve rim, substantially as described and for the purpose set forth.

4. An automatically closing hose nozzle of the character described, comprising a tubular body having interiorly threaded lower 125 and upper ends, the said lower end being adapted to engage the exterior threads at the end of a hose-pipe, a sleeve provided with a rim and with an exteriorly threaded 130

flange adapted to be screwed into the interiorly threaded upper end of said tubular body, a spider-plate within the tubular body having a peripherally grooved central opening, a slidably held mouth-piece guided within said sleeve intermediate its ends and provided with a peripherally beveled inlet opening forming a valve seat, an annular flange provided on the outer wall of said mouth-piece and having a curved underside adapted to rest within said grooved opening, a spiral spring encircling the outer wall of the mouth-piece and interposed between said rim and said annular flange and normally tending to force the mouth-piece inwardly, a spider-plate arranged within the

tubular body adjacent to the lower end thereof, a valve held by said spider-plate and having a cone-shaped head normally closing said inlet opening, and a collar arranged upon the outer wall of the mouth-piece and adapted to be grasped by the hand of a person for the purpose of forcing said mouth-piece outwardly, substantially as described.

This specification signed and witnessed this 8th day of February A. D. 1910.

WILLIAM H. CANNER.

Witnesses:

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