

L. F. BETTS.  
Nozzle for Can and other Vessels.

No. 231,144.

Patented Aug. 17, 1880.

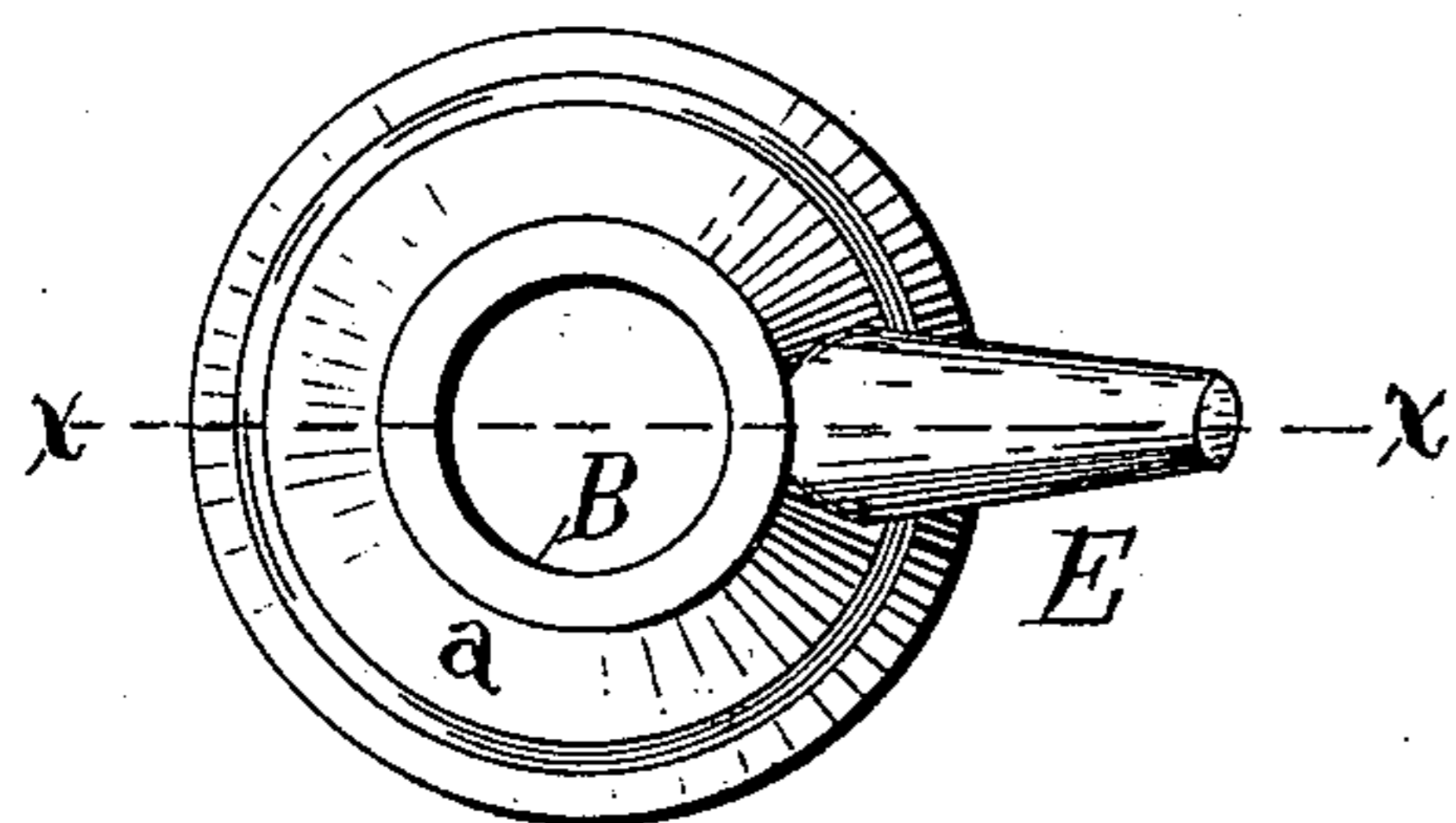


Fig. 1.

