(No Model.) 2 Sheets—Sheet 1.

E. D. KELLERMAN & B. C. CRANE.

FIRE HOSE NOZZLE.

No. 603,144. Patented Apr. 26, 1898.

Fig 1.

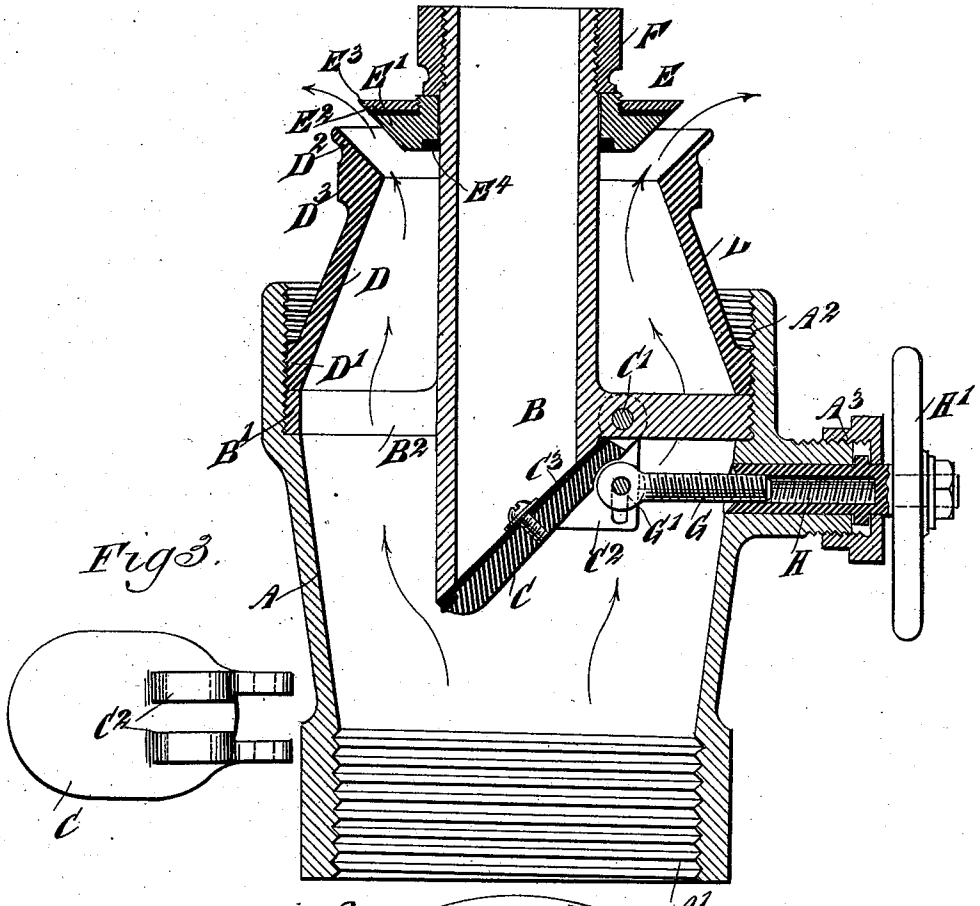
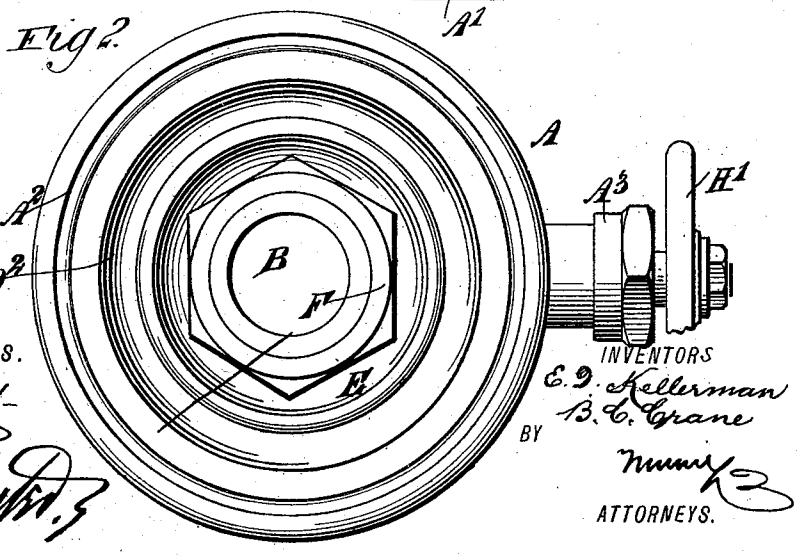


