

(No Model.)

J. R. FREEMAN.
HOSE NOZZLE.

No. 568,342.

Patented Sept. 29, 1896.

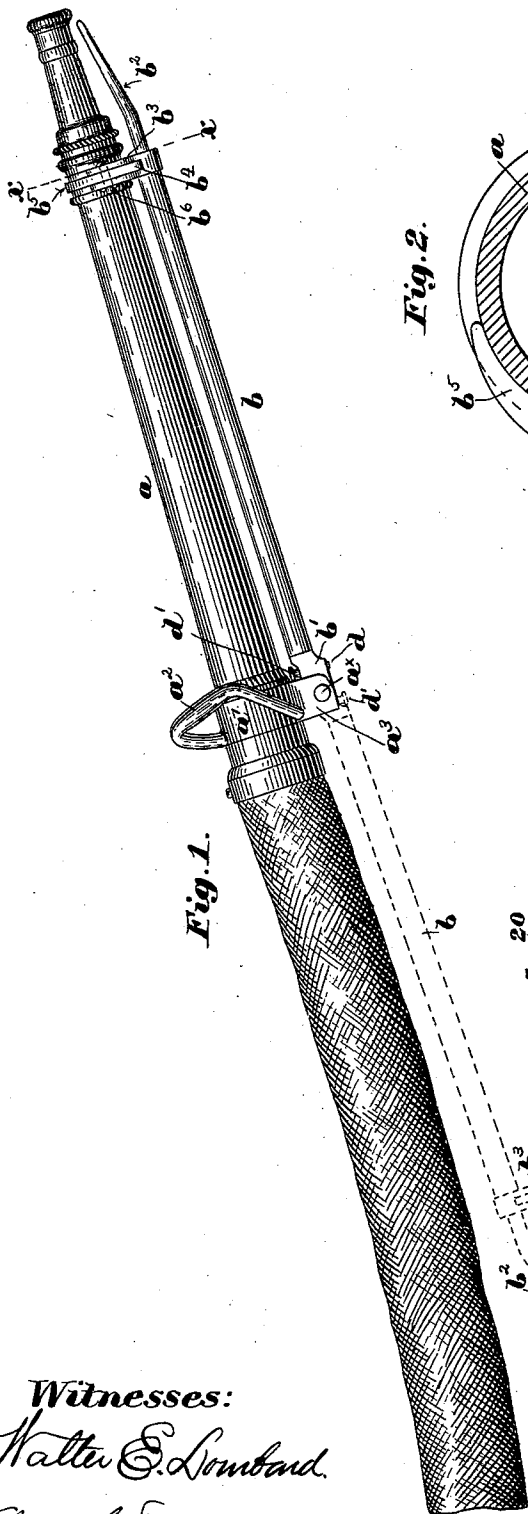


Fig. 1.

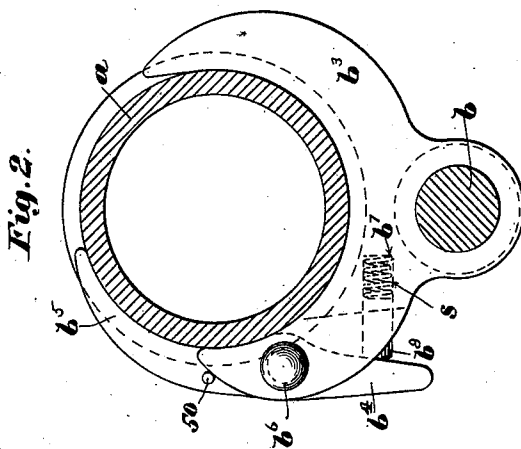


Fig. 2.