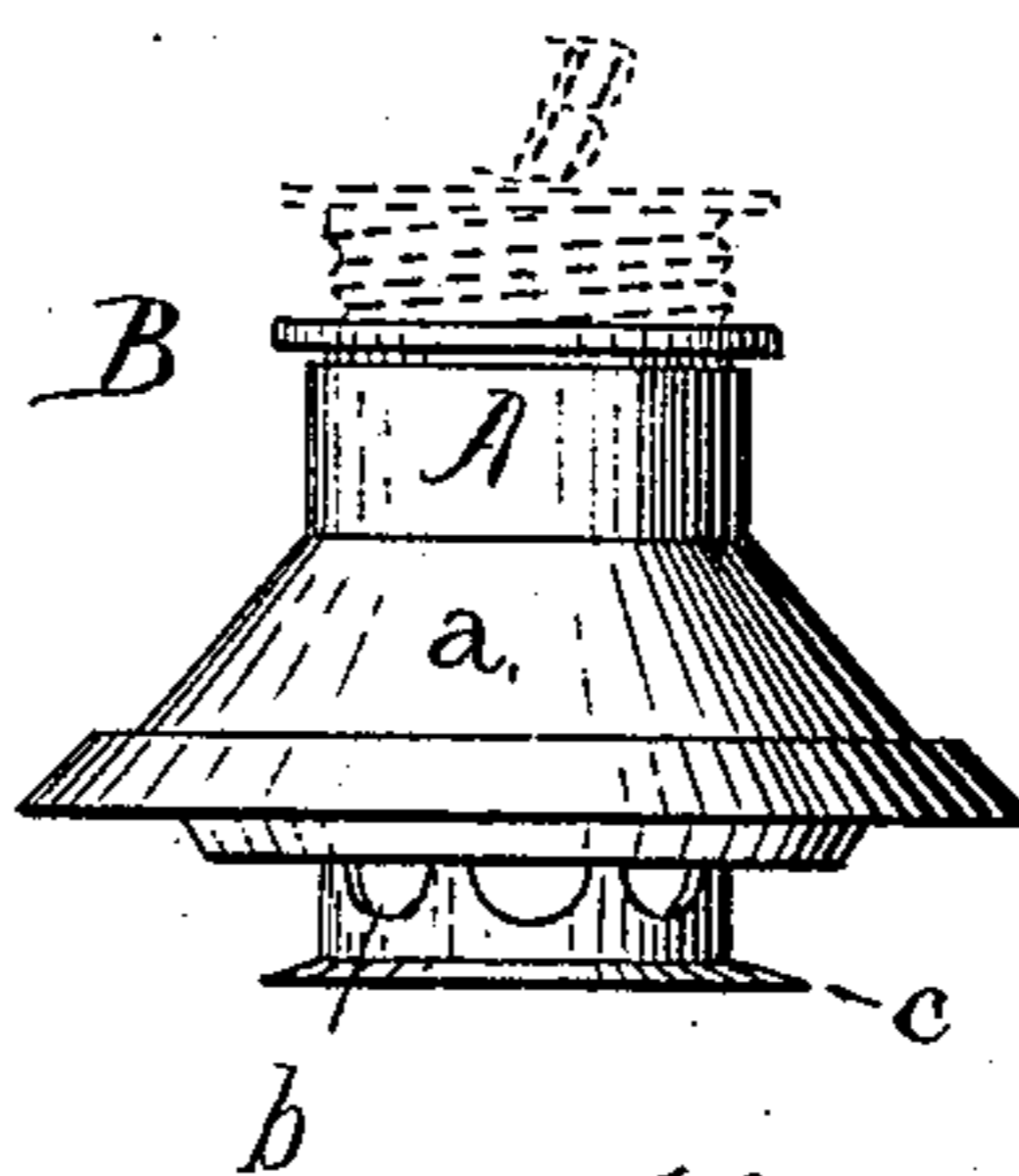


Fig. 2

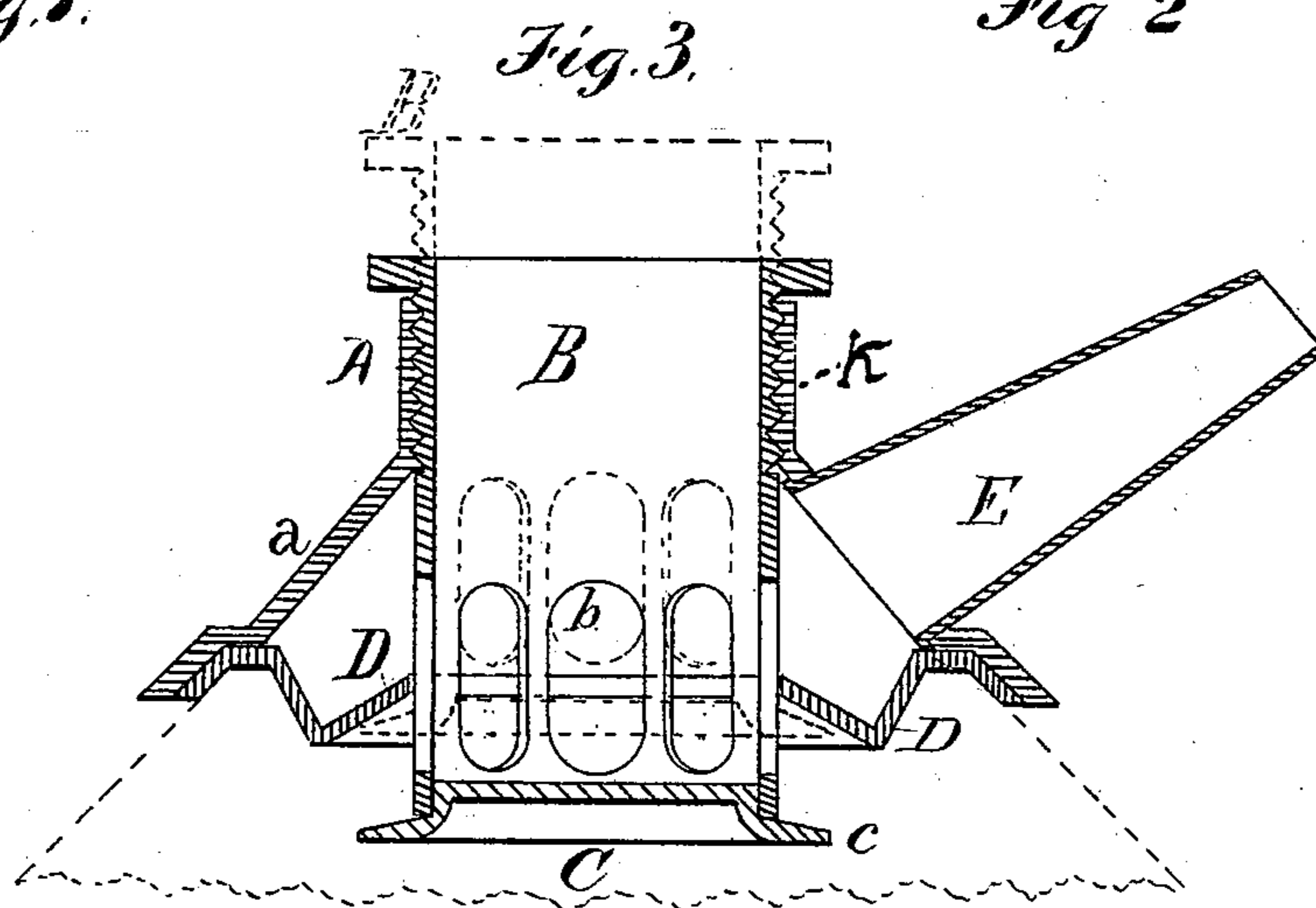


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

LEWIS F. BETTS, OF CHICAGO, ILL., ASSIGNOR OF ONE-HALF OF HIS RIGHT  
TO JOSEPH S. DENNIS AND HENRY N. WHEELER, OF SAME PLACE.

