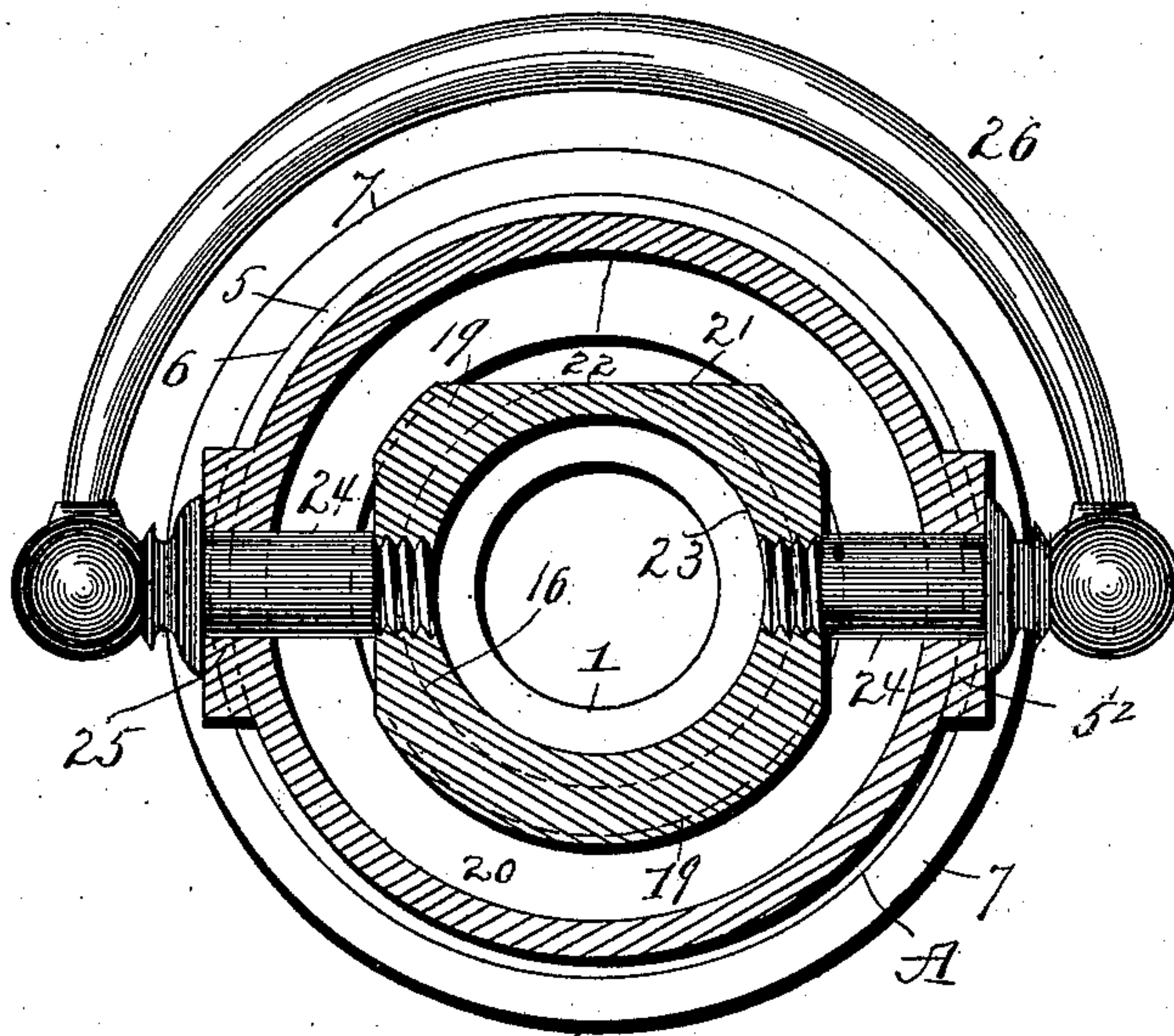
