(No Model.)

R. WISE.

NOZZLE.

No. 561,069. Patented May 26, 1896.

Fig. 1.

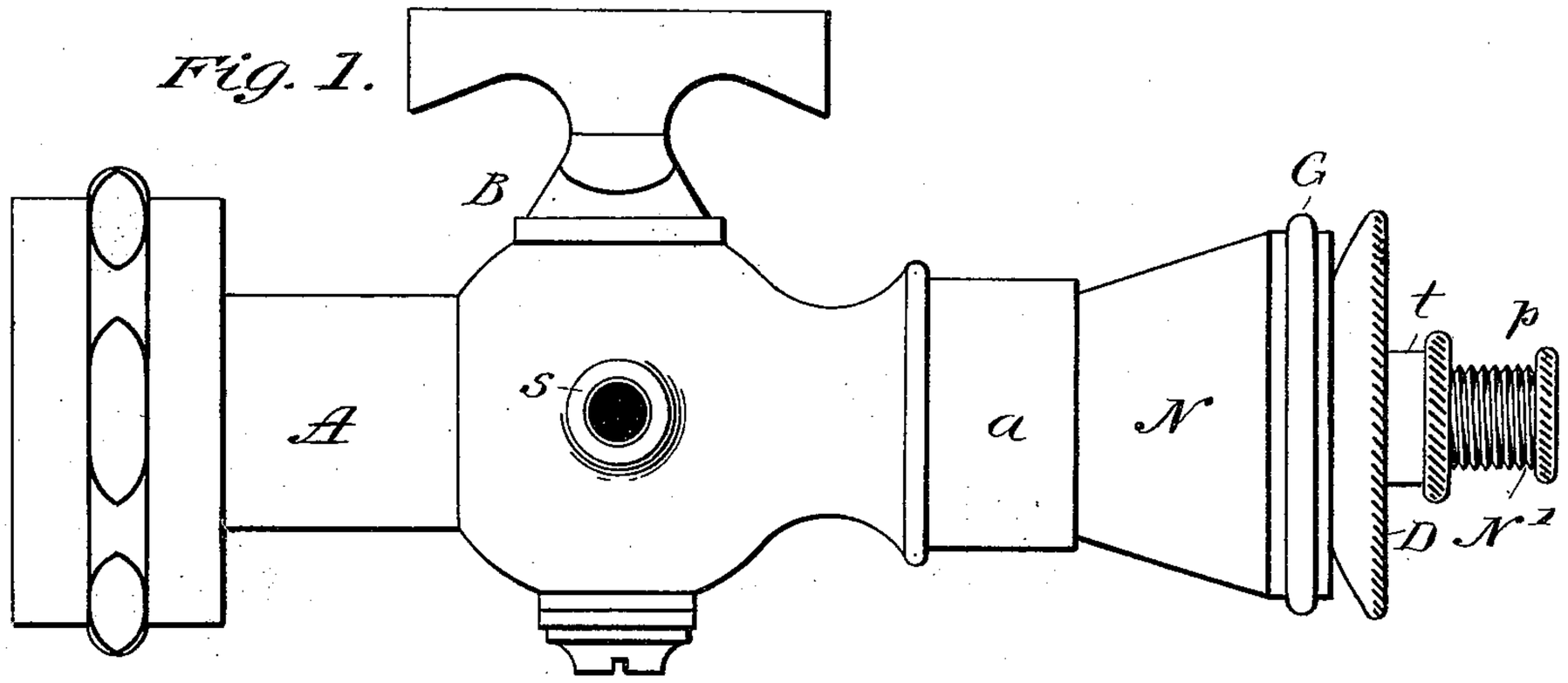


Fig. 2.

