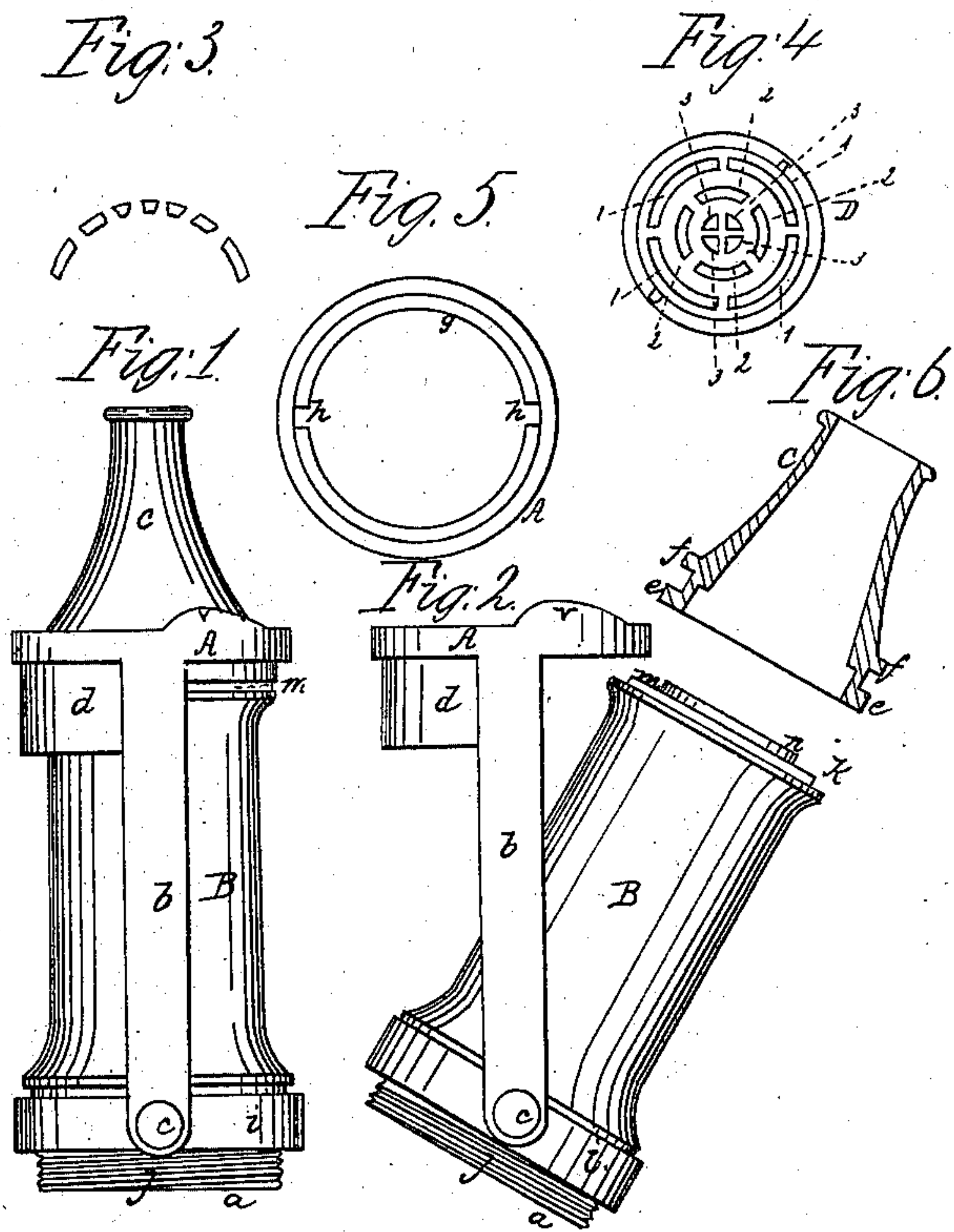


J. B. Mitchell,

Nozzle.

N^o 8,396.

Patented Aug. 25, 1868.



Witnesses:

Henry C. Houston
Mr. Frank Seary

Inventor:

John B. Mitchell

United States Patent Office.

JOHN B. MITCHELL, OF PORTLAND, MAINE, ASSIGNOR TO HIMSELF AND
PEREZ B. BURNHAM, OF SAME PLACE.

