

No. 642,833.

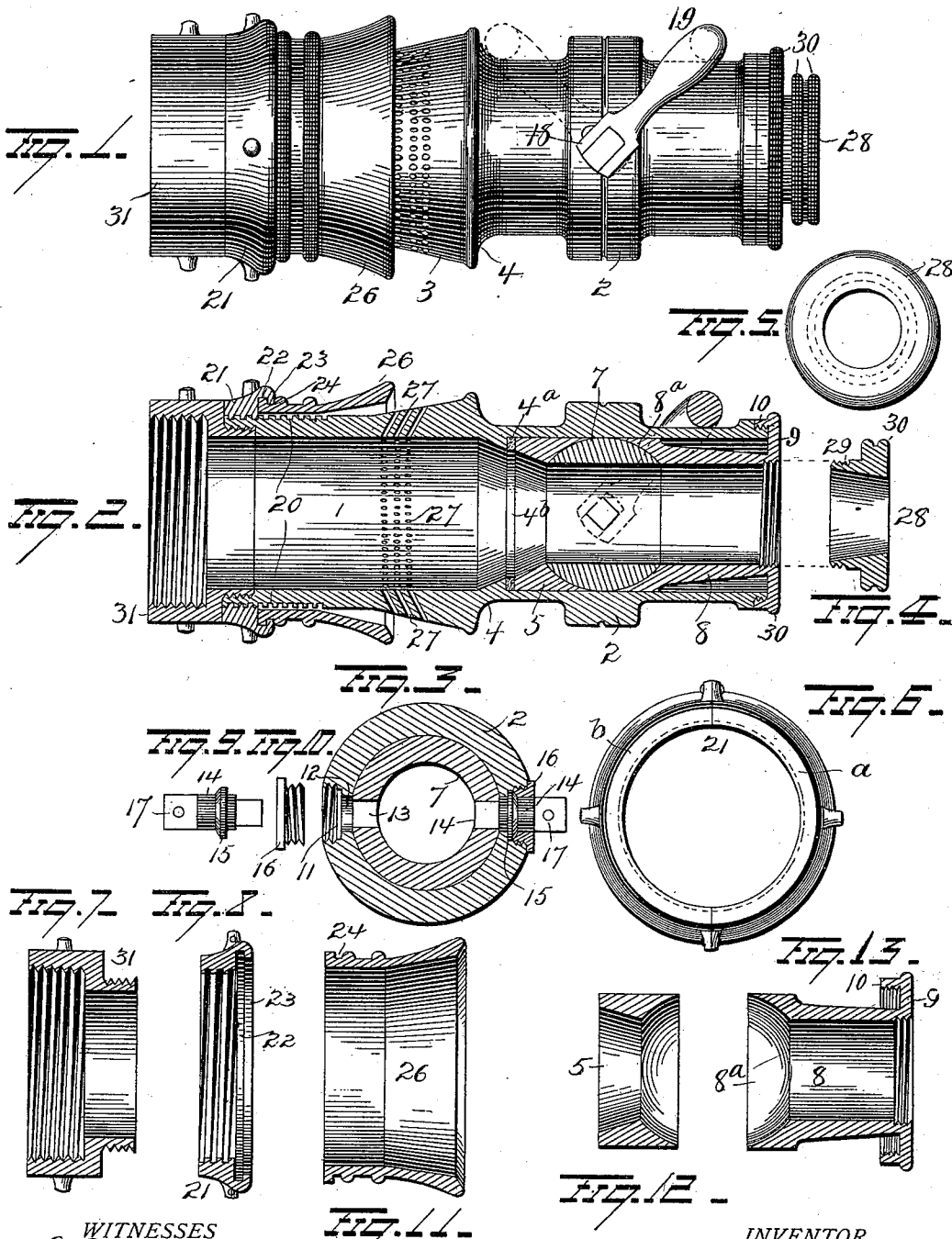
Patented Feb. 6, 1900.

W. S. AUNGST.
NOZZLE.

(Application filed Feb. 27, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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Fig. 14.

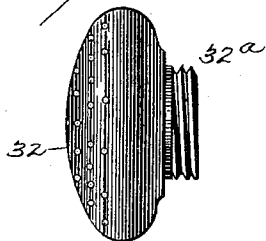


Fig. 15.

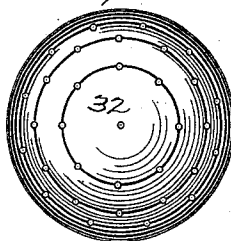


Fig. 17.

