

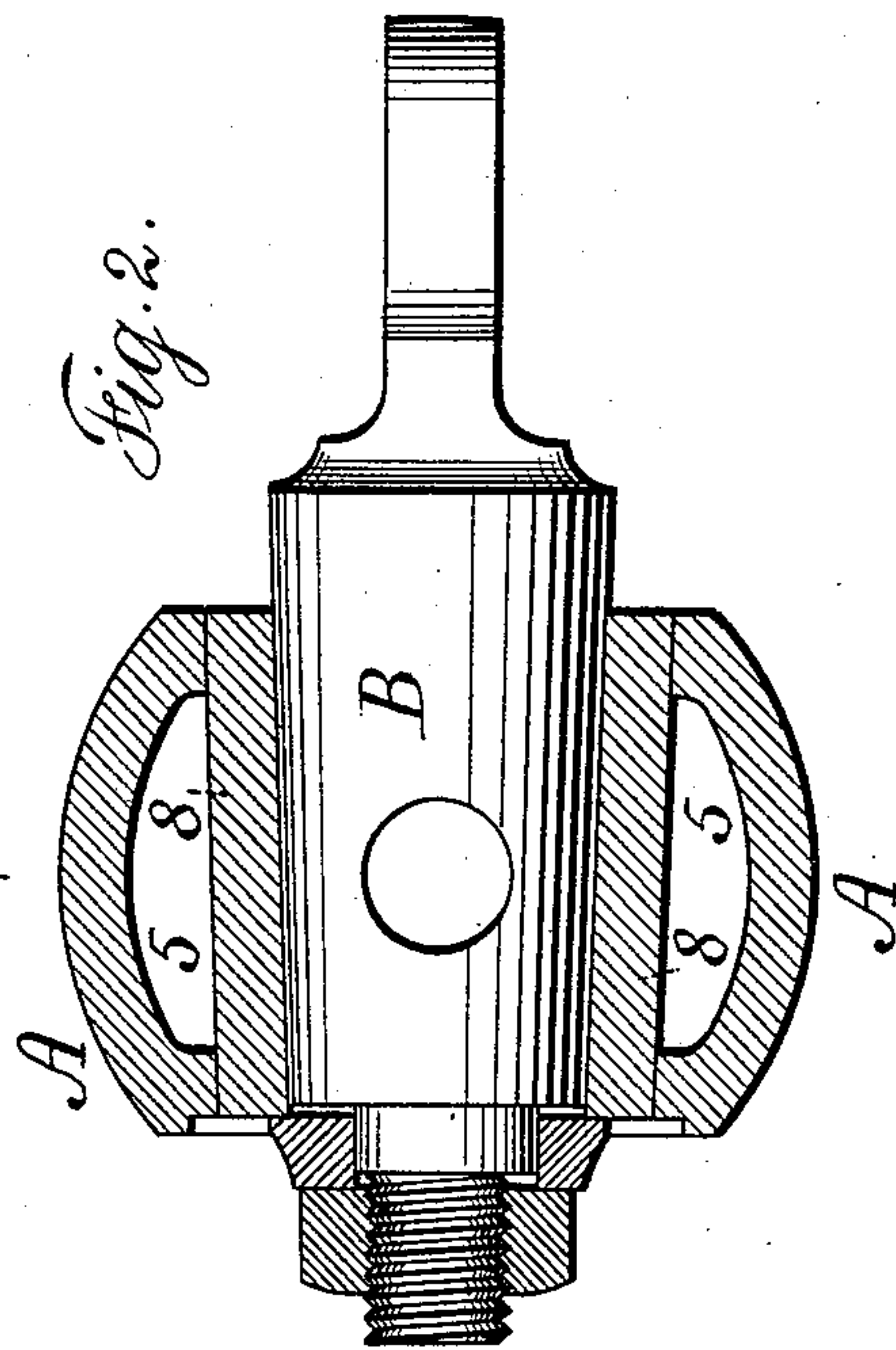
