

No. 648,255.

Patented Apr. 24, 1900.

A. W. HAINES.
FIRE HOSE NOZZLE.
(Application filed Nov. 16, 1899.)

(No Model.)

Fig. 1.

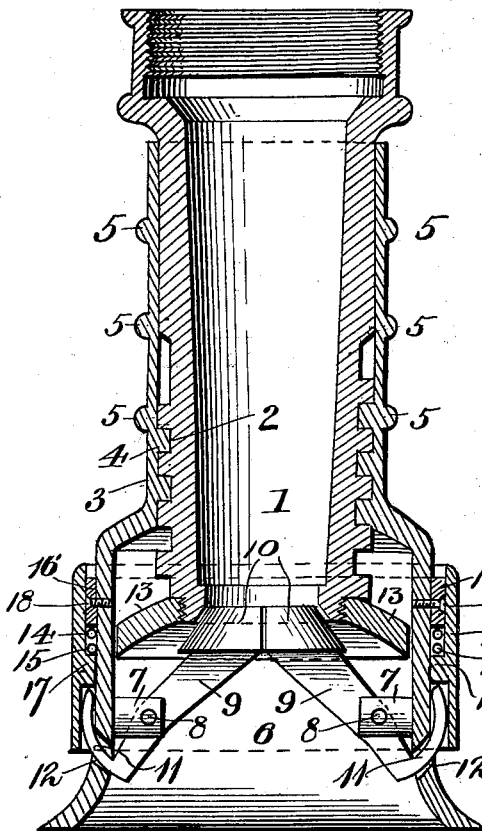


Fig. 3.

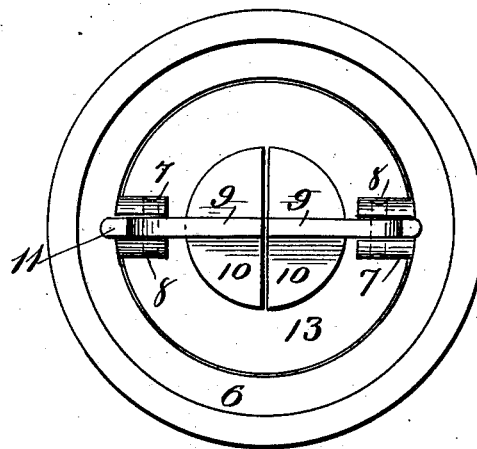
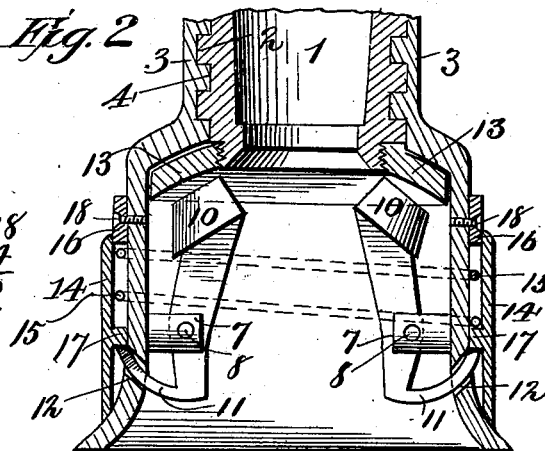


Fig. 2.



WITNESSES:

Frauek L. Curand.

E. P. Bunn

INVENTOR:

Arthur W. Haines.

BY
S. W. Rogers & Co.,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

- ARTHUR WYLIE HAINES, OF LORAIN, OHIO.

FIRE-HOSE NOZZLE.

SPECIFICATION forming part of Letters Patent No. 648,255, dated April 24, 1900.

Application filed November 16, 1899. Serial No. 737,194. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR WYLIE HAINES, a citizen of the United States, residing at Lorain, in the county of Lorain and State of Ohio, have invented new and useful Improvements in Fire-Hose Nozzles, of which the following is a specification.