Fig 3.

Fig 2.



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(No Model.)

2 Sheets—Sheet 2.

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Fig 4

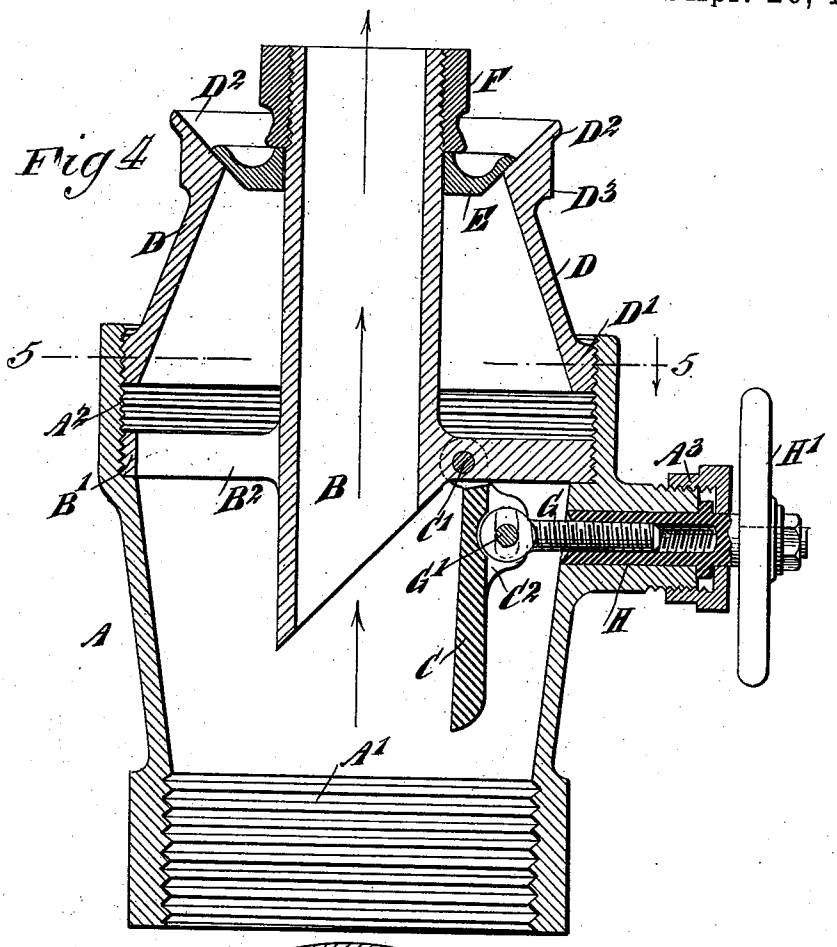
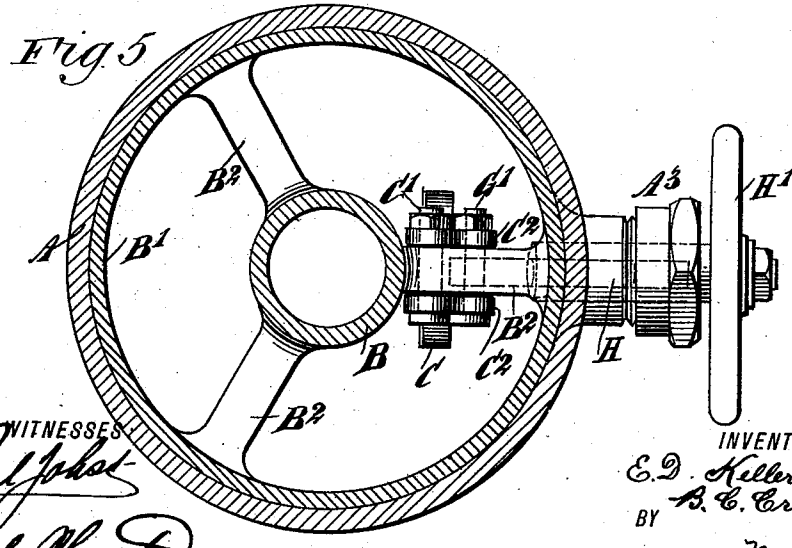