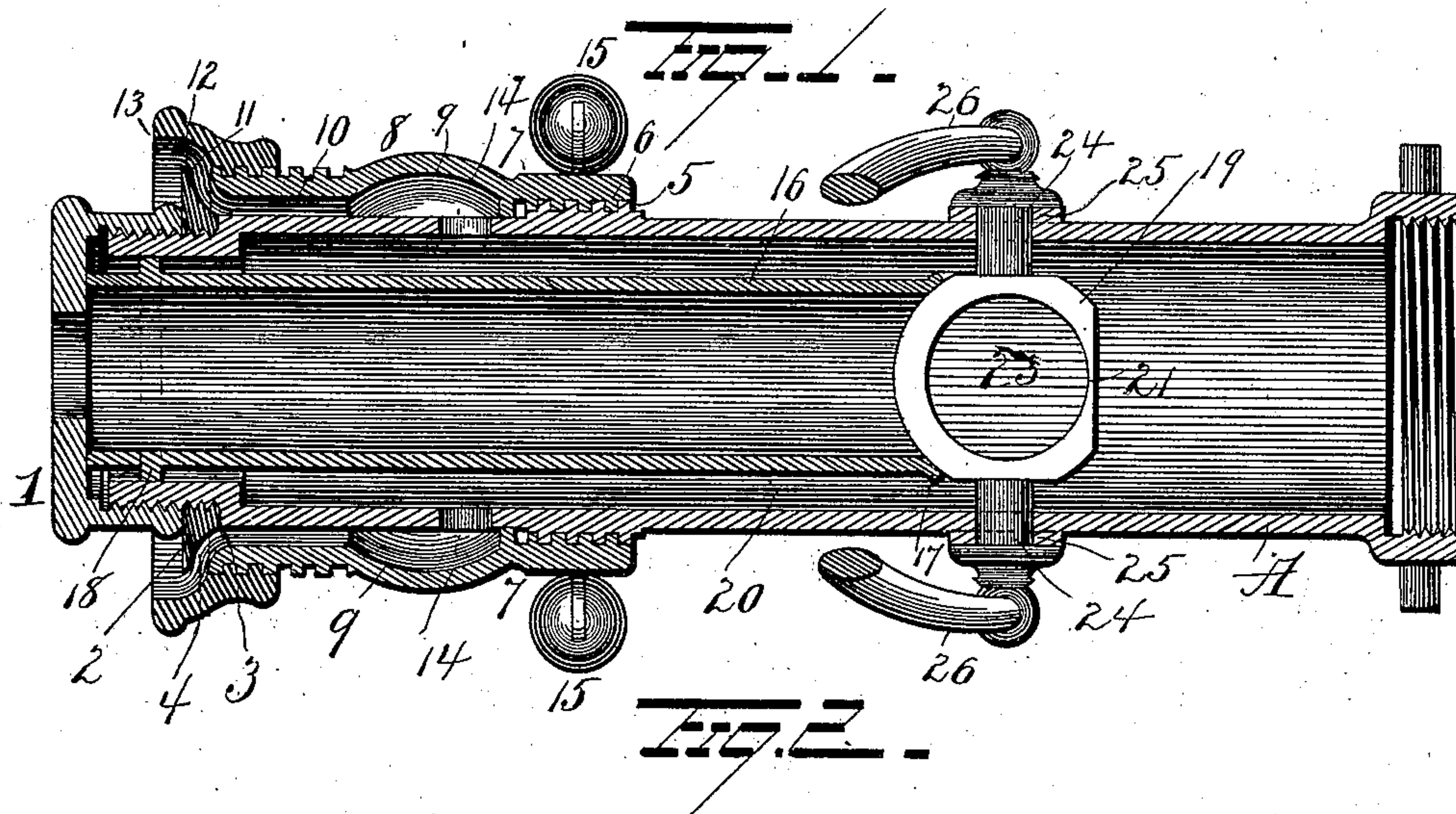