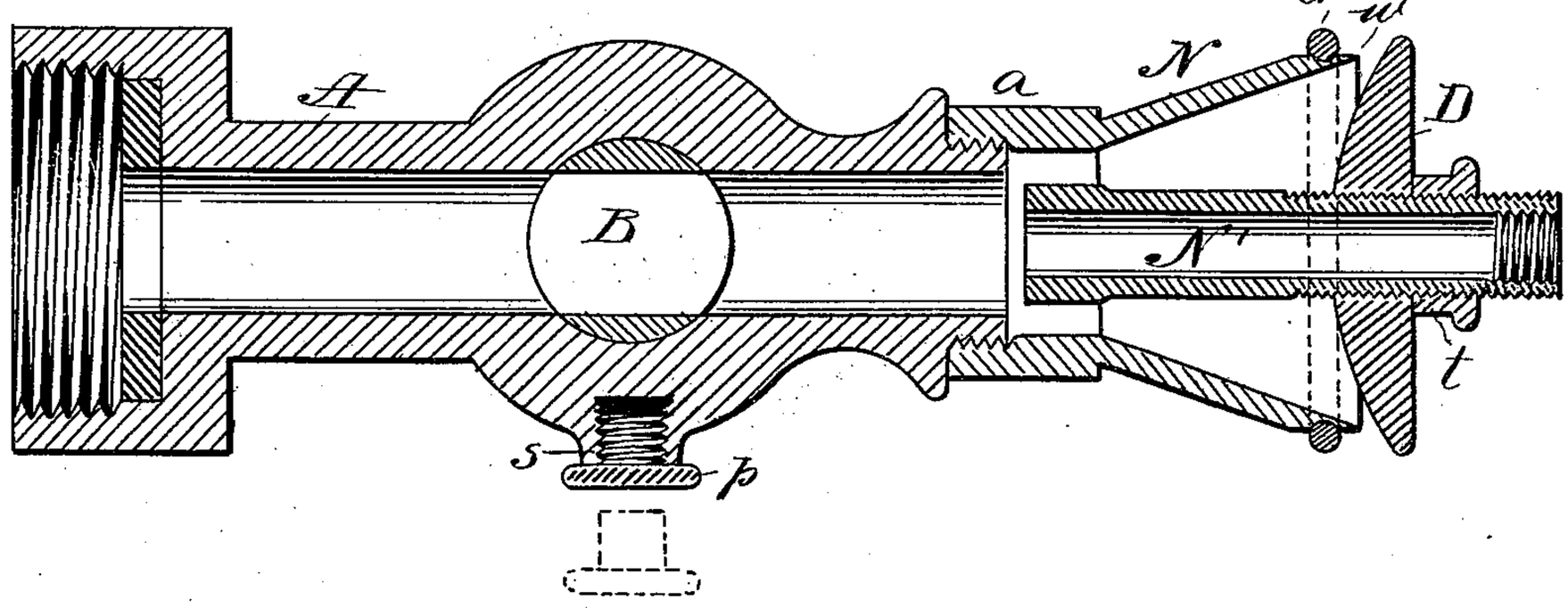
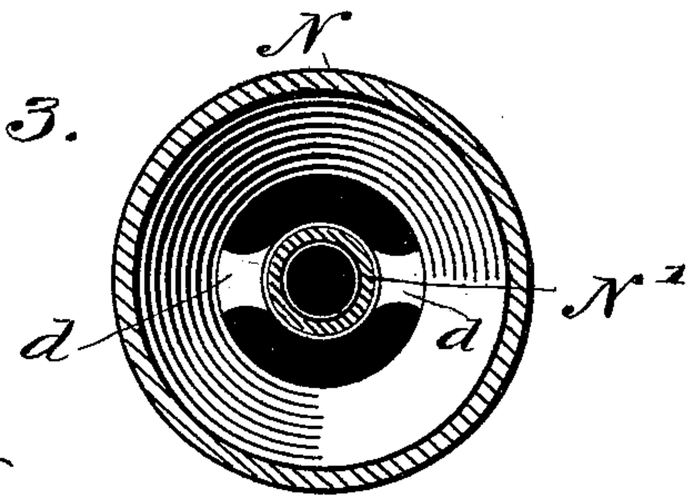


Fig. 3.



WITNESSES:

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NOZZLE.

SPECIFICATION forming part of Letters Patent No. 561,069, dated May 26, 1896.

Application filed June 4, 1895. Serial No. 551,621. (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 of New York and State of New York, have invented certain new and useful Improvements in Hose-Pipe 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 the construction of nozzles for firemen's and garden hose-pipes; and it has for its object to provide a nozzle for hose-pipes which shall be simple in operation, economical, light in weight, and adapted to deliver the water in a hollow-conical or funnel-shaped unbroken sheet, which will serve as a protection for the firemen against smoke and heat and for wetting wide areas, or in a solid stream, so as to discharge a large volume and compact body of water in a short time for the purpose of inundating the fire, or in both a hollow-conical or funnel-shaped and unbroken sheet and a solid stream simultaneously to produce both of the above-named effects at the same time.

