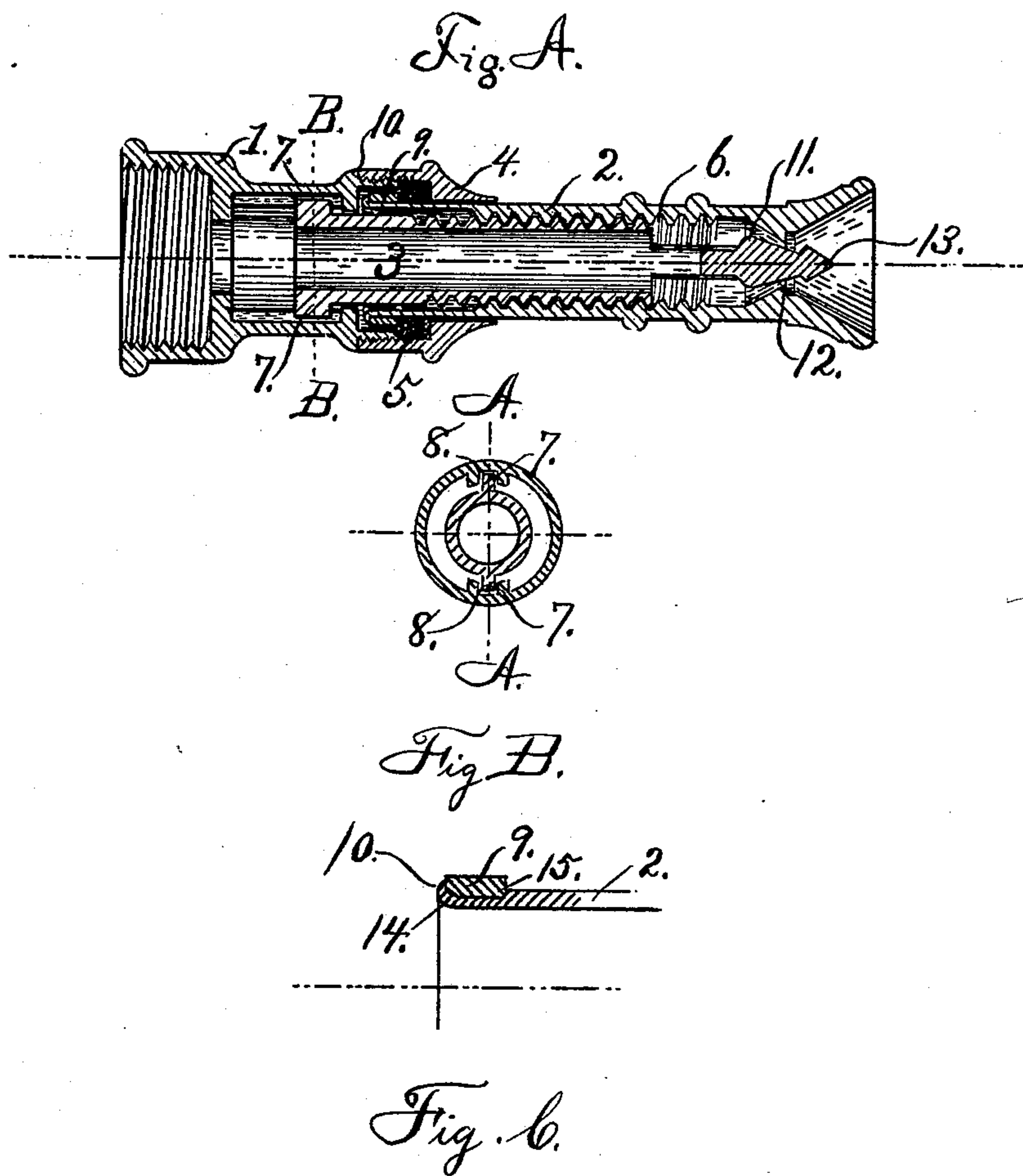


(No Model)

H. F. WILSON.
HOSE NOZZLE.

No. 583,135.

Patented May 25, 1897.



Witnesses
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J. H. Moore

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UNITED STATES PATENT OFFICE.

HENRY F. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CRANE COMPANY, OF SAME PLACE.

HOSE-NOZZLE.

SPECIFICATION forming part of Letters Patent No. 583,135, dated May 25, 1897.

Application filed May 9, 1895. Serial No. 548,730. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Form of Hose-Nozzle, of which the following is a specification.