My invention relates to nozzles for fire-hose; and the objects of the same are to provide means for changing the character of the stream, as emergencies arise requiring such change, from a round stream or volume of water to a spray or flat sheet to protect the hoseman; and another object is to provide, also, means for quickly making such changes in the stream or to completely cut off the supply; and still another object is to produce a simple and inexpensive device which shall be efficient, easily operated, and not liable to get out of order. I attain these objects by means of the construction shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section through the nozzle and showing the valves in operative position. Fig. 2 is a similar view showing the valves thrown out of position for use. Fig. 3 is an end view of the nozzle with the valves closed.

Like numerals designate like parts wherever they occur in the different views.

The numeral 1 designates a hose-nozzle having upon its outer surface near its end a spiral groove 2 of comparatively-quick pitch to form a screw-threaded bearing for an adjustable sleeve 3. The sleeve 3 is interiorly threaded at 4 to fit the groove 2 and is provided with milled knurls 5 on its outer surface to aid in turning it. The outer portion of the sleeve is enlarged to form a bell-shaped or flaring exit end 6. At a slight distance from the outer edge of the flaring end of the sleeve two oppositely-disposed pivot-bearings 7 are secured by suitable means, as by headed rivets 8. Pivoted between the arms of each of these bearings is a valve-stem 9, each of said stems having formed thereon a semispherical valve 10, which are designed to close together to form a ball-valve for completely closing the end of the nozzle or which may be adjusted in close proximity to the nozzle to deflect the stream in the form of a spray or sheet. The tail end 11 of the valve-

stem 10 is of sector shape and passes through an aperture 12 in the side of the bell.

A concave washer or plate 13 is connected to the end of the nozzle 1 by screw-threads, and the periphery of this washer fits the interior bore of the bell end of the sleeve. Fitted upon the outer surface of the bell is a sliding ring 14, which is forced toward the open end of the bell by a spring 15, held between a stop-ring 16 and a flange 17, bearing against the terminal ends of valve-stem sectors 11. The stop-ring 16 is attached to the bell by screws 18.

The end of the nozzle 1 is ground to form a water-tight seat for the valve 10.

The invention is operated as follows: When it is desired to throw a round stream or volume, the sleeve 3 is screwed outward toward the exit end until the inner wall of the bell is seated upon the contiguous surface of the washer 13. The spring 15 presses down upon the flange 17 of the ring 14, and said flange bears upon the sectors 11 and throws the valves outward to the position shown in Fig. 2. When the ring 14 is forced by hand in the opposite direction and the sleeve moved upward on the nozzle, the valve-sections assume the position shown in Fig. 1 or a position to serve either to cast a spray or sheet of water or to close the opening in the nozzle, dependent upon the degree of adjustment of the sleeve.

Without desiring to be limited to the exact construction shown, as I am aware that certain changes may be made in details without departing from the spirit and scope of the invention, what I claim is—

1. A hose-nozzle, consisting of an exteriorly-threaded nozzle, an interiorly-threaded sleeve fitting said nozzle, semispherical valves adapted to fit a valve-seat at the end of the nozzle, valve-stems pivoted to the sleeve, and means whereby the valve-sections may be thrown into or out of action, substantially as described.

2. A hose-nozzle consisting of a sleeve fitted to move on the nozzle and carrying a pair of semispherical valves, stems secured to the valve-sections and pivoted in an enlargement of the sleeve, sectors formed on the ends of the valve-stems and passing through apertures in the sleeve, and a spring-propelled

ring for acting upon the sectors to operate the valves, substantially as described.

3. A hose-nozzle provided with a threaded sleeve carrying a pivoted valve having sector
5 ends passing through the sleeve, and a ring for acting upon the sectors to open and close the valve, substantially as described.

4. A hose-nozzle, a threaded sleeve surrounding it and having an enlarged outer end,
10 a sectional valve pivoted within the enlarged

end, sector ends passing through the sleeve, and means for adjusting the valve to and from its seat, for the purpose described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 15

ARTHUR WYLIE HAINES.

Witnesses:

G. E. HALL,

D. H. AIKEN.