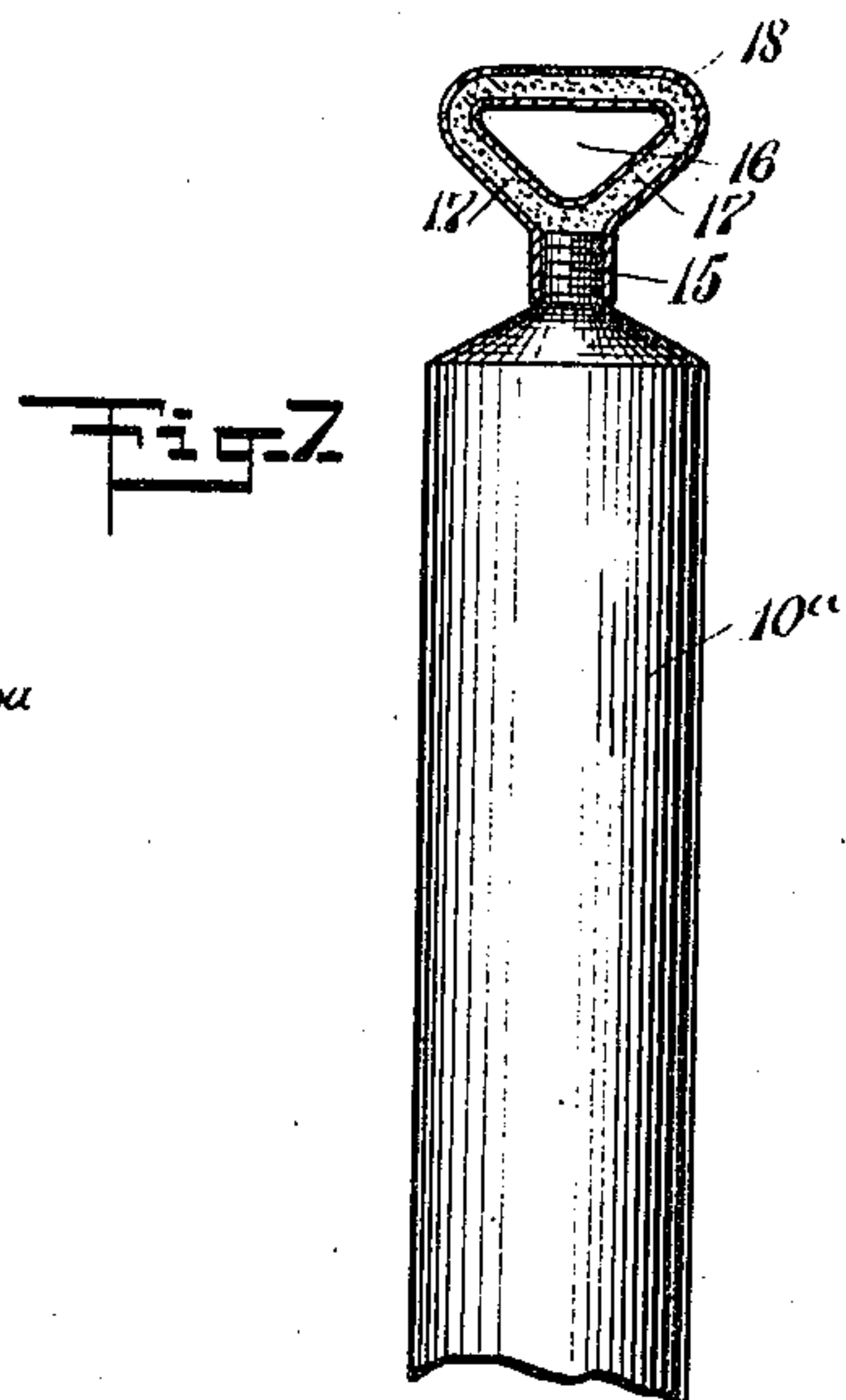