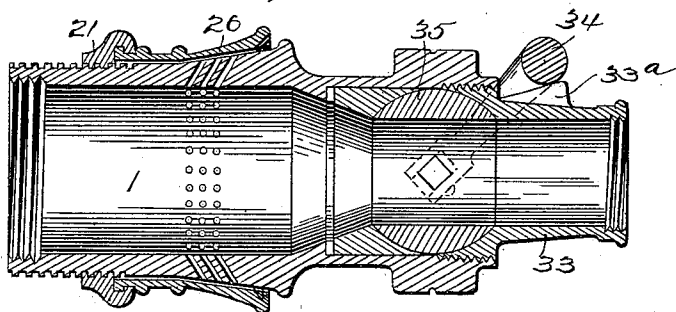


Fig. 16.

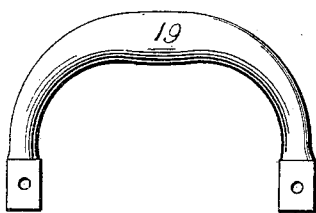


Fig. 18.

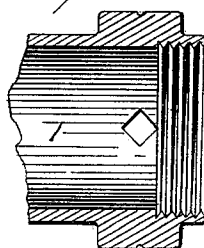
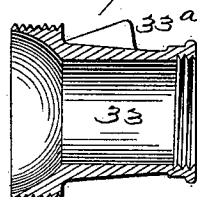


Fig. 19.



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UNITED STATES PATENT OFFICE.

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NOZZLE.

SPECIFICATION forming part of Letters Patent No. 642,833, dated February 6, 1900.

Application filed February 27, 1899. Serial No. 707,019. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. AUNGST, a resident of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in 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 it appertains to make and use the same.

My invention relates to an improvement in nozzles; and more particularly to fire-hose nozzles, one object of the invention being to provide a nozzle which will throw a solid stream and spray at the same time.

A further object is to provide a nozzle which can be operated to throw a sheet of spray for a radius of several feet around the nozzle and in front of the fireman or operator to protect him from the flames, smoke, and heat of the fire.

A further object is to provide a nozzle which will be simple in construction, comparatively cheap to manufacture, easy to operate, and most effectual when in use.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved nozzle. Fig. 2 is a view in section of same. Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 are views of details, and Figs. 17, 18, and 19 are views of a modified form of my invention.

1 represents the body or main portion of my improved nozzle, provided with a peripheral enlargement 2 near its forward end for a purpose more fully hereinafter explained. The rear portion of the body 1 is made approximately conical on a portion of its outer face and cylindrical on its inner face to form a tapering outer face 3, as shown. The inner face of the body 1 at a point about midway between its ends is contracted, as shown at 4, and forms a shoulder 4^a to constitute an abutment for the ring 5, between which and said shoulder a washer 4^b is preferably inserted. The inner face of the ring 5 is conical or contracted toward its front end, and the front of the ring 5 is made concave to form a part of the seat of a ball-valve 7. A

sleeve 8 is disposed in the body 1 in front of the ball-valve 7, and said sleeve 8 is provided on its outer end with a peripheral flange 9, having an inwardly-projecting screw-threaded flange 10 to mesh with external screw-threads on the end of the body 1. The inner or rear end of the sleeve 8 is made concave, as at 8^a, to bear against the ball-valve and to cooperate with the concave part of the ring 5 to form the seat for the said valve. The enlarged portion 2 is provided at diametrically opposite points with screw-threaded pockets 11, and openings or holes 12, smaller in diameter than the pockets 11, connect said pockets with the interior of the body, and said holes or openings 12 are in alinement with angular holes 13 in the ball-valve 7. A pin 14 is disposed in each opening or hole 12 and is provided with an angular inner end to fit in the angular opening in the ball-valve 7. Each pin 14 is provided between its ends with a peripheral flange or enlargement 15, disposed in the pocket 11 and held in position therein by means of a threaded collar 16, adapted to screw into the pocket 11. The outer end of each pin 14 is flattened or made angular, as shown, and provided with a hole or opening 17 for the reception of a locking-pin 18, which passes through alined openings in the bifurcated ends of a bail or operating-lever 19, adapted to extend half-way around the body 1, so as to be in convenient position for operating valve 7.