Fig 5



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UNITED STATES PATENT OFFICE.

ELLSWORTH D. KELLERMAN AND BENJAMIN C. CRANE, OF MONTESANO, WASHINGTON, ASSIGNORS OF ONE-HALF TO E. C. STORY, OF SAME PLACE, AND W. I. AGNEW, OF OLYMPIA, WASHINGTON.

FIRE-HOSE NOZZLE.

SPECIFICATION forming part of Letters Patent No. 603,144, dated April 26, 1898.

Application filed January 25, 1896. Serial No. 576,886. (No model.)

To all whom it may concern:

Be it known that we, ELLSWORTH D. KELLERMAN and BENJAMIN C. CRANE, of Montesano, in the county of Chehalis and State of Washington, have invented a new and Improved Fire-Hose Nozzle, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved fire-hose nozzle which is simple and durable in construction and arranged to permit a fireman to throw a straight stream onto a fire or a spray of large diameter to extinguish the fire and to completely protect and shield the fireman.

The invention consists principally of a casing containing a valved stream-pipe and a circular spray-nozzle.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement with the valve for the stream-pipe closed. Fig. 2 is a plan view of the same. Fig. 3 is a rear face view of the valve for the stream-pipe. Fig. 4 is a sectional side elevation of the improvement with the valve for the stream-pipe open, and Fig. 5 is a sectional plan view of the same on the line 5 5 of Fig. 4.

The improved fire-hose nozzle is provided with a head or casing A, formed with an internal thread A′ for connection with the hose or play pipe, through which passes the stream of water. The outer end of the casing A is formed with an internal thread A^2, engaged by a ring B′, having a spider B^2 for supporting the stream-pipe B, preferably arranged centrally of the casing, as plainly illustrated in the drawings, the lower or inner end of said stream-pipe being beveled, as indicated in Figs. 1 and 4, for forming a seat for the valve C, adapted to open and close said stream-pipe. The internal thread A^2 is also engaged by the threaded inner end D′ of a conical nozzle D, formed with an outwardly-flaring mouth D^2, arranged opposite a disk E, having a beveled outer edge corresponding to the flare of the mouth D^2, so that said disk will seat itself on the mouth D^2. The disk E is loosely held on the stream-pipe B, and its outward sliding motion is limited by a nut F, screwing on the outer threaded end of the stream-pipe B.

The nozzle D is provided with a roughened external surface D^3 for permitting the fireman to turn said nozzle up or down in the thread A^2 to increase or decrease the outlet-opening at the mouth D^2 and disk E, according to the spray desired to be thrown by the device.

The valve C is adapted to be opened and closed by the fireman, and for this purpose the upper end of the valve is pivoted at C′ to one of the arms of the spider B^2, and on the back of said valve are arranged lugs C^2, having elongated apertures for the reception of a pin G′, held in the eye of a bolt G, screwing in a sleeve H, mounted to turn in a stuffing-box A^3, held on the casing A and having an annular flange held between the stuffing-box and the cap thereof whereby the sleeve may freely turn, but will be prevented from longitudinal movement. On the outer end of the sleeve H is secured a hand-wheel H′ for turning said sleeve, so as to screw the bolt G inward or outward to open or close the valve C, as the case may be.

