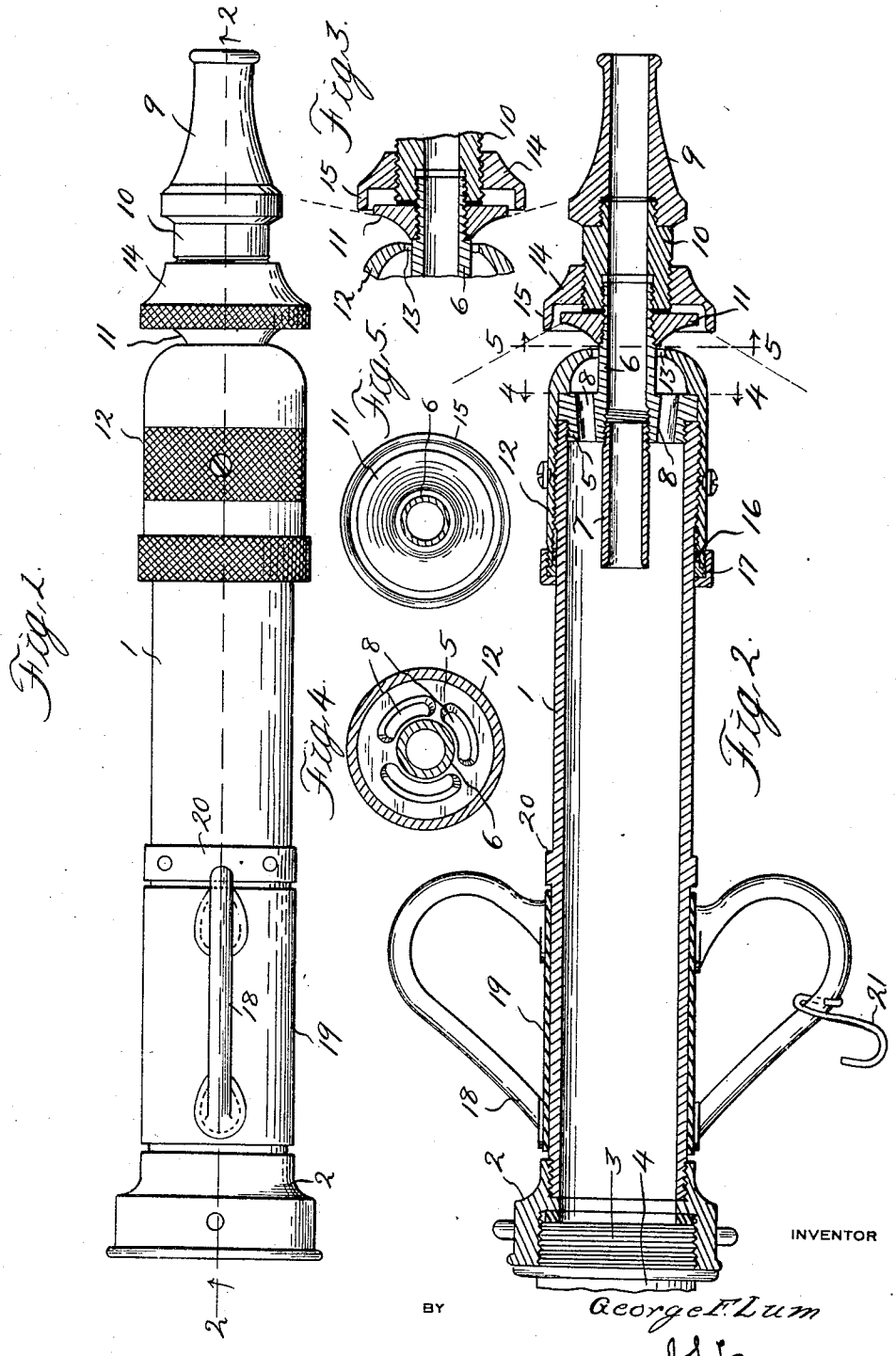
Sept. 15, 1931. G. F. LUM 1,823,277

FIRE HOSE NOZZLE

Filed June 10, 1930



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Patented Sept. 15, 1931

1,823,277

UNITED STATES PATENT OFFICE

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FIRE HOSE NOZZLE

Application filed June 10, 1930. Serial No. 460,218.

This invention relates to nozzles and particularly fire hose nozzles.

An object of the invention is to adapt a fire hose nozzle to discharge a secondary stream of water in addition to that directed toward a fire, and to thereby form a water shield protecting the firemen holding the nozzle from heat, smoke, and flames.

Another object is to provide upon such a nozzle an adjustable regulator for the shield-forming stream, whereby the latter may on occasion be deflected at a rearward angle to continually drench those holding the nozzle to increase their protection from heat and flames.

Still another object is to adapt a plurality of different deflector disks to be interchangeably mounted upon a fire hose nozzle to permit a shield-forming stream to be circularly discharged at selective angles.

These and various other objects the invention attains by the construction hereinafter described and illustrated in the accompanying drawings, wherein:

Fig. 1 is a view of the improved nozzle in side elevation.

Fig. 2 is a longitudinal, axial sectional view of said nozzle, taken upon the line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary view of a portion of Fig. 2, showing a changed adjustment of the parts.

Fig. 4 is a cross section, taken upon the line 4—4 of Fig. 2, and primarily showing openings for a secondary stream of water formed around a central passage for the primary stream.

Fig. 5 is a cross section taken upon the line 5—5 of Fig. 2 and disclosing deflector elements for the secondary stream.

In these views, the reference character 1 designates the elongated tubular main body of the improved nozzle, said body having secured on its rear end by screw threads or other suitable means a female coupling member 2 for engagement with a male coupling member 3 terminally attached to a fire hose 4.

