

H. C. FRITZ.
NOZZLE REINFORCING MEANS.
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987,226.

Patented Mar. 21, 1911.

Fig. 1.

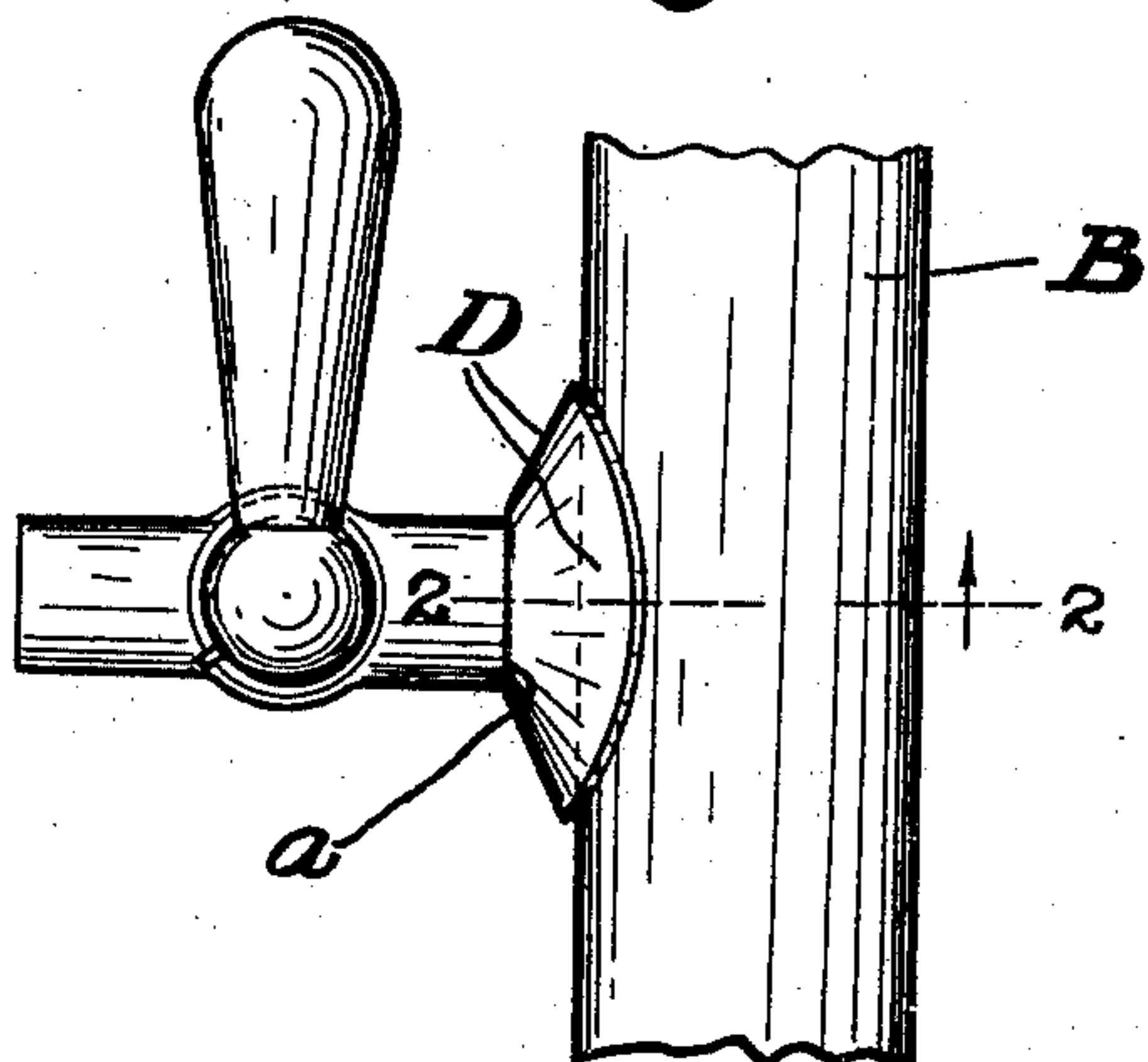


Fig. 2.