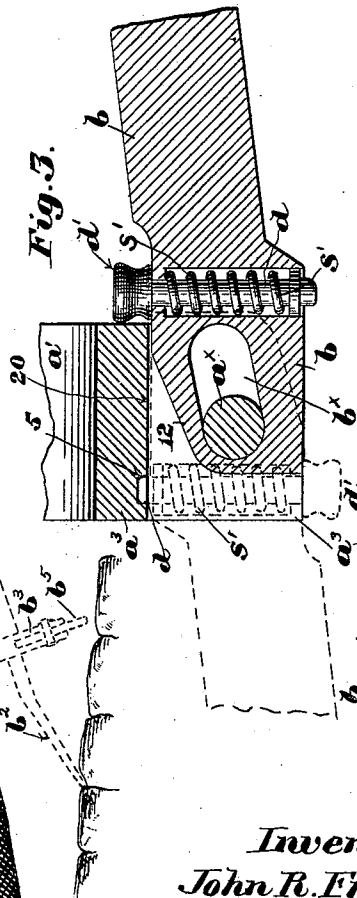


Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN R. FREEMAN, OF WINCHESTER, MASSACHUSETTS.

HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 568,342, dated September 29, 1896.

Application filed October 30, 1895. Serial No. 567,357. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. FREEMAN, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Fire-Nozzles, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates more particularly to fire-hose nozzles, and has for its object the production of a simple device for supporting and taking up the back pressure due to the reaction of the stream issuing from the nozzle under considerable pressure, the supporting device being so attached to the nozzle that it will not interfere with the handling of the latter, whether the support is or is not in use. When the pressure of the stream is quite high, as, for instance, one hundred pounds to the square inch, a very usual pressure in fire-hose, several men are required to properly handle and control the nozzle, the greater part of their strength being expended in holding the nozzle against the reaction of the stream.

In accordance with my invention I provide the nozzle with a stout arm or bar pivotally attached thereto, preferably at or near its base, adapted when in use to extend rearwardly and be based against the ground or other support upon which the hoseman stands, the arm or bar thus taking up the entire recoil or back thrust of the nozzle and enabling one man to operate it and maintain it in complete control. When not in use, the brace-bar is swung up adjacent the nozzle and retained by a suitable catch, as will be hereinafter described, and particularly pointed out in the claims.

Figure 1, in side elevation, represents a nozzle and portion of hose with my invention applied to the nozzle and shown in full lines in inoperative position and in dotted lines in operative position. Fig. 2 is a transverse sectional view, on a greatly-enlarged scale, taken on the line $x x$, Fig. 1; and Fig. 3 is an enlarged longitudinal sectional view of the attaching-joint and locking device for the brace bar or arm.

The nozzle a , of any desired construction, and herein shown as a fire-nozzle, is provided

at or near its base with a band a' , having one or more handles a^2 thereon, now commonly used to hold the nozzle up against the reaction or back pressure of the stream. As herein shown, the band a' is provided with ears a^3 , between which is pivoted on a transverse-pin a^x the flattened end b' of a stout iron or steel bar b , preferably bent slightly at its outer end at b^2 , for a purpose to be described. The pin a^x extends through an elongated slot b^x in the end of the bar b , (see Fig. 3,) said slot being substantially in the longitudinal axis of said bar.

When not in use, the brace-bar b is turned up alongside of the nozzle, as shown in full lines, Fig. 1, and is retained by a suitable clip or catch, herein shown as a curved or U-shaped plate b^3 , secured to the bar b , and adapted to partially embrace the nozzle, as shown in Figs. 1 and 2.

A finger b^4 , curved at its inner end at b^5 , is pivoted in one slotted arm of the plate at b^6 and normally pressed inward by a spring s , herein shown as held in a socket b^7 , (see dotted lines, Fig. 2,) and acting on a plunger b^8 , interposed between it and the finger. When the finger is in normal position, its curved inner end b^5 , with the curved portion of the plate b^3 , embraces more than half the circumference of the nozzle, and thereby retains the free end of the bar b in place, as shown in Figs. 1 and 2, a strip-pin or projection 50 on the finger preventing undue inward movement thereof.

By pressing the finger b^4 in against the spring s its inner end b^5 is thrown outward, instantly releasing the bar from the nozzle, so that it is free to be turned about the pin a^x . The brace-bar b is then swung through an arc of substantially one hundred and eighty degrees into dotted-line position, Figs. 1 and 3, and moved forward relatively to the nozzle until the then rear end of its slot b^x bears against the pin a^x , whereupon a locking-bolt d on the bar, controlled by the spring s' , enters a recess 5 in the band a' between the ears a^3 , said locking-bolt having an enlarged head d' , by which it can be withdrawn from the recess 5 to unlock the bar.