Now it will be seen that by the arrangement described the stream of water passing into the casing A can be passed either in spray form past the nozzle D and disk E or it can be passed through the stream-pipe B at the time the valve C is open and the nozzle D is closed. (See Fig. 4.) If desired, the nozzle D and the stream-pipe B may be opened to force a central stream through the pipe B and a spray through the nozzle D, so as to protect and shield the fireman.

It is understood that when the nozzle D is screwed inward and the water passes into the casing A under pressure then the disk E is forced outward from the pipe B until it rests against the nut F to permit the water to pass through the nozzle spray-opening between the disk E and the mouth D^2. It is further understood that the spread of the spray is regulated by the operator adjusting the nozzle D.

The valve C and the disk E may be made plain, as shown in Fig. 4; but we prefer the construction of the valve and disk shown in Fig. 1, in which the valve C is provided on its face with a packing-disk C^3, of leather or like material, to tightly close the lower end of the stream-pipe B. The disk E (shown in Fig. 1) is provided with the body part E′, on the top of which rests a gasket E^2, held in place by a threaded ring E^3, screwing on the upper reduced end of the said disk. A packing-ring or gasket E^4 is fitted into a recess in the lower end of the body E′ to fit snugly on the stream-pipe B.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A nozzle having a casing, a portion of which is internally threaded, a threaded spider coöperating with the threads of the casing, a stream-pipe carried by the spider, the outer end of the stream-pipe projecting beyond the casing, a disk carried by the stream-pipe, and a nozzle proper having a threaded portion coöperating with the threads of the casing, the nozzle proper being capable of movement toward and from the disk, substantially as described.

2. A nozzle consisting of a casing having a tapering inner portion and a cylindrical inner portion, the cylindrical portion being internally threaded, a spider having threads coöperating with the threads of the cylindrical portion, a stream-pipe carried by the spider and projecting beyond the cylindrical portion of the nozzle, a disk carried by the outer end of the stream-pipe, a tapering nozzle proper having a screw-threaded portion coöperating with the threads of the cylindrical portion of the casing and being capable of movement toward and from the disk on the stream-pipe, and means for controlling the stream-pipe, substantially as described.

3. In a nozzle, the combination with a casing having a bearing and cap therefor, of a stream-pipe, a hinged valve capable of closing the stream-pipe, an internally-threaded sleeve having an annular collar, the sleeve being revolubly held within the bearing and the collar engaged with the cap thereof, and a bolt connected to the valve and coöperating with the threads of the sleeve, substantially as described.

4. A nozzle having a casing, a portion of which is internally threaded, a threaded spider coöperating with the threads of the casing, a stream-pipe carried by the spider and projecting out of the casing, a disk held on the stream-pipe, a nozzle proper having adjustable connection with the casing and capable of movement to engage and disengage the disk, and a valve commanding the stream-pipe, substantially as described.

5. A nozzle having a casing, a stream-pipe held within the casing and having a diagonal inner end, a disk carried by the stream-pipe, a nozzle proper adjustable on the casing and capable of engaging and disengaging the disk, a valve pivotally mounted adjacent to the inner diagonal end of the stream-pipe and capable of moving to close or open the same, and means extending through the casing by which the valve may be operated, substantially as described.

6. A nozzle having a casing, a stream-pipe held within the casing and extending out of the same, a disk carried by the stream-pipe, a nozzle proper movable on the casing to engage and disengage the disk, a pivotally-mounted valve capable of movement to open and close the stream-pipe, and means extending through the casing by which the valve may be operated, substantially as described.

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BENJAMIN C. CRANE.

Witnesses:
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C. H. FENNER.