At is forward end, the body 1 is closed by a plug 5 internally threaded in said body and centrally carrying forwardly and rearwardly projecting, communicating, tubular extensions 6 and 7. As illustrated, the extension 6 is integrated with said plug and the extension 7 is detachably threaded into the central opening of the plug. Around said opening, the plug is formed with a number of circumferentially spaced passages 8 for a secondary stream of water. The extension 6 is adapted to detachably carry and discharge into a nozzle tip 9, and as illustrated, a coupling collar 10 has internal threaded engagement with said extension and external threaded engagement with said tip.

Rearwardly of the collar 10, a deflector disk 11 is centrally threaded upon the extension 6, and has its rear face of a slightly concaved frustro-conical form to laterally deflect the circular stream discharged from the secondary water passages 8. For normally cutting off the secondary stream and regulating its volume, there is externally threaded on the body 1 a sleeve 12, having its forward end flanged inwardly in an approximately spherical curve and centrally formed with an opening 13 establishing a substantially uniform clearance between said curved end and the extension 6. By its rotation upon the body 1, the sleeve 12 may be firmly engaged at its forward end with the deflector disk 11 to completely cut off the secondary stream, or may be regulably spaced from said disk to suitably control the volume of the secondary stream. By inwardly curving the forward end of said sleeve, the secondary stream is directed against the base of the disk 11, so as to most effectively utilize the curved deflecting face of said disk.

For regulating the secondary stream, there is adjustably threaded on the coupling 10 a collar 14 peripherally rearwardly flanged, as indicated at 15, in outwardly spaced relation to the disk 11. Said collar by its rotation on the coupling 10 may be established as shown in Fig. 3, to clear the water shield laterally discharging from the disk 11. By shifting said collar rearwardly to the position exemplified in Fig. 2, the water shield may be directed against the flange 15 as it leaves the disk 11, and be thus thrown back

to drench the firemen with water. Preferably, the rear end of the sleeve 12 carries packing 16 compressed around the body 1, being retained as shown, by a suitable collar 17 threaded upon said sleeve and inwardly flanged.

To facilitate handling of said nozzle, a pair of oppositely projecting handles 18 are carried by the rear portion of the body 1, being formed preferably of leather or like durable, flexible material secured to a sleeve 19 of like material embracing said body. An annular flange 20 is preferably formed exteriorly upon the body 1 adjacent to the forward end of the sleeve 19, coacting with the coupling member 2 to resist sliding of said sleeve lengthwise of the nozzle.

In the use of the described nozzle, the handles 18 are preferably each gripped by a fireman, one of whom also grips the sleeve 12. If the fire which is being fought is not uncomfortably close to the firemen, the sleeve 12 is maintained tight against the disk 11, shutting off the secondary or shield-forming stream. When the presence of a water shield is desirable, it is necessary only to retractively rotate the sleeve 12 whereby water will discharge through the openings 8 and 13, and be circularly deflected by the disk 11. If the radiation of heat and discharge of smoke toward the firemen is relatively slight, the secondary flow established by the sleeve 12 may be correspondingly slight, producing a thin water shield. Where greater protection is necessary, the sleeve 12 may be retracted to establish a water shield of maximum thickness. When desirable for the comfort and safety of the firemen to keep them drenched with cold water, a few turns of the collar 14 will deflect the water shield rearwardly to such an extent as will cause the shielding stream to play upon the bodies of the firemen where desired. Preferably, a hook 21 will be attached to one of the handles 18 to permit attachment of the nozzle thereby when desired to a ladder rung, or other support.

While it is apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. A fire hose nozzle comprising an elongated tubular body, a hose coupling member carried by the rear end of said body, a plug inserted in the forward end of said body having a central and an eccentric outlet, a forward tubular extension from said plug in communication with the central outlet of the plug and of lesser exterior diameter than said body, a nozzle tip carried by said extension, a deflector disk upon said extension rearwardly of the nozzle tip, and a sleeve longitudinally adjustable upon said body and having its forward end inturned and apertured to form a passage surrounding said tubular projection and coacting with said deflector disk to regulate the stream deflected thereby.

2. A fire hose nozzle having a primary central outlet at its forward end, and an eccentric outlet rearwardly of said end, a deflector member carried by said nozzle forwardly of and in registration with said secondary outlet, means carried by said nozzle for volumetrically regulating the discharge from said secondary outlet, and a member longitudinally adjustable upon said nozzle forwardly of said deflector for imparting a rearward angle to the deflected stream.

3. A fire hose nozzle comprising an elongated tubular body, a hose coupling member carried by said body at its rear end, a member carried by said body at its forward end having a central and an eccentric outlet, a nozzle tip forwardly axially projecting from said outlet-forming member, a deflector disk carried by the outlet-forming member in registration with the eccentric outlet, means carried by the nozzle for volumetrically regulating the discharge from the secondary outlet, and a regulator collar for the shield-forming stream carried by said nozzle forwardly of said deflector disk and rearwardly annularly flanged to intersect and rearwardly deflect said stream.

4. A fire hose nozzle having an axial primary outlet and an eccentric secondary outlet, a deflector exteriorly carried by the nozzle forwardly of and opposite to said secondary outlet, means for regulating the volume of discharge from said secondary outlet, and means longitudinally adjustable upon the nozzle adapted to intersect and further deflect the stream outwardly directed by said deflector.

5. In a fire hose nozzle having a primary central outlet and a secondary outlet, a deflector disk mounted forwardly of and opposed to said secondary outlet, means carried by said nozzle rearwardly of said disk coacting with the disk to volumetrically regulate the secondary discharge, and means carried by the nozzle forwardly of the disk, coacting with the disk to directionally regulate the secondary discharge.

In testimony whereof I sign this specification.

GEORGE F. LUM.