

No. 725,152.

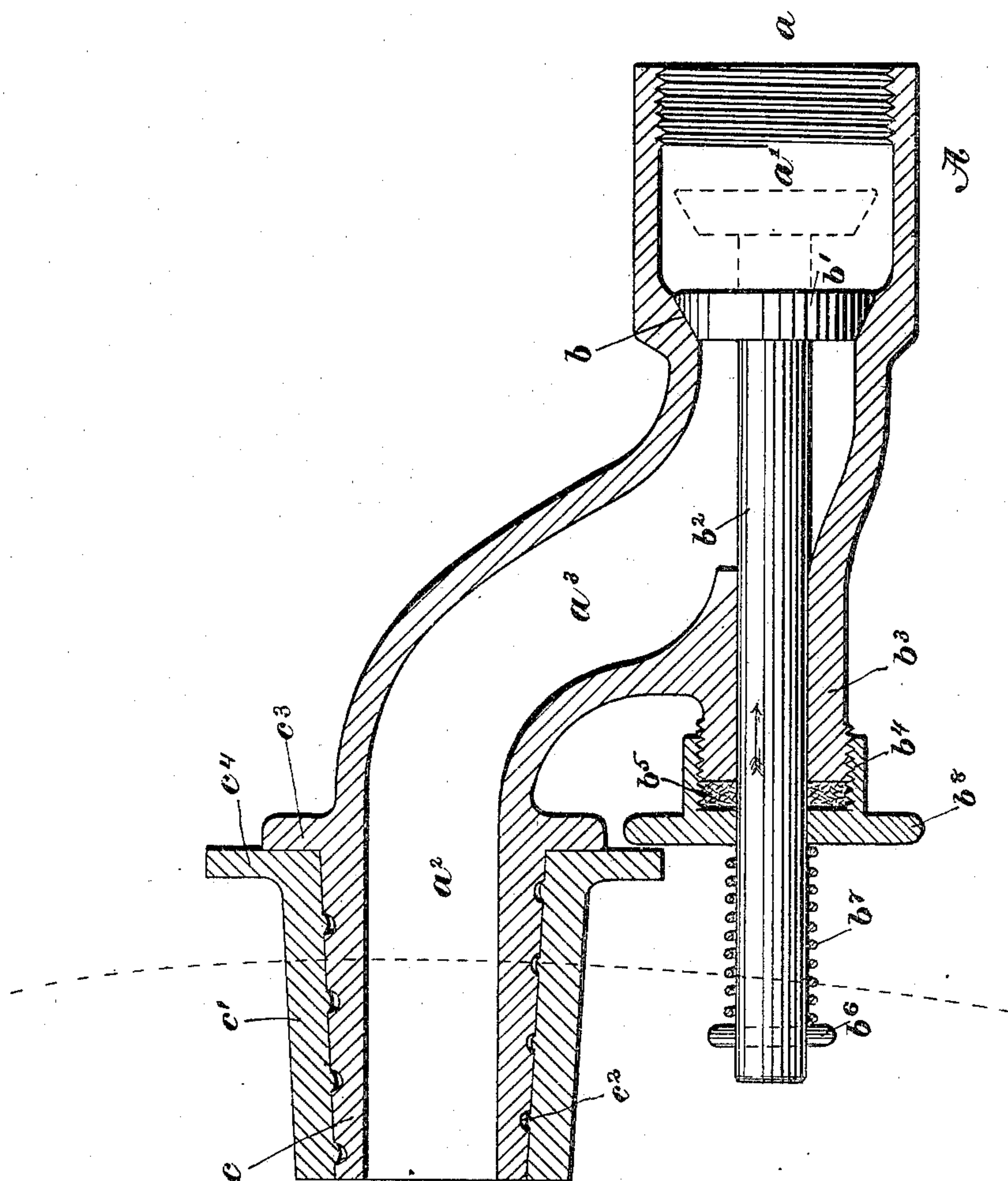
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F. SCHWAAB & A. MACNEILL.

SELF CLOSING NOZZLE.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

FREDERICK SCHWAAB AND ANGUS MACNEILL, OF BOSTON, MASSACHUSETTS.

## SELF-CLOSING NOZZLE.

SPECIFICATION forming part of Letters Patent No. 725,152, dated April 14, 1903.

Application filed September 3, 1901. Serial No. 74,115. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK SCHWAAB and ANGUS MACNEILL, citizens of the United States, and residents of Boston, Suffolk county, State of Massachusetts, have invented an Improvement in Self-Closing Nozzles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In breweries and other establishments wherein are used casks or kegs that are sent out filled and are later returned for refilling it is customary on their return to wash the casks or kegs thoroughly and usually to leave them filled with water until they are again filled for shipping. At the present time the prevailing custom is to stand the casks or kegs on end, with the end having the open bung-hole uppermost, and then insert the end of a hose into the side bung-hole and fill the cask until the water appears through the open bung-hole at the top and fills the area within the flange of the keg that surrounds the end thereof. When the keg is filled, the workman withdraws the hose and inserts the bung or plug, and during this time and during such further time as is required to transfer the hose to another keg or until the workman can reach the faucet or valve to close the latter the water continues to flow from the hose, with the result that the floor of the room where the filling is done is usually running with water. To obviate this waste and resultant expense, our invention comprehends an automatic or self-closing filling-nozzle containing a valve which automatically opens when the nozzle is inserted in the bung-hole for filling and which automatically closes when the nozzle is withdrawn without attention on the part of the operator.