The invention consists, first, in a hose-pipe nozzle comprising a coupling or pipe provided with a cock or valve, a tubular vent or discharge pipe supported within the mouth of the coupling or pipe, and a solid adjustable spreading-disk mounted on the tubular vent-pipe, and, second, in a hose-pipe nozzle comprising a coupling or pipe provided with a cock or valve, a tubular vent or discharge pipe placed within the mouth of the hose-pipe, an adjustable spreading-disk mounted on the said tubular vent-pipe, and a cap or plug fitted to the said vent-pipe to close the same.

In the accompanying drawings, Figure 1 represents a side view of my improved nozzle; Fig. 2, a longitudinal section of the same, taken transversely through the cock; and Fig. 3, a transverse section of the nozzle.

Referring to the drawings, A is the hose-pipe, provided with a cock B of the usual or any desirable form suitable to the kind of hose with which the nozzle is used.

N is the mouth of the hose-pipe, which is made of a bell shape, the sides flaring outward at any suitable angle and having a straight inner part or end *a*, which is screw-threaded in part to adapt it to make a screw connection with the hose-coupling. In this straight part also is a spider formed of two bars *d d*, projecting toward each other from opposite sides of the walls of the part *a*. Between these arms the lower end of a tubular vent-pipe N′ is secured in any suitable way. This tubular vent-pipe is centrally fixed and projects a measurable distance beyond the outer end of the bell-shaped mouth, and it is screw-threaded exteriorly from its extreme outer end to a point a short distance within the bell-shaped mouth.

D is a spherical-faced disk which is screwed on over the tubular vent-pipe, with its spherical face inside or toward the interior of the bell-shaped mouth. This disk may be adjusted toward and from the end of the mouth and its diameter is slightly greater than that of the mouth, so that when screwed home it will seat itself against the edge thereof and close it, or by screwing it outward a continuous annular opening or issue *w* is formed, which may be reduced to a mere line adapted to deliver a thin spray, or enlarged sufficiently to deliver a hollow stream of considerable volume. The inner face of the disk being spherical it serves as a deflector by which the water is caused to issue from the opening *w* in a broad circular or conical sheet of a diameter depending on the pressure, and which sheet forms a protecting-shield between the hoseman and the fire, and which cools the air and drives the smoke and heat before him. The vent-pipe N′, on the other hand, delivers a solid stream, which can be played on the point where a volume of water is requisite to extinguish the fire. Where the entire force and volume of water are required to fight the fire from a distance—as from the outside of a house, for instance—the disk can be screwed down so as to entirely close the mouth N and all the water sent through the tubular vent-pipe; but when the fire is being fought at close quarters and in a confined space the mouth N can be opened and both the solid-stream and the sheet-stream jet employed, in order that the hoseman may be protected and enabled to manipulate the water in the most effective manner.

The tubular vent-pipe N′ may also be closed

by means of a screw-plug *p*, which is adapted to screw into the outer end of said nozzle (which is interiorly threaded for the purpose) and the sheet-nozzle used alone. This may be of advantage when it is desired to wet a large surface quickly and no great volume is required, and is particularly advantageous where the nozzle is to be used with a garden-hose or for a fountain.

The screw-plug *p*, when removed, can be screwed for safety into a threaded socket *s* in the enlarged part of the pipe. To retain the disk in the place to which it is adjusted, a set-nut *t* may be screwed on the vent-pipe N′.

To prevent injury to the nozzle in case it should fall, a rubber gasket G may be placed around the nozzle N near its mouth and the outside, so that when it drops, this being the heaviest part, the rubber will take the blow and protect the nozzle.

I claim—

1. In a hose-pipe nozzle, the combination of a hose-pipe provided with a cock or valve, a tubular vent-pipe suitably supported inside the mouth of the hose-pipe, and an adjustable spreading-disk mounted on the said tubular vent-pipe, whereby a continuous circular exit or issue may be opened between the disk and the mouth of the pipe through which an unbroken conical or funnel-shaped sheet of water may be discharged, combined with a solid stream discharged through the tubular vent-pipe, substantially as specified.

2. In a hose-pipe nozzle the combination of a hose-pipe provided with a cock or valve, a tubular vent-pipe suitably supported inside the mouth of the hose-pipe, a cap or plug to close the same, and an adjustable spreading-disk mounted on the said tubular vent-pipe, whereby a continuous circular exit or issue may be opened between the disk and the mouth of the hose-pipe through which an unbroken conical or funnel-shaped sheet of water may be discharged while the solid stream through the tubular vent-pipe is shut off by the cap or plug substantially as specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

ROBERT WISE.

Witnesses:
FREDK. HAYNES,
WILTON C. DONN.