## NOZZLE FOR CANS AND OTHER VESSELS.

SPECIFICATION forming part of Letters Patent No. 231,144, dated August 17, 1880.

Application filed February 2, 1878.

*To all whom it may concern:*

Be it known that I, LEWIS F. BETTS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Nozzles for Cans and other Vessels, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of a can-nozzle embodying my improvement; Fig. 2, an elevation of the same without the spout; Fig. 3, a vertical section of the same, on an enlarged scale, taken on the line *x x*, Fig. 1.

The object of my invention is to provide a nozzle for cans and other vessels, through which the vessel may be filled and also emptied, if desired, without removing the cap or closing device, while at the same time the latter may be readily adjusted so as to completely close the orifice, to prevent the escape of the contents of the vessel.

In the drawings, A represents a can-nozzle, the lower portion of which is made flaring or cone-shaped, so as to form a skirt, *a*, adapted to be attached more readily to the vessel to which it is to be applied. The nozzle, as shown in the drawings, is provided with an internal screw-thread, K, and within it is fitted a thimble or tube, B, provided with an exterior screw-thread cut for some distance upon its upper end, so that it may be adjusted by vertically turning in the nozzle. The lower or inner end of this tube is closed by a bottom, C, which projects beyond the circumference of the tube to form a flange, *c*, extending outward around the lower end of the tube, as shown in Fig. 3 of the drawings.

A diaphragm, D, is arranged in the lower part of the nozzle, at a distance from the upper end thereof less than the length of the tube B, which passes through a central opening in the diaphragm to which it is fitted, so as to move easily up and down therein.

The lower side of the diaphragm may be slightly concave or conical, if desired, in which case the flange at the bottom of the tube should be adapted in form to fit this shape of the diaphragm, as shown in Fig. 3 of the drawings.

At the lower end of the tube B openings *b*

are made in the side, arranged a little above the bottom C. These openings are elongated, so that when the tube is turned down in the nozzle to its lowest point their upper portion will still be above the diaphragm D, while their lower portion will be below the diaphragm, and consequently open into the interior of the vessel; but as they are a little above the flange on the bottom C, when the tube is adjusted to its highest point the openings will be entirely above the diaphragm.

Now, it is evident that when the tube is turned up as far as possible in the nozzle, as shown in the dotted lines in Fig. 3, the flange at the bottom will be drawn up tightly against the diaphragm and the nozzle will be completely closed, the side openings in the tube being above the diaphragm. If, however, the tube is turned down, as shown by full lines in the same figure, the aperture *b* will be carried partly below the diaphragm. In this position the vessel may be filled by pouring into the upper end of the tube the liquid escaping at the bottom thereof through the apertures into the interior of the vessel.

It is evident from the description above that above the diaphragm, and between it and the skirt of the nozzle, there will be an annular chamber, extending around the tube, as shown in Fig. 3.

A spout, E, is attached to the lower portion of the nozzle, opening into this chamber; and as when the tube is turned down in the nozzle the side apertures are partly below and partly above the diaphragm, the can may be emptied by this latter adjustment of the tube, the liquid entering the tube through the lower portion of its apertures, flowing thence through the upper portion thereof into the annular chamber, from which it escapes through the spout.

I have described and shown the nozzle and tube provided with screw-threads as the means for adjusting the tube; but I do not limit myself to this particular construction, for the necessary movement of the tube may be effected in any other convenient way, either with or without a device for holding it in the position to which it is adjusted. The construction shown, however, provides a simple and cheap

means for accomplishing this result, and therefore is desirable.

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

The nozzle A, provided with the skirt *a*, in combination with the adjustable tube B, provided with elongated openings *b* and flanged

bottom C, the diaphragm D, arranged to form a chamber with the skirt *a* and tube B, and the spout E, substantially as and for the purpose set forth.

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Witnesses:

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