

(No Model.)

H. NICHOLSBURG.
NOZZLE.

No. 605,049.

Patented May 31, 1898.

FIG. 1.

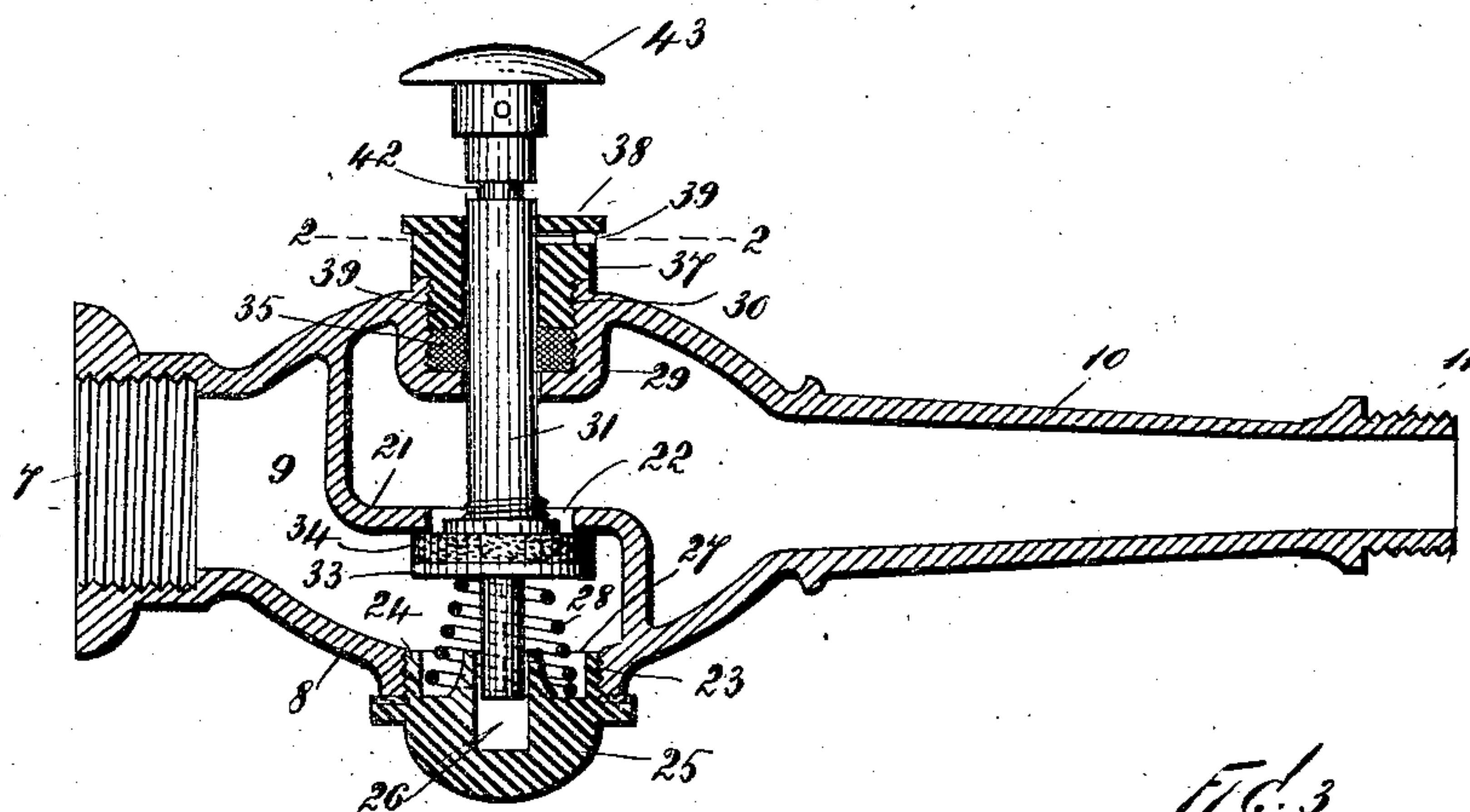


FIG. 2.