(No Model.)

W. W. STEWART.
CUT-OFF FOR NOZZLES.

No. 577,120.

Patented Feb. 16, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM WEAVER STEWART, OF COLUMBUS, GEORGIA.

CUT-OFF FOR NOZZLES.

SPECIFICATION forming part of Letters Patent No. 577,120, dated February 16, 1897.

Application filed January 30, 1896. Serial No. 577,457. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WEAVER STEWART, a resident of Columbus, in the county of Muscogee and State of Georgia, have
5 invented certain new and useful Improvements in Cut-Offs for Nozzles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it appertains to make and use the same.

My invention relates to an improvement in nozzles, and more particularly to cut-offs therefor, the object of the invention being to
15 so construct a cut-off that it will be applicable for use with any nozzle and so that it can with equal efficiency be applied to a nozzle-tip.

A further object is to provide a nozzle constructed to throw a straight stream and a
20 spray, with a simple and efficient cut-off to control the straight stream.

A further object is to provide a cut-off which shall be simple in construction, cheap to manufacture, and effectual in all respects
25 in the performance of its functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out
30 in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view. Fig. 2 is a cross-section.

A represents the shell of a nozzle adapted
35 at its inner end to screw on a suitable coupling of a hose and provided with a tip 1 for a straight stream. Behind the tip 1 a ring or collar 2 is screwed on the shell A and adapted to bear against a shoulder 3 thereon, said
40 ring or collar having a beveled and slightly-curved inner or rear face 4 for a purpose hereinafter explained. Some distance rearwardly of its forward end the shell A is provided with external screw-threads 5 for the reception of
45 similar screw-threads 6 on the rear end of a shell 7. The shell 7 is made with an enlarged portion 8, whereby to form a chamber 9 between the two shells A and 7. The forward portion of the shell 7 is somewhat contracted
50 in size and made with an inner wall parallel with the exterior of the forward portion of the main shell A whereby to form an annular

duct 10, communicating at its rear end with the chamber 9. The forward edge of the shell 7 is beveled and preferably slightly curved, 55 so as to conform to the rear face of the ring or collar 3 and form a portion of an annular duct 11, which communicates with the annular duct 10. The remainder of one wall of the duct 11 is formed by the inner face of a collar 12, adapted to screw on the forward end of the shell 7. The collar 12 terminates in a ring 13, disposed forwardly of the ring or collar 3 and concentric with the tip 1, thus forming an annular space around the rear portion of the tip. 65 The main shell A is made with openings 14, through which water can pass to the chamber 9, from which it will pass through the annular ducts above described and be discharged in rear of the outlet of the tip 1 in the form of a 70 spray. The shell 7 is preferably provided with knobs 15, whereby to turn it to close the annular duct 11 when a spray is not desired.

A tube 16, of considerably less diameter than the shell A, is disposed within said shell 75 and bears at its forward end against the inner face of the tip 1, by which latter an annular shoulder 17 at the other end of said tube is forced tightly against a ball-valve 19, located near the inner end of the nozzle. The 80 tube is retained in a central position within the shell A by means of a shoulder 18, as shown in Fig. 1.

The ball-valve 19, above alluded to, is made of a diameter appreciably less than the di- 85 ameter of the shell A, so that water can pass around it into the chamber 20, formed between the shell and tube, and from said chamber to the spray-outlet, as above explained.

To further facilitate the passage of water 90 into the chamber 20, the ball-valve 19 may be flattened at 21, so as to make a comparatively large passage 22 between the valve and the shell A when the opening 23 in said valve is in alinement with the tube 16. Thus water 95 may flow in a straight stream through the tube 16 and tip 1, and simultaneously water may be permitted to flow through the spray-outlet, and water may be made to flow through either the tip or spray-outlet only, as desired. 100

The ball-valve 19 is supported at diametrically opposite points by trunnions 24, the inner ends of which may be screwed into the valve, and said trunnions are mounted in

suitable bearings 25, secured to the shell A. To the free outer ends of the trunnions 24 the arms of a bail or handle 26 are secured, the cross-bar of which is adapted to normally lie on the shell A. From this construction and arrangement of parts it will be seen that when the bail or handle 26 is thrown from one position to the other the valve may be made to turn one-fourth of a revolution and the opening therein either brought into alignment with the tube 16 or the end of the latter closed, according to the direction in which said bail or handle is turned.

From the above it will be readily seen that my improved valve or cut-off is applicable to any hose nozzle or tip and that it is admirably adapted for use with a nozzle having a spray-outlet and a straight-stream outlet for controlling the flow of water through the latter, the said valve or cut-off being located in rear of the spray-outlet.

My improvements are simple in construction, cheap to manufacture, and effectual in all respects in the performance of their functions.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details of construction herein set forth; but,

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

1. In a nozzle, the combination with the main shell, and a valve mounted to turn therein, of an inner tube so constructed that a space is formed between the two for the

passage or escape of water, the inner tube or pipe bearing at one end upon the valve, and a tip at the outer end of the shell between which and the valve the inner tube or pipe is held.

2. In a nozzle, the combination with the main shell, and a tip thereon, of an inner tube of such diameter relatively to said shell that a chamber will be formed between the shell and tube, and a ball-valve at the inner end of said tube, the tube being forced against the ball-valve by the said tip, substantially as set forth.

3. In a nozzle, the combination with the main shell, of a tube therein, said tube being appreciably less in diameter than the shell, a shoulder at the inner end of the tube, a valve, a tip adapted to force the shoulder on the tube against the valve, and a flange on the tube adapted to maintain the latter centrally within the shell, substantially as set forth.

4. In a nozzle, the combination with a main shell and a tube therein, said tube being appreciably less in diameter than the shell so as to form a chamber between the shell and tube, of a valve at the inner end of the tube, said valve having a flat face whereby to form an unobstructed passage to the chamber between the shell and tube, substantially as set forth.

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

WILLIAM WEAVER STEWART.

Witnesses:

J. G. KIMBROUGH,
GEO. J. GRIMES.