The rear end of the body 1 is provided with external screw-threads 20, adapted to mesh with internal screw-threads on a ring 21. The ring 21 is provided on its outer edge with a groove 22 and with a flange 23 to enter a groove 24 in the rear end of a sleeve or shell 26, which is loosely mounted on the body 1 and adapted to be moved by the ring 21 to open and close a series of openings or perforations 27, extending entirely around the body 1. The openings 27 are made in the body 1, so as to incline forward to throw a spray at an angle from the nozzle. The sleeve or shell 26 is made conical approximately the shape of the conical outer face of the body 1, so that when the sleeve or shell is moved forward it will close tightly around the body and inclose the openings or perforations. The ring 21 is made in two semicir-

cular sections *a* and *b*, and each section is provided with a lug or ear at each end, secured together by any approved locking means.

The outer end of the sleeve 8 is provided with internal screw-threads for the reception of a nozzle-tip 28, having an externally-screw-threaded flange 29 to mesh with the threads on the end of the sleeve 8. The tip 28 and outer edge of the sleeve 8 are provided with milled portions 30 to facilitate turning same.

The inner end of the body 1 is internally screw-threaded for the reception of an externally-screw-threaded flange on a hose-coupling 31. The hose-coupling is of sufficient diameter to form a stop for the ring 21, and said ring and coupling are provided with suitable lugs or projections for the reception of a suitable wrench.

A sprinkling-tip 32, having a screw-threaded shank 32^a, may be screwed into the end of the sleeve 8. The sprinkling-tip 32 is made in the form of a bulb and provided with a series of radiating perforations, as clearly shown in Figs. 14 and 15.

Instead of constructing my improved nozzle as above described, I might construct same as shown in Figs. 17, 18, and 19. In this form of my improved nozzle the body 1 only projects forward a slight distance beyond the enlargement 2 and is provided with internal screw-threads for the reception of external screw-threads on a sleeve 33. The sleeve 33 is provided on its outer end with a suitable milled portion for turning same and is internally screw-threaded for the reception of any approved tip. The sleeve 33 is provided on its outer face with a suitable stop 33^a to prevent the movement of the lever 34 too far, and hence partially close the valve 35.

The operation of my improved nozzle is as follows: The sleeve or shell 26 is normally in its forward position or position to shut off the spray, and the valve 7 is also turned so as to shut off the supply of water therethrough.

Now when the nozzle is connected to the hose and the water permitted to flow to the nozzle the operator can throw lever 19 to its forward position and open the valve, thus permitting a solid stream to escape therefrom. If the operator or fireman should conclude to take the hose inside of a burning building where there is considerable heat and smoke, he will operate the ring 21 to move the shell or sleeve 26 backward and uncover the series of openings or perforations 27 to permit a fine sheet or wall of spray to escape from the nozzle in a wide radius in front of the fireman and protect him from heat and smoke.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention,

and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A nozzle, comprising a body portion having perforations between its ends, a shell freely movable longitudinally and adapted to inclose said perforations and a ring threaded on said body portion and revolubly and loosely connected to said shell and adapted to move the same longitudinally to cover and uncover said perforations without rotating the shell.

2. A nozzle, comprising a body portion having perforations between its ends, a shell adapted to inclose said perforations and provided with a groove near its inner end, a ring internally screw-threaded to engage external threads on the body, a flange on said ring disposed in the groove of the shell so that when said ring is turned it will move the sleeve or shell in one direction or the other.

3. A nozzle comprising a body portion having perforations between its ends, a valve in said body portion in advance of said perforations, a shell adapted to slide on said body portion and inclose the perforations therein, said shell adapted to be made to bear against the body portion in advance of said perforations, and a ring mounted on the body portion and revolubly connected with said shell for moving it longitudinally without turning it.

4. A nozzle comprising a body portion having pockets at diametrically opposite points between its ends, a ball-valve having an angular hole in each side, pins having angular inner ends disposed in the openings in said valve, enlargements or flanges on said pins disposed in said pockets, screw-threaded collars adapted to be screwed into said pockets and abut against the enlargements and hold the pins in place and a lever connected to the outer ends of said pins for turning the valve.

5. In a nozzle, the combination with a body portion and a revoluble valve therein, of a sleeve and a ring spaced apart within said body portion, said sleeve and ring each having a concave or hemispherical seat for the valve.

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

WILLIAM S. AUNGST.

Witnesses:

J. H. McCONNELL,
DENNIS SMELTZ.