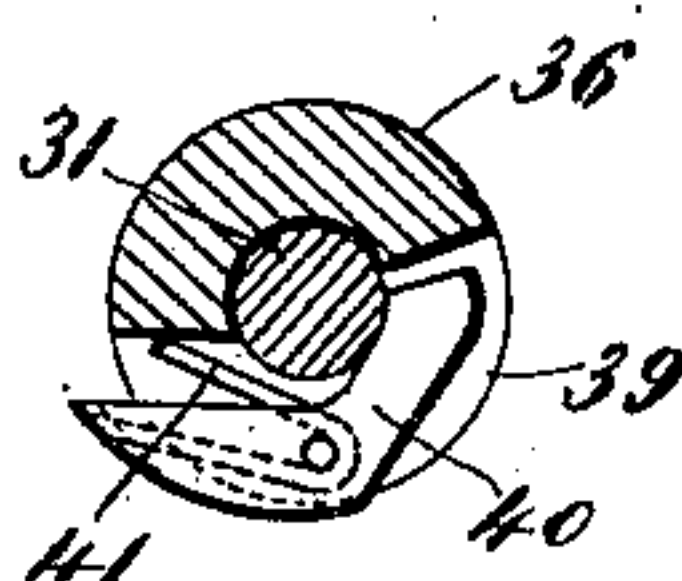


FIG. 3.

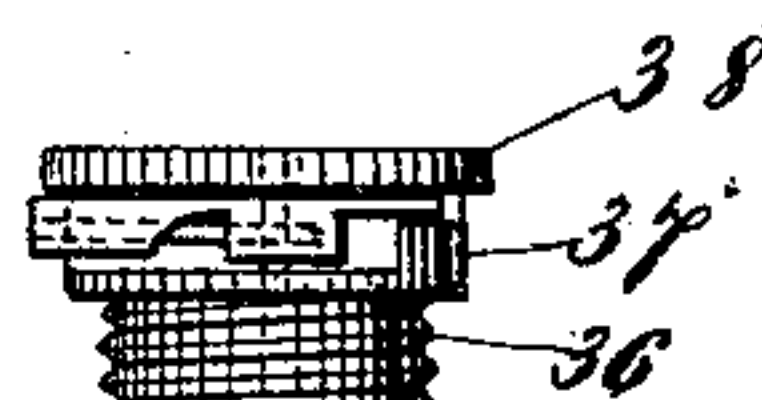


FIG. 4.

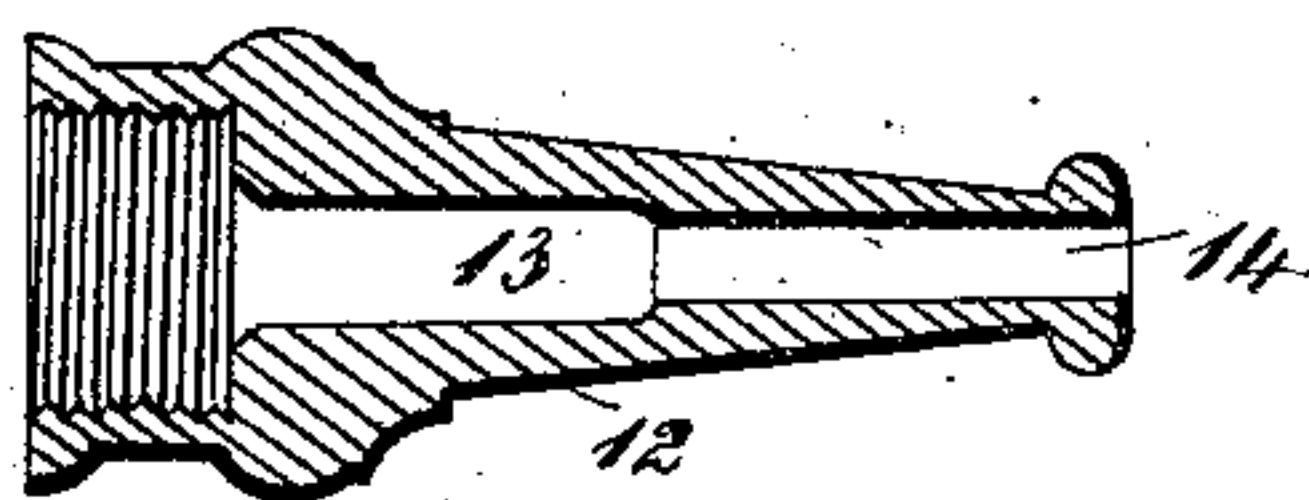
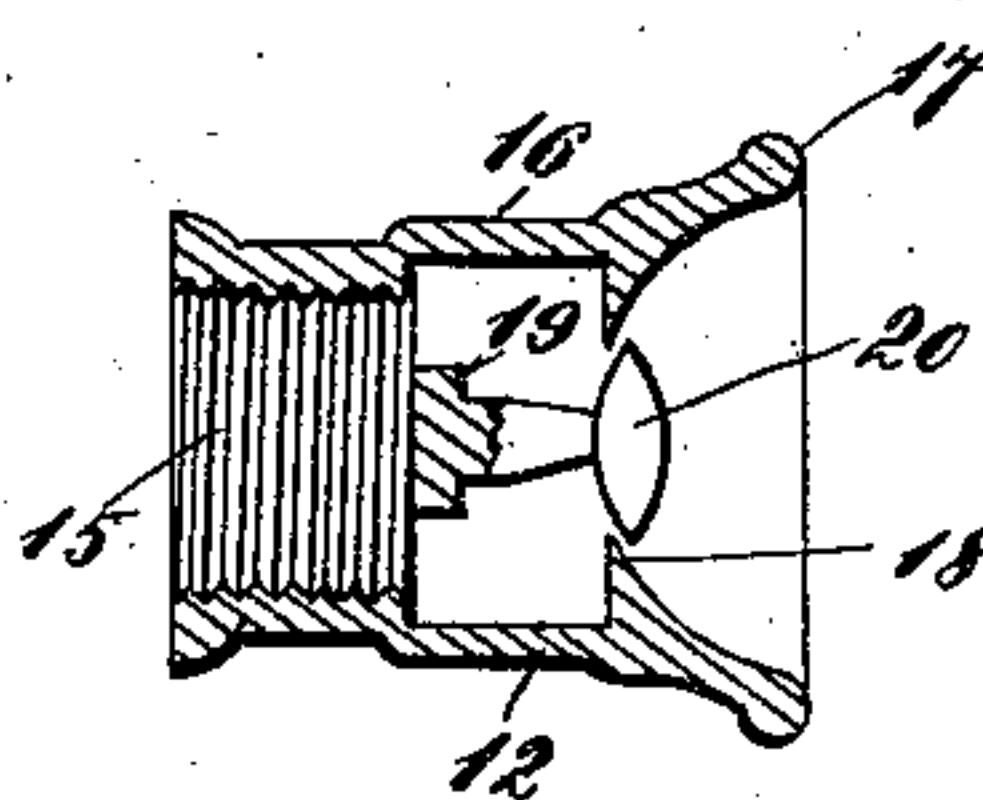