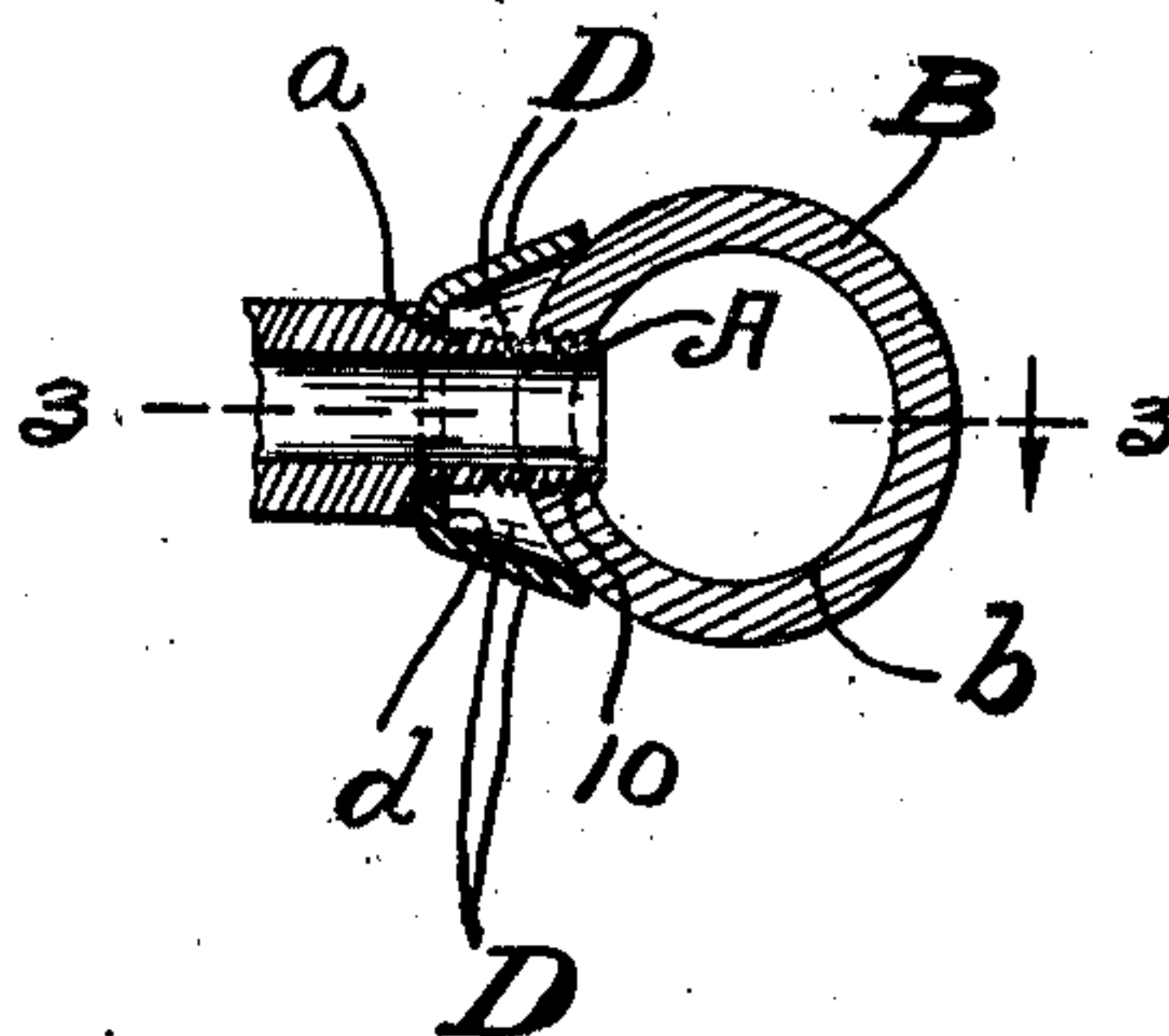
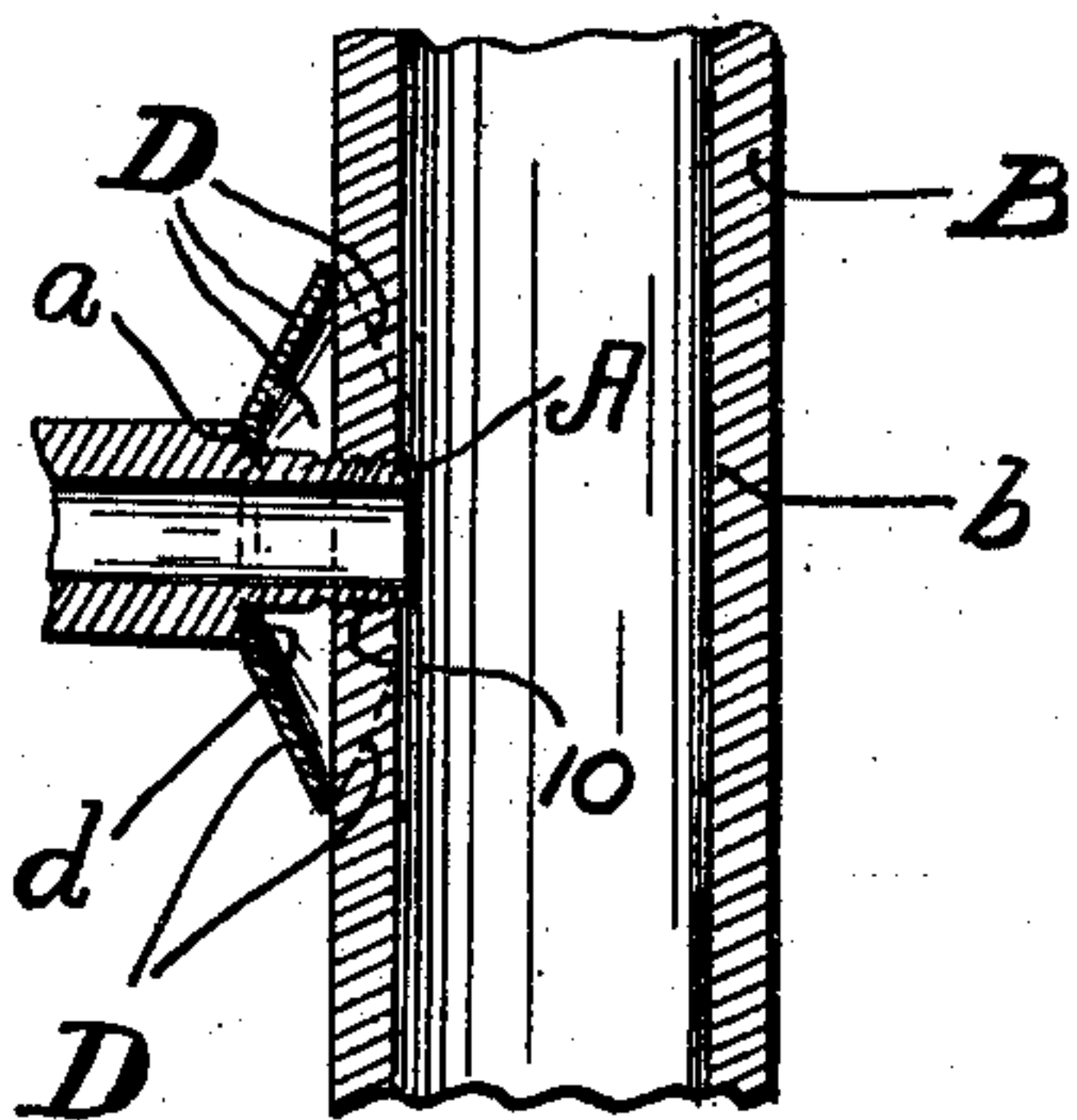


Fig. 3.



Witnesses:
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By *[Signature]*
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UNITED STATES PATENT OFFICE.

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NOZZLE-REINFORCING MEANS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMAN C. FRITZ, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Nozzle-Reinforcing Means; and I 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 pertains to make and use the same.

This invention relates to improvements in nozzle-reinforcing means whereby a nozzle which is screwed into a pipe or other fluid-conducting nozzle-supporting member is around its inner end-portion and externally of the nozzle-supporting member reinforced and braced from the nozzle-supporting member.

The primary object of this invention is to materially reinforce and brace the inner end-portion of a nozzle which is externally screw-threaded at the said end and screwed into a pipe or other nozzle-supporting member employed in conducting fluid to the said nozzle.

Another object is to prevent screwing of the nozzle too far into the pipe or nozzle-supporting member.

Another object is not only to materially reinforce the nozzle around its inner end-portion and externally of the nozzle-supporting member, but to form a slightly trimming around the said end-portion of the nozzle next externally of the nozzle-supporting member.

With these objects in view, this invention consists in certain features of construction, and arrangement and combination of parts, hereinafter described, pointed out in the claim, and illustrated in the accompanying drawings.

In the said drawings, Figure 1 is a top plan of a nozzle attached to a pipe and reinforced in accordance with my invention. Fig. 2 is a vertical section on line 2—2, Fig. 1, looking in the direction indicated by the arrow. Fig. 3 is a horizontal section on line 3—3, Fig. 2, looking downwardly.

Referring to the drawings, A indicates the fluid-receiving inner end-portion of a nozzle to which fluid is to be conducted by a pipe or hollow member B which supports the nozzle and is provided interiorly with a passageway *b* for conducting fluid to the

nozzle. The nozzle-supporting member B and the nozzle are arranged substantially horizontally and at a right angle to each other. The said end-portion A of the nozzle is screw-threaded externally and screwed into a correspondingly screw-threaded aperture 10 which is formed in the pipe or nozzle-supporting member B at one side of the nozzle-supporting member. The said end-portion A of the nozzle is provided externally and a suitable distance from the pipe or nozzle-supporting member with an annular shoulder *a* which faces in the direction of the said nozzle-supporting member. That is, the shoulder *a* is spaced from but arranged in suitable proximity to the nozzle-supporting member. A spring-collar D, which preferably consists of a single metal stamping, is interposed between said shoulder *a* and the pipe or nozzle-supporting member B and flares or spreads from the said shoulder toward the nozzle-supporting member and is contoured to abut against and fit the nozzle-supporting member all around the nozzle. That is, the collar D is gradually enlarged transversely of the nozzle in the direction of the pipe or nozzle-supporting member and all around the nozzle slopes away from the nozzle in the direction of the nozzle-supporting member. The collar D is preferably provided at its outer or transversely smaller end and internally with an annular flange *d* which surrounds or extends circumferentially of the nozzle and is engaged by and forms an abutment for the shoulder *a*.

By the construction hereinbefore described it will be observed that the collar D forms a somewhat yielding abutment for the shoulder *a* of the nozzle and coöperates with the said shoulder in forming a stop for limiting the screwing of the nozzle into the pipe or nozzle-supporting member.

The spring-collar D is clamped by and between the shoulder *a* of the nozzle and the pipe or nozzle-supporting member B and thereby placed under tension. That is, the nozzle is screwed far enough into the pipe or nozzle-supporting member to cause the shoulder *a* of the nozzle to somewhat clamp the collar against the nozzle-supporting member so as to place the collar under tension and thereby very efficiently brace the nozzle from the nozzle-supporting member and materially reinforce the screw-threaded

inner end-portion of the nozzle all around the nozzle. It will be observed also that the collar D forms a slight trimming around the nozzle next the pipe or nozzle-supporting member.

By my improved construction it will be observed that the spring-collar D not only braces and steadies the nozzle and thereby prevents tipping of the nozzle laterally in any direction, but, by bearing against the shoulder *a*, locks the nozzle in position and thereby prevents unscrewing of the nozzle without the application of considerable force.

What I claim is:—

The combination, with a nozzle-supporting member having a screw-threaded aperture extending to the exterior of the member, and a nozzle screw-threaded externally of its fluid-receiving end and screwed at the

said aperture into the nozzle-supporting member, which nozzle is provided externally with a shoulder which extends circumferentially of the nozzle and is spaced from and faces the nozzle-supporting member, of a spring-collar interposed between the said shoulder and the nozzle-supporting member, which collar is under tension and bears against the said shoulder and braces the nozzle all around the nozzle, said collar flaring toward the nozzle-supporting member and being contoured to conform at its inner end to the nozzle-supporting member.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

HERMAN C. FRITZ.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