Letters Patent No. 81,396, dated August 25, 1868.

IMPROVEMENT IN HOSE-NOZZLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN B. MITCHELL, of Portland, in the county of Cumberland, and State of Maine, have invented a new and useful Improved Hose-Nozzle; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use my invention, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows a side view when in use.

Figure 2, a view of same thrown out for the purpose of changing the nozzle.

Figure 3, a section of the scattering-nozzle.

Figure 4, a plan of same.

Figure 5, a plan of ring A.

Figure 6, a section of nozzle.

During the progress of fires it is often convenient, and sometimes necessary, that the magnitude of the stream of water thrown should be increased, to give greater volume at close quarters, or diminished, that it may be projected to a greater height or distance, or the nozzle changed so as to permit the stream to be scattered like spray, to be used in case of dense smoke concealing the flame from the view. As the common nozzles are now made, it is necessary to cut off the stream, or stop the engine, while they are being thus changed, which causes much delay and hindrance. I am aware of certain inventions made to meet this inconvenience, and do not claim the same, they being dissimilar to mine.

My invention relates both to the method of coupling and uncoupling the nozzles, and to the construction of the nozzles themselves.

In the drawings, B is a tube, connecting at *a* with the hose of an engine. A is a vibratable or swinging cap or ring, having arms *b* pivoted or jointed at *c*, so that the ring A can be turned off from the tube B, as indicated in fig. 2.

The ring has one of these arms *b* on each of two opposite sides. *d* is a metallic belt attached to the ring. The purpose of this will be hereafter explained. *v* are trusses to strengthen the narrowest or thinnest portion of the ring A. C is a nozzle, through which the water is ejected, as indicated in the section, fig. 6. It has a rim or shoulder, *e*, and studs a little above the rim, (see *f*.) Fig. 5 shows the ring A with a shoulder, *g*, and slots *h*. The nozzle C is united to the ring A as follows:

Turn off the ring, as in fig. 2, pass the nozzle up through the ring A until the studs *f* pass through slots *h*, then give the nozzle a partial turn, and it will be held on the ring by the studs *f* above the shoulder *g* of the ring, and the nozzle-shoulder *e* below the shoulder *g*. Then slip the ring over the head of tube B, as seen in fig. 1. *i* is a ring, with an interior screw-thread, and turning on the screw *j* on the tube B. The arms *b* are pivoted to this ring *i*. When the ring A and nozzle C have been placed over the tube B, as in fig. 1, the tube B is then screwed upwardly, or ring *i* downwardly, which operation presses the top of the tube B firmly against the bottom of the nozzle C, for instance, thus rendering the joint tight. A shoulder, *k*, gasket *m*, and projection *n*, further perfect the joint.

It will be observed that the ring A can only be thrown off in the direction of the side on which the belt *d* is placed, (see fig. 2,) the belt preventing the opposite movement. Thus the belt *d* being on the upper side of the tube B, as the pipe-man or other operator holds it, or turned toward him, it prevents water from flying into his face when the ring is moved off or on the tube B. C is the nozzle. The aperture *o* can be varied in different nozzles to suit the requirements of the case in which the same may be used, it being only necessary that all the nozzles should conform in size at the bottom to the ring A, so as to fit therein.

When a nozzle is to be removed, screw downwardly the tube B, throw back ring A, as in fig. 2, turn the nozzle C so that the studs *f* will slip through slots *h*, and the nozzle will drop down through ring A, and another can be inserted, as before described.

Thus it will be seen, pipes or nozzles can be changed with great celerity, without stopping the play of the engine, and with but little trouble, and no danger to the firemen.

D is the spreader, attachable to the ring A in the same manner as the nozzles C, but having the apertures 1 2 3, as illustrated in fig. 4, and flaring inwardly to give great force, (see section, fig. 3.)

It will be seen from the small size of the nozzles C, that a large number can, with little comparative expense, be supplied to each engine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A hose-nozzle, having the adjustable tube B, ring A, arms *b*, and ring *i*, arranged to operate as and for the purposes described.

2. In combination with the above, the belt *d*, as and for the purposes set forth.

JOHN B. MITCHELL.

Witnesses:

HENRY C. HOUSTON,

WM. FRANK SEAVEY.