FIG. 5.



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NOZZLE.

SPECIFICATION forming part of Letters Patent No. 605,049, dated May 31, 1898.

Application filed March 15, 1897. Serial No. 627,544. (No model.)

To all whom it may concern:

Be it known that I, HENRY NICHOLSBURG, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Nozzles, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to nozzles such as are usually employed in connection with water-hose; and the object thereof is to provide an improved device of this class which may be employed as a part of a fire-extinguishing apparatus, as a lawn-sprinkler, or for any other or similar purpose.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a central longitudinal section of my improved nozzle; Fig. 2, a section on the line 2 2 thereof; Fig. 3, a side view of a detail of the construction which is shown in Fig. 2; Fig. 4, a longitudinal section of one form of a discharge-nozzle which I employ, and Fig. 5 a similar view of a modified form of construction.

In the drawings forming part of this specification, the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention I provide a nozzle for the purpose herein specified which comprises a screw-threaded head 7, by means of which the nozzle may be connected with a water-hose, or this head 7 may be formed in any desired manner, and adjacent thereto is an enlarged body portion 8, in which is formed a chamber 9, which is elliptical in longitudinal section and at the end of which is a reduced extension 10, the end of which is screw-threaded, as shown at 11, and adapted to receive a discharge-nozzle 12, which is shown in Fig. 4 and a modification of which is shown in Fig. 5.

The discharge-nozzle 12 is intended to throw the water in a solid stream, and is preferably provided with a longitudinal bore 13, the outer end of which is smaller than the inner end, as shown at 14, while the form of the discharge-nozzle shown in Fig. 5 is intended

to throw the water in a circular-spray, and consists of a screw-threaded shank 15, on which is formed an enlarged central portion 16, which is provided with a bell-shaped or flaring mouth 17, at the base of which is an inwardly-directed annular flange or rim 18, and secured transversely of the enlarged portion 16 is a bar 19, to which is secured a disk 20, which is elliptical in cross-section and which is adapted to partially close the opening within the flange or rim 18; said disk 20 being outside of the inner edge of said flange or rim and being of slightly-greater diameter than said opening.