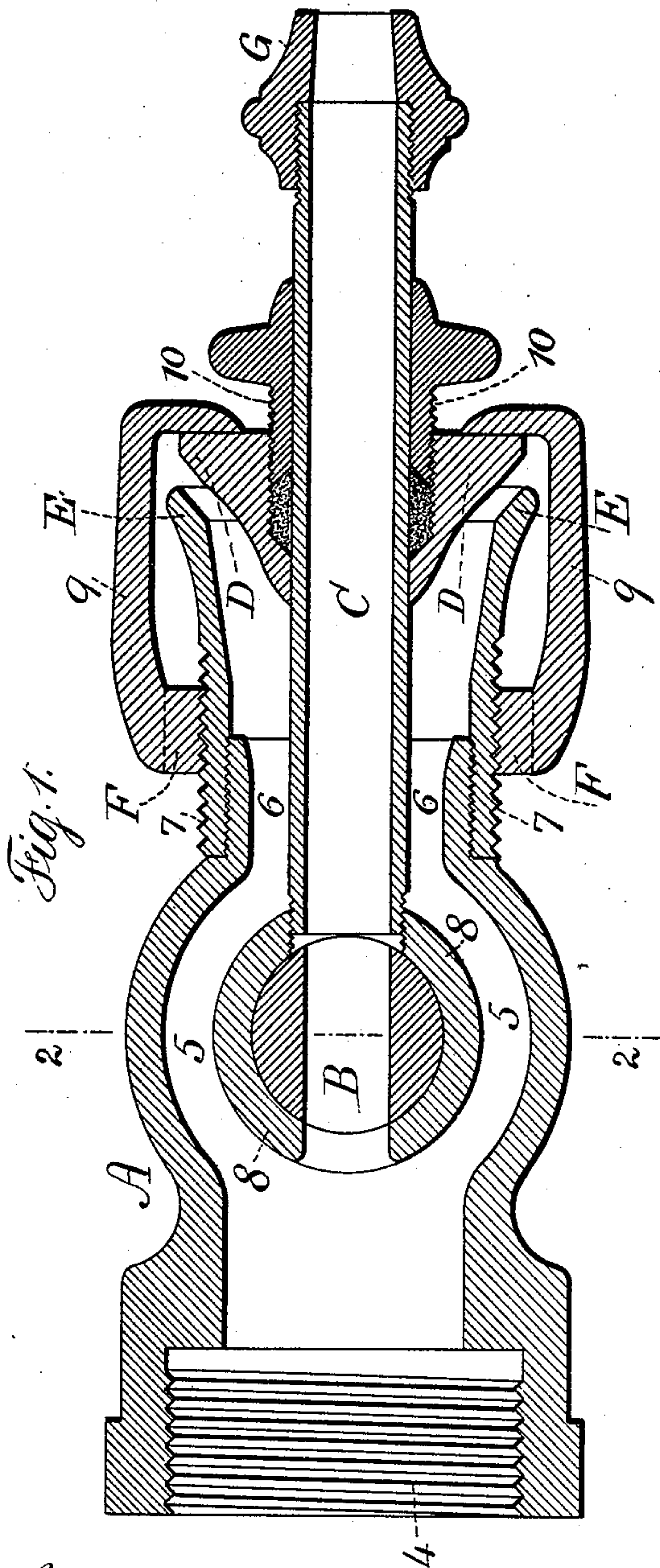
(No Model.)

