

(No Model.)

A. D. LAWS.
HOSE NOZZLE.

No. 599,967.

Patented Mar. 1, 1898

Fig. 1.

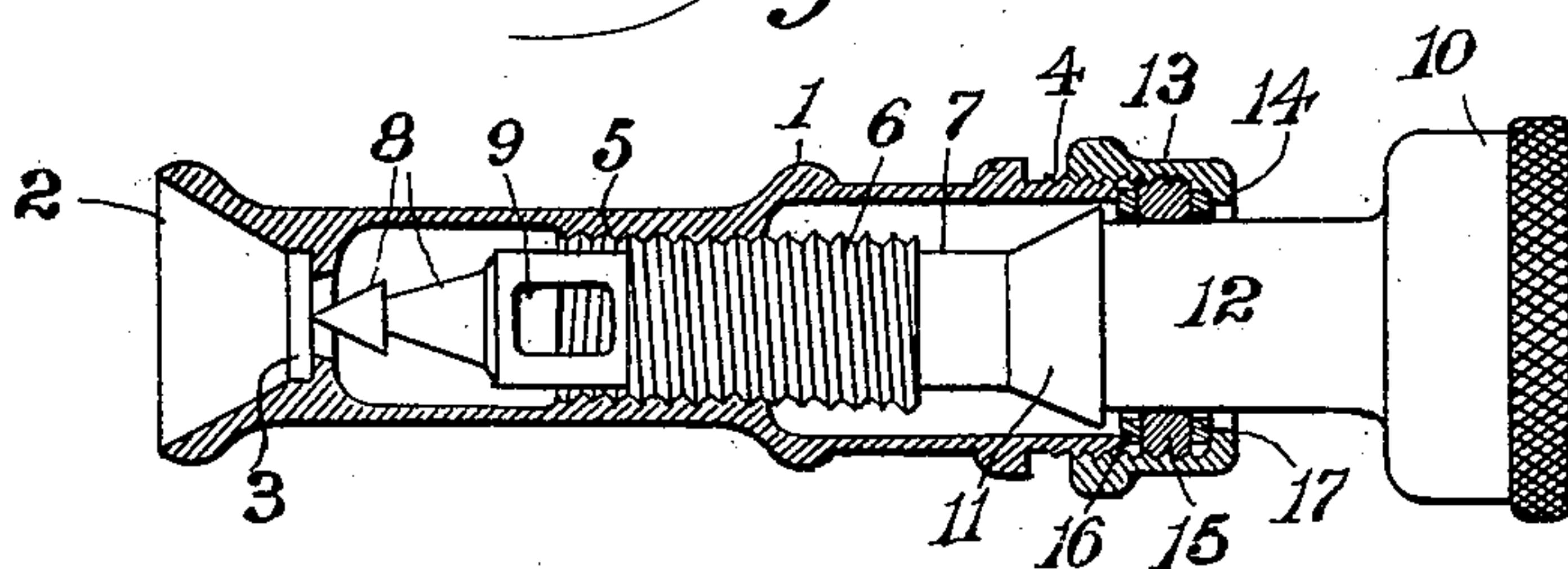


Fig. 2.

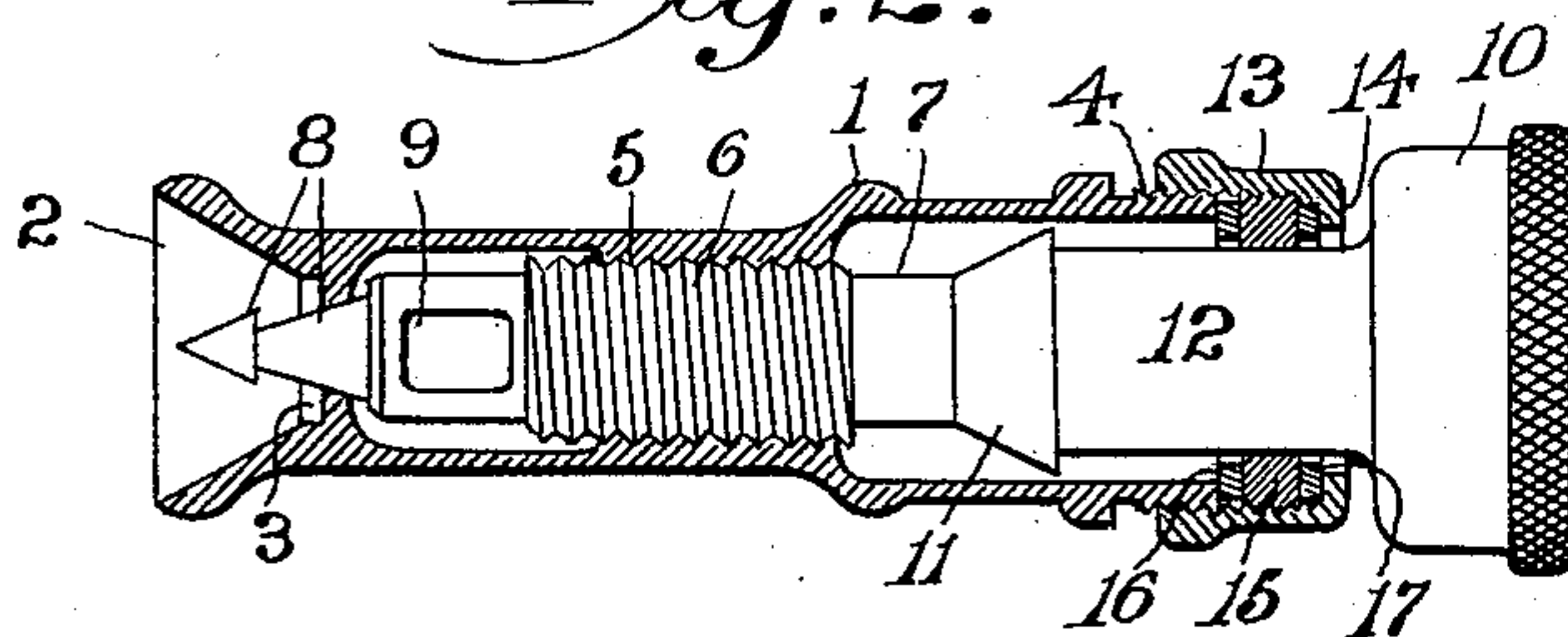
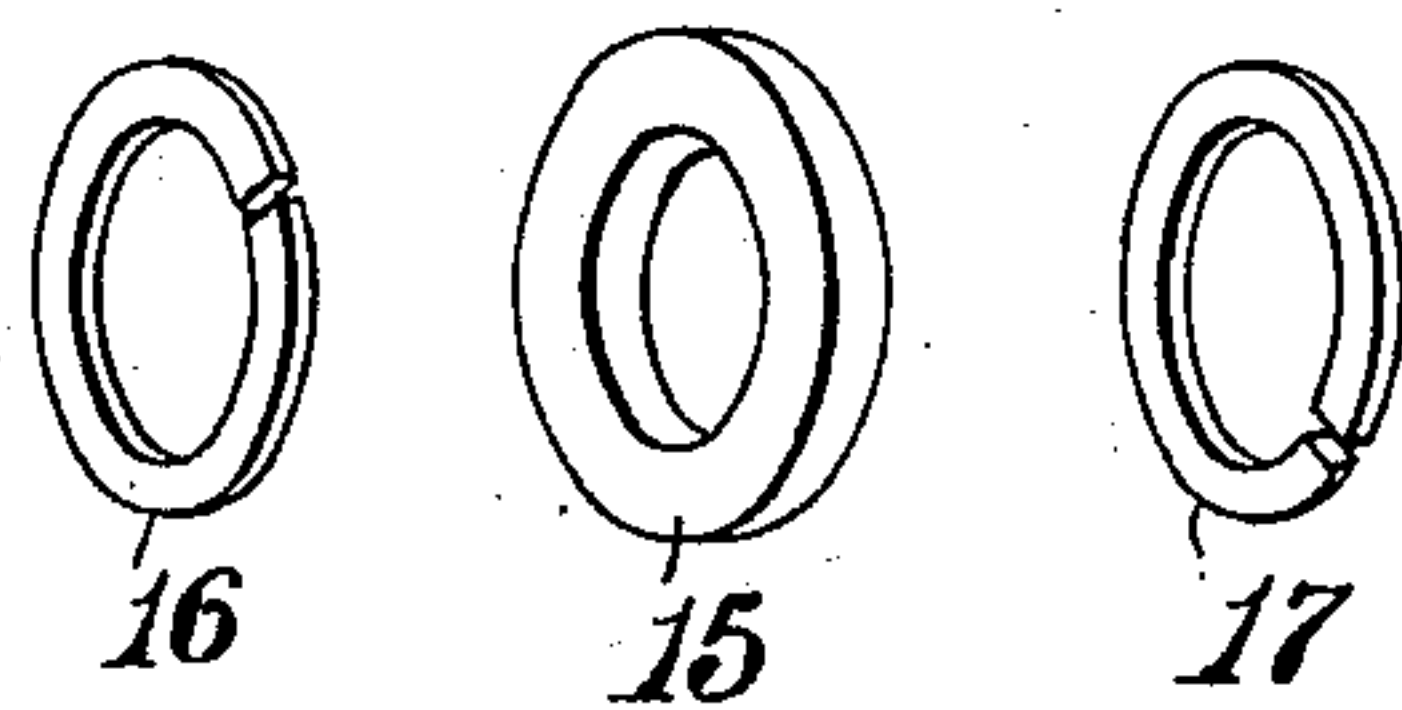


Fig. 3.



WITNESSES:

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ALBERT D. LAWS, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
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HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 599,967, dated March 1, 1898.

Application filed June 16, 1897. Serial No. 641,038. (No model.)

To all whom it may concern:

Be it known that I, ALBERT D. LAWS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Hose-Nozzles; and I do 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 appertains to make and use the same.

My invention has reference to certain improvements in the construction of hose-nozzles of the type shown and described in Letters Patent No. 319,148, issued June 2, 1885, to E. R. Tomlinson; and the object of my present invention is to greatly simplify the construction of hose-nozzles of this kind and to render the same perfectly water-tight at the joint, while at the same time the parts of the nozzles may be readily separated for the purpose of cleaning without the use of any tools whatever.

In the accompanying drawings, which form a part of this application, Figure 1 is a sectional elevation of a hose-nozzle constructed in accordance with my improvement and showing the position of the parts when the nozzle is opened; Fig. 2, a similar view showing the position of the parts when the nozzle is fully closed, and Fig. 3 is a detail perspective showing the packing-ring and the split resilient metal washers in detached condition.

Similar numbers of reference denote like parts in the several figures of the drawings. The nozzle made in accordance with the Letters Patent above referred to has long been on the market and is a well-known and exceedingly popular device; but there are too many parts involved in its construction, which, however, have been necessary hitherto, owing to the extreme difficulty in properly packing a less number of parts.

It has been essayed several times to make a three-part nozzle comprising the nozzle-body proper, the interior cone-spindle, and the packing-bushing; but a serious difficulty has resulted in that the packing would become worn and hardened by continued friction against the rotary parts, so that a leakage at the joint would occur.

In my present device I provide an auto-

matically-expanding packing, and, furthermore, I so construct the parts that they may be assembled and separated without the use of tools of any description.

1 is the nozzle-body proper, having the usual flaring mouth 2, with contracted nozzle-opening 3, and also provided with exterior-threaded portion 4 on its rear end. This body 1 is interiorly threaded, as seen at 5, about midway of its length, and with this threaded portion engages the threaded part 6, carried by the hollow cone-spindle 7. This cone-spindle has on its forward extremity the usual double cone 8, whereby the discharge of the water through the orifice 3 is regulated as in the manner set forth in said patent, the cone-spindle being provided with openings 9, (one of which only is shown,) through which the water is discharged.

Formed integral with the spindle 7 is the hose-coupling extremity 10, and also formed integral with said spindle is the cone 11, intermediate of the threaded portion 6 and the part 10. That portion of the spindle between the cone 11 and the coupling end 10 and denoted by the numeral 12 is cylindrical, and around this portion is a gland 13, whose forward portion is threaded interiorly and adapted to engage with the threaded portion 4 of the nozzle-body, while the rear of this gland is contracted to form an interior annular shoulder 14.

15 is a ring of packing material, such as felt, which is placed around the cylindrical part 12, and 16 17 are split resilient metal washers around said cylindrical portion and on opposite sides of the packing. In assembling this packing and these rings the spindle is passed through the latter until they abut against the cone 11, and then these washers are forced over this cone onto the cylindrical portion 12. The fact that these washers are divided and are made from spring metal renders their passage over and beyond the cone 11 a very simple matter, and these washers contract around this cylindrical portion 12. When the gland is secured around the threaded portion 4, the washers and packing will be tightly bound between the rear end of the nozzle-body and the shoulder 14, and the consequent side pressure brought to bear against

the divided resilient washers will cause the latter to expand, which latter action, in addition to the compression of the packing, will cause the latter to spread or bulge out against the gland and the cylindrical portion 12, thus most effectually preventing any leakage at the joint between the nozzle-body and the spindle. As the packing becomes worn by the constant passage of the spindle therethrough the gland is still further tightened to effect the further spreading out or bulging of the packing. The creeping or expansion of these resilient washers as increased lateral pressure is applied produces the most beneficial results in that the washers do not embed themselves in the packing, so that continued pressure will be brought to bear against the packing itself, as would be the case were solid washers used. Moreover, if solid washers were used some detachable part would have to be used instead of the cone 11 in order to permit of the assembling of the washers and also to afford a stop to prevent the backing of the spindle beyond a certain point. Were it not for the fact that the rear end of this cone afforded a shoulder which abutted against the forward washer when the spindle was retracted, the spindle might accidentally be drawn back too far, and as long as this shoulder is necessary the provision of the cone 11 is very advantageous, since it renders the assembling and separating of the parts of the nozzle exceedingly simple.

I do not wish to be understood as laying any claim whatever to the general construction of the hose-nozzle, shown and described,

since the cone 11, in connection with the split resilient washers, the packing-ring, and the gland, are all the parts upon which my invention is based; and in view of this fact

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

1. In a hose-nozzle of the character described, the combination of the nozzle-body, the spindle provided with the cone-shoulder 11, the packing-ring and the split resilient washers capable of being forced over said shoulder onto a cylindrical portion of the spindle, and the shouldered gland capable of being screwed upon the rear end of the nozzle-body and provided with interior annular shoulder at its rear end whereby the washers and packing may be compressed between said shoulder and the rear end of the nozzle-body, substantially as set forth.

2. In a hose-nozzle of the character described, the combination of the nozzle-body, the spindle interior thereof, the gland surrounding said spindle and screwed upon the rear end of the nozzle-body, the yielding packing around the spindle and the split resilient washers around said spindle on opposite sides of said packing and adapted to be compressed against the packing by the tightening of said gland, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT D. LAWS.

Witnesses:

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