Referring to Fig. 3, one side of the flattened end b' of the bar is shown as rearwardly inclined at 12 and rounded, while the opposite

side 14 is straight, giving a wedge shape to the end b , so that when turned into operative position (shown in dotted lines) the straight side 14 bears against the bottom 20 of the space between the ears a^3 , beyond or ahead of the fulcrum a^x . The bar b cannot be then swung on its pivot a^x until first drawn rearwardly to bring the pin a^x toward or against the front end of the slot b^x , and this is prevented by the locking-bolt d . When the bolt is withdrawn, the bar can be moved rearwardly and turned into inoperative position, the inclined side 12 permitting the turn to be made.

When the bar is swung into dotted-line position, Figs. 1 and 3, and locked as described, its outer end b^2 is braced against the street or other support on which the hoseman stands, the bar acting as a brace to take up all the recoil or back pressure, leaving to the hoseman the full use of his hands and strength in directing the nozzle.

The bar when in use is practically in parallelism with the line of pressure, as will be obvious from an inspection of Fig. 1, and the bend b^2 of the bar at its outer end affords a better hold, and when in inoperative position said bend turns in toward the nozzle and is protected thereby from catching on adjacent objects.

My invention is not restricted to the precise construction of the catch for the free end of the bar nor for the locking device, for so far as I am aware it is broadly new to connect a brace-bar to a hose-nozzle in such manner that when not in use it may be turned up out of the way and held closely to the nozzle.

The brace-bar is readily and rapidly operated and the strain exerted thereupon is taken up by the pivot-pin a^x and not by the locking-bolt, and withdrawal of said bolt from its cooperating recess or socket instantly permits the bar to be moved into operative position.

The nozzle is sometimes used in confined spaces where the brace-bar cannot be conveniently used, and in such cases the ears a^3 , which hold the pivot for the bar, may be used as a prop to resist the recoil of the nozzle, the ears being braced against a beam, window-sill, or other suitable fixed support, the bar b at such time being turned up against the nozzle, as shown in full lines, Fig. 1.

I claim—

1. A hose-nozzle, a brace-bar pivotally con-

nected at one end to the base of the nozzle, a catch to cooperate with the free end of the bar and the nozzle, to retain the bar in inoperative position alongside the nozzle, and a locking device to retain the bar extended rearwardly when in use, substantially as described.

2. A hose-nozzle, a brace-bar pivoted at or near the base of the nozzle, a catch on said bar to engage the nozzle and hold the bar in inoperative position, and a locking-bolt at the pivoted end of the bar, to engage the support for and lock the bar from pivotal movement when rearwardly extended, substantially as described.

3. A hose-nozzle provided near its base with ears, a longitudinally-slotted bar pivotally mounted between said ears on a pin held transversely thereby, and a spring-controlled locking-bolt mounted in the bar and adapted to engage a socket adjacent the ears when the bar is rearwardly extended, to prevent longitudinal movement, a straight portion of the bar at such time engaging the bottom of the recess between the ears forward of the pivot, and holding said bar rigid, substantially as described.

4. A hose-nozzle provided with a bar-support having ears, a transverse pin connecting them, a longitudinally-slotted bar mounted on said pin and having a wedge-shaped end to extend between the bottom of the support and the pin when the bar is rearwardly extended, and a locking-bolt to prevent longitudinal movement of the bar on its pin, to withdraw its wedge-shaped end, substantially as described.

5. A hose-nozzle provided at or near its base with an ear projecting transversely therefrom, and a brace-bar pivoted to said ear, adapted to be swung up alongside of the nozzle, or to be rearwardly extended to act as a brace against back pressure when rearwardly extended, the ear serving as a prop or rest to take up recoil when the bar is swung forward into inoperative position against the nozzle, substantially as described.

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

JOHN R. FREEMAN.

Witnesses:

GEO. W. GREGORY,
AUGUSTA E. DEAN.