Our invention will be best understood from a description of one embodiment thereof.

In the accompanying drawing we have shown one form of self-closing nozzle made in accordance with our invention.

In the embodiment of our invention shown in the drawing, A is a valve-casing formed to contain a fluid-passage  $a$ . For convenience of description we will refer to the inlet end of said passage as the "inlet-passage," the same being indicated by  $a'$  in the drawing, and the

delivery or outlet end thereof will be referred to as the "outlet-passage," indicated by  $a^2$  in the drawing. As appears from the drawing, the casing A is shown as offset between this inlet and outlet ends, so that the outlet-passage  $a^2$  is offset from the inlet-passage  $a$ , the offset being indicated  $a^3$ . The casing A at its inlet end is internally threaded for attachment thereto of a usual threaded coupling of the hose, and between the inlet and outlet passages is formed a valve-seat, as  $b$ , shown as conical in formation and cooperating with which is a suitable valve  $b'$ , which when seated closes the said passage  $a$  against flow of fluid therethrough. The valve  $b'$  as here shown is of conical disk form and is provided with an operating member or stem  $b^2$ , that passes outwardly from the casing A, through a neck portion  $b^3$  thereof, the end of said valve-stem lying quite close to the outlet end of the valve-casing and terminating somewhat short of said outlet end. The end of the neck  $b^3$  is threaded to receive the packing-nut  $b^4$ , containing a suitable packing, as  $b^5$ , which guards against leakage around the said valve-stem. Between the packing-nut  $b^4$  and a pin  $b^6$  in the end of the valve-stem is arranged a spring  $b^7$ , that tends to press the valve-stem outwardly and holding the valve  $b'$  normally seated. The packing-nut  $b^4$  is provided with a wide projecting lip  $b^8$ , which aids in protecting the valve-stem from damage, as by bending, when the nozzle is thrown or dropped upon the floor.

The outlet end of the casing A is shown as made conical, as at  $c$ , to receive a suitable washer or other device that will enable a tight connection to be quickly made between the nozzle and the annular wall of the bung-hole. In the present instance said conical outlet end receives a conical rubber or other yielding washer  $c'$ , slipped thereupon, said nozzle being spirally grooved, as at  $c^2$ , to facilitate application of the rubber washer thereto and also to aid in retaining the said washer in position after it has begun to deteriorate in quality.

The casing A, adjacent the conical end outlet, is shown provided with a seat-flange  $c^3$ , against which the yielding or rubber washer  $c'$  may be screwed, and the said washer  $c'$  is



provided with an annular lip or flange  $c^4$  to protect the nozzle and its parts from damage when thrown about upon the floor. When in use, assuming a barrel to be standing upon end, the workman, having our improved nozzle at the end of a line of hose, inserts the conical rubber washer on the outlet end of the casing into the open bung-hole in the side of the barrel or cask until the conical exterior thereof becomes fitted to and within the wall of the said bung-hole, thus preventing leakage around said nozzle. This insertion of the nose of the nozzle into the bung-hole brings the end of the valve-stem against the side of the barrel adjacent said bung-hole and causes said valve-stem to be pushed inwardly in the direction of the arrow thereon, thus pushing the valve  $b'$  away from its seat, as indicated in dotted lines, and opening the fluid-passage for the flow therethrough of water or other liquid into the barrel or keg. When a sufficient quantity of water or liquid has been permitted to enter the barrel or keg, the workman withdraws the rubber-protected nose from the bung-hole, whereupon the spring  $b^7$ , aided in part by the action of the water upon the valve  $b'$ , returns the said valve upon its seat and at once stops the flow of the liquid through the nozzle. In practice the action of the water upon the valve is alone ordinarily sufficient to insure closing of the valve, although the spring  $b^7$  is useful in rendering such closure certain and also in maintaining said valve closed when there is no water in the hose.

By offsetting the nozzle and fluid-passage, as described, the alinement of the valve-stem may be made to coincide with the alinement of the inlet-passage of the nozzle, and it also

enables the said valve-stem to protrude close beside the outlet end or nose of the device for compactness and certainty of operation.

Our invention is not limited to the particular embodiment here shown, as the same may be varied within the spirit and scope of our invention.

What we claim, and desire to secure by Letters Patent, is—

1. A portable self-closing nozzle having an inlet-passage, a valve-seat therein, a valve, a valve-operating member in axial alinement with said valve, and a nozzle portion connected with said inlet-passage projecting beyond said seat and valve and valve-operating member and to one side of the axial line of said valve, its direction at or near its end being substantially parallel with the valve-operating member.

2. A portable self-closing nozzle having an inlet-passage, a valve-seat therein, a valve, a valve-operating member in axial alinement with said valve, a nozzle portion connected with said inlet-passage projecting beyond said seat and valve and valve-operating member and to one side of the axial line of said valve, its direction at or near its end being substantially parallel with the valve-operating member, and a yielding nose for said nozzle portion having a laterally-extending yielding projecting flange.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK SCHWAAB.  
ANGUS MACNEILL.

Witnesses:

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EVERETT S. EMERY.