The chamber 9 in the enlarged body 8 of the nozzle is provided with an angular partition-plate the central portion 21 of which extends horizontally of said chamber and is provided with a central circular opening 22, and one side of said body portion 8 of the nozzle in line with the central opening 22 in the partition-plate is provided with a circular opening 23, which is closed by a screw-threaded plug 24, which is provided with an enlarged semicircular head 25, in which is formed a central cavity 26, which opens inwardly, and formed in the upper surface of the screw-threaded plug 24 is an annular chamber 27, in which is placed a spiral spring 28, and that side of the body portion 8 of the nozzle opposite the opening 23 is provided with an inwardly-directed tubular casing 29, whereby a tubular chamber 30 is formed, and passing centrally through the opening 22 in the partition-plate 21 and through the bottom of the casing 29 is a shaft 31, the lower end of which is reduced in size and enters the cavity 26 in the plug 24, and mounted on said shaft below the partition-plate 21 is a valve composed of a disk or plate 33, above which is placed a washer 34, which may be composed of any suitable material and which is adapted to serve as a valve to close the opening 22, and the disk or plate 33, which is secured to the shaft 31, or the lower end thereof, rests on the spring 28, and said spring is adapted to force said shaft upwardly, so as to close the opening 22.

Placed in the chamber 30, through which the shaft 31 passes, is a packing 35, and said tubular chamber 30 is closed by a screw-

threaded plug 36, through which the shaft 31 also passes, and the upper end of said screw-threaded plug is enlarged and cylindrical in form, as shown at 37, and above said enlarged central portion is an annular flange or rim 38, and formed in one side of the cylindrical portion is a transverse slot or groove 39, in which is pivoted a lever 40, which is operated by a spring 41, and the shaft 31 is provided with an annular groove 42, which is adapted to receive said lever, or the inner end thereof, when said shaft is in its lowest position, and mounted on or secured to the upper end of said shaft is a knob or handle 43.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

In the normal position of the parts or when the nozzle is not in operation the opening 22 in the partition-plate 21 is closed by the valve on the shaft 31, the spring 28 forcing the shaft upwardly to produce this result, and whenever it is desired to operate the nozzle the shaft 31 is forced inwardly and the spring-operated lever 40 enters the annular groove 22 in said shaft and the water is free to flow through the nozzle, and whenever it is desired to cut off the flow of the water the outer end of the lever 40 is forced inwardly, so as to release the inner end thereof from the annular groove 42 in the shaft 31, when the spring 28 will force said shaft outwardly and close the opening 22 in the partition-plate 21.

When the nozzle shown in Fig. 5 is in use, the water passes between the disk 20 and the inwardly-directed annular flange or rim 18, and as the said disk is slightly larger than the opening in said nozzle the water passes out in a very thin sheet all around said disk and is turned backwardly by the bell-shaped mouth of the nozzle toward the center and produces a very fine effect owing to this peculiar construction of the nozzle and disk.

This device is simple in construction and operation and is perfectly adapted to accomplish the result for which it is intended, and it will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A water-nozzle, comprising a body portion, in which is formed an enlarged chamber and one end of which is provided with means for securing it to a flexible tube or pipe, and the other end with an extension to which the discharge-nozzle proper is secured, said chamber being provided centrally thereof, with a longitudinal partition-plate which is provided with a central opening through which passes

a spring-operated shaft which is provided with a valve which is adapted to close said opening, said shaft being projected through an opening in said chamber at one side thereof, which is closed by a screw-threaded plug, in which is formed a transverse slot or groove, in which is mounted a spring-operated lever, and said shaft being provided with an annular groove in connection with which said lever operates, substantially as shown and described.

2. A nozzle, comprising an enlarged body portion, at one end of which is a head by means of which the nozzle may be connected with a tube or pipe, the other end of said body portion being provided with an extension adapted to receive a discharge-nozzle proper, said enlarged body portion being provided with a chamber, in which is a partition-plate provided with a central opening, said body portion being also provided at one side with an opening which is closed by a screw-threaded plug in which is formed a cavity or recess, and at the opposite side with a tubular inwardly-directed casing, and a spring-operated shaft passing through said chamber, one end of which enters the cavity or recess in said screw-threaded plug, and the other end of which passes through said tubular casing, and through a screw-threaded plug mounted therein, said last-named screw-threaded plug being provided at one side with a transverse slot or groove in which is placed a spring-operated lever, and said shaft being provided with an annular groove in connection with which said lever operates, and with a valve by which the opening in the partition-plate is closed, substantially as shown and described.

3. A discharge-nozzle, comprising an enlarged portion 16, bell-shaped mouth 17, flange 18, bar 19 and disk 20, substantially as and for the purpose set forth.

4. A nozzle provided with an enlarged body portion, in which is formed a partition which is provided with a central opening, and a transversely-movable spring-operated shaft which is provided with a valve adapted to close said opening, and means for locking said shaft and said valve in an opening position, consisting of a screw-threaded plug mounted in one side of the body portion of the nozzle through which said shaft passes, said plug being provided with a spring-operated lever, and said shaft with a groove in which said lever operates, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 13th day of March, 1897.

HENRY NICHOLSBURG.

Witnesses:

C. GERST,

M. A. KNOWLES.