2 Sheets—Sheet 1.

R. WISE.  
HOSE NOZZLE.

No. 564,239.

Patented July 21, 1896.



Witnesses:  
J. Staib  
Chas. N. Smith

Inventor:  
Robert Wise  
per L. W. Snell & Son  
Atys.

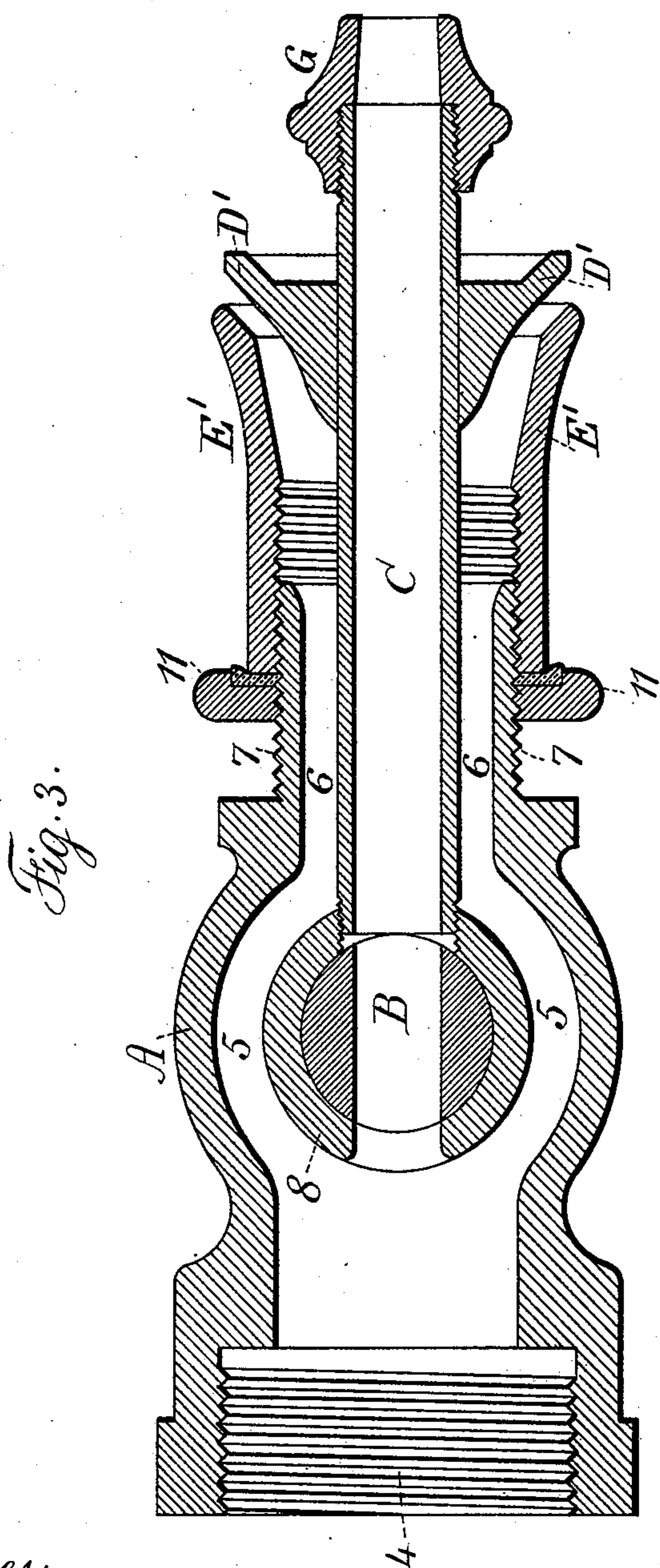
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# UNITED STATES PATENT OFFICE.

ROBERT WISE, OF NEW YORK, N. Y.

## HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 564,239, dated July 21, 1896.

Application filed March 7, 1896. Serial No. 582,177. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT WISE, a citizen of the United States, residing at New York, in the county and State of New York, have invented an Improvement in Hose-Nozzles, of which the following is a specification.

Hose-nozzles have been made with a central jet and with a surrounding spray or annular jet, and in some instances there has been a screw to adjust the distance between the annular surfaces between which the spray or annular jet passes, as seen in Patents No. 89,456, granted April 27, 1869, to A. F. Allen, and No. 155,580, granted October 6, 1874, to A. Hallowell, and it has been usual to provide a plug or valve to regulate the supply of water passing to the jet and to the spray.

The present invention relates to the combination, with the nozzle having a central jet and annular spray, of a plug to regulate the central jet, and a by-pass in the barrel of the cock leading to the annular spray, so that the annular spray will be opened or closed by the screw that brings one surface toward or from the other, and the plug of the cock regulates the central jet only. This allows the fireman to regulate the central jet with facility, as in an ordinary nozzle, and the annular jet or spray is independently controlled.

This improvement prevents the necessity, which has heretofore existed in some instances, of shutting off the water and introducing a removable cap or plug at the end of the central jet when the spray only is made use of, and this operation not only consumes time, but the plug or cap is sometimes mislaid or lost just at the moment when it is most needed.

In the drawings, Figure 1 is a longitudinal section of my improved hose-nozzle. Fig. 2 is a cross-section at the line 2 2, and Fig. 3 is a section of a modification of the present invention.

The body of the hose-nozzle A is provided with a screw-thread or other adjustment at 4 for connecting the nozzle to the hose, and the body receives across through it the plug B, and the barrel 8 of the cock around the plug B and the body is enlarged to contain the by-pass or waterway 5, which is preferably double, so as to pass at each side of the bar-

rel 8, and this by-pass opens into an annular waterway 6 between the screw-threaded cylinder 7 and the central jet-tube C, which jet-tube preferably screws into the body of the nozzle or the front side of the barrel 8 which contains the plug B.

I find it advantageous to cast the body of the nozzle so as to contain the screw 4, the cylinder 7, and the annular waterway 6 and by-pass 5 in one piece, as in Fig. 3, but the barrel 8 can advantageously be made of a separate tube, fitted and soldered into place, so as to receive the plug B, and through this barrel are the openings that are in line with and advantageously the same size, or nearly so, as the bore of the central jet-tube C, so that the water will pass directly to the jet-nozzle and can be shut off by turning the plug B, but in so doing the water is free to pass into the annular waterway 6 within the screw-threaded cylinder 7, so as to pass out as an annular jet or spray. This annular jet or spray is formed between the conical flange D and the edge of the cup E, and either one of these parts is adjusted to vary the opening.

In Fig. 1 the cup E is formed as a continuation of the screw-threaded cylinder 7 and the conical flange D is loose around the central jet C, and it is adjusted by a nut F, surrounding the screw-threaded cylinder 7, there being arms 9 that connect the nut F and the conical flange D. Hence the opening can be adjusted by rotating the nut F and moving the conical flange D forward or backward, and the water can be shut off by drawing the conical flange against the rim of the cup E, but in this form there is risk of leakage between the conical flange D and the central jet-tube C. I therefore employ a screw-ring 10 and a packing within the conical flange D, which packing is set up by tightening the screw-ring 10, thus effectually preventing leakage.

In the form of nozzle represented in Fig. 3 the screw-cylinder 7 receives around it the cup E', and the conical flange D' is fastened permanently to the central jet-tube C, and in order to prevent the escape of water between the cup E' and the screw-threaded cylinder 7, a packing is introduced between the nut 11 and the back end of the cup E', and by setting up this packing more or less by the nut



11 a friction is applied to prevent the cup E' turning accidentally while the nozzle is being handled.

5 It is to be understood that the end of the jet-tube C is advantageously screw-threaded for the reception of a movable reducer or nozzle G, so that the size of jet can be regulated as desired, and this can be accomplished with facility by simply turning the plug B.

10 I claim as my invention—

1. The combination in a hose-nozzle, of a jet-tube, a plug and barrel forming a cock to the jet-tube, the body of the nozzle having a by-pass around the barrel of the cock and an  
15 annular waterway, a conical flange around the jet-tube and a cup, there being an annular opening for a spray between the conical flange and the cup and a screw for varying the width of this annular opening, substan-  
20 tially as set forth.

2. The combination in a hose-nozzle, of a jet-tube, a plug and barrel forming a cock to the jet-tube, the body of the nozzle having a by-pass around the barrel of the cock and an  
25 annular waterway, a conical flange around the jet-tube, a screw upon the body of the hose-nozzle, and a cup extending forward from the screw-cylinder, a nut around the screw and a connection from the nut to the  
30 conical flange for adjusting such conical flange and varying the opening for the annular spray or jet, substantially as set forth.

3. The combination in a hose-nozzle, of a jet-tube, a plug and barrel forming a cock to the jet-tube, the body of the nozzle having a  
35 by-pass around the barrel of the cock and an annular waterway, a conical flange around the jet-tube, a screw upon the body of the hose-nozzle, and a cup extending forward from the screw-cylinder, a nut around the  
40 screw and a connection from the nut to the conical flange for adjusting such conical flange and varying the opening for the annular spray or jet, and a packing between the conical flange and the jet-tube, substantially  
45 as set forth.

4. The combination in a hose-nozzle, of a body having a barrel across the same and a by-pass around the barrel and within the body of the hose-nozzle, and a cylinder in the for-  
50 ward part of the body-screw threaded upon the outside, a plug to the barrel and a central jet-tube screwed at its back end into the hose-nozzle adjacent to the plug of the cock, a conical flange around the central jet-tube and a  
55 cup and means for adjusting the distance between the edge of the cup and the conical flange for varying the annular jet or spray or closing the same, substantially as set forth.

Signed by me this 2d day of March, 1896.

ROBERT WISE.

Witnesses:

JOS. J. PICKARD,  
ED. L. VAN ORDEN.