My invention relates particularly to that class of nozzles which have an interior cone-spindle arranged to move longitudinally within a cylindrical case and seat against the inner side of the discharge-orifice to shut off the flow of water. Various methods have been heretofore devised to secure this longitudinal motion between the case and spindle, but all are open to more or less objection. One construction in this class is shown in Patent No. 319,148, issued June 2, 1885, to E. R. Tomlinson. In the construction therein shown the interior cone-spindle is adapted to be moved forward and back by a screw-threaded engagement between the spindle and body or part to which the hose is attached, the spindle being caused to turn, together with the sleeve or part containing the discharge-orifice, by means of a pin working in a slot in the spindle. In such construction it is necessary that the spindle be handled three times in the course of manufacture before it is complete. First, the cone on the outer end must be finished, then it must be turned end for end to cut the thread, and, third, the slot in which the pin is to work must be made. Extra labor is also required in putting the Tomlinson device together, it being necessary to drill a hole for the pin and cut and put the pin in place. Each operation through which any piece must be put in manufacture involves a certain amount of expense, as is clearly apparent on a moment's reflection, and while it is true that on a single one of the articles the amount of that expense may be, comparatively speaking, small, where the number made each year runs up into the thousands it becomes a very considerable item. It is also true in the device above referred to that the pin, being directly in the line of the center passage-way, obstructs the flow of the water. Still another objection to the Tomlinson device is that because the screw-threaded engagement which moves the cone is between the cone-spindle

and the body portion whenever the cone is seated against the discharge-orifice the swivel-joint around which the packing is placed is subjected to strain, which in time may tend to produce leakage at that point.

To better understand my invention, reference may be had to the accompanying drawings, in which—

Figure A shows a vertical longitudinal section of my improved nozzle, taken on the line A A of Fig. B. Fig. B is a transverse section taken on the line B B of Fig. A. Fig. C is an enlarged sectional view of a portion of Fig. A, illustrating more accurately the method employed to make the collar 9 fast on the sleeve 2.

Referring now particularly to Fig. A, 1 is the body portion; 2, the sleeve; 3, the interior cone-spindle; 4, the packing-nut, and 5 the packing. Between the cone-spindle 3 and the sleeve 2 is arranged a screw-threaded engagement 6, having, preferably, a rapid pitch. At the left end of the cone-spindle 3 are cast two lugs 7 7. (Shown more clearly in Fig. B.) On the inner side of the body portion 1 are cast two guideways or sleeves 8 8, in which the lugs 7 7 are designed to move. After the sleeve 2 is finished the packing-nut 4 is put on and held from coming off again by a small collar 9, held against a shoulder 15 by spinning over the end of the sleeve at 10. (See Fig. C.)

The longitudinal motion between the inner cone 11, which is adapted to seat at 12, and the sleeve is obtained by holding the body portion 1 in one hand and turning the sleeve 2 with the other. As the cone-spindle 3 is prevented from rotating with the sleeve 2 because of the lugs 7 7, it is obvious that the cone 11 must advance or recede from the seat 12, and will either shut, to close all flow, or else open and, according to the relative position of the orifice 12 and the outer cone 13, produce either a spray or solid stream.

Regarding the saving in cost of manufacture effected by my improvements it may be expedient, further, to say that in turning the spindle 3 it is grasped in a chuck at the end, having the lugs 7 7 and the cones and thread all entirely finished before it is taken out. There being no slot or pin used, no milling-

work at all is required and the opening through the center of the spindle is unobstructed. The screw-threaded engagement which advances and recedes the cone-spindle 5 being between the spindle and the part against which it seats, no strain is possible against the swivel-joint around which the packing 5 is placed.

Referring now particularly to Fig. C, it is 10 to be noted that the left side of the interior of the collar 9 is made bell-shaped, and the tool which is used for spinning over the end of the sleeve at 10 also expands the end, as shown at 14, thus making the connection more 15 secure.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a hose-nozzle, the combination of a body portion, a rotatable interiorly-threaded sleeve 20 provided at its outer end with a discharge-orifice, and at its inner end with a collar 9, and shoulders 10 and 15; a packing-nut 4, a longitudinally-movable spindle arranged within the rotatable sleeve and threaded to engage 25 the latter, lugs projecting radially from the inner end of said spindle and adapted to enter grooves formed in the body portion of the nozzle, and a conical enlargement at the outer 30 end of the same, adapted to seat against the inner face of the discharge-orifice, substantially as described.

HENRY F. WILSON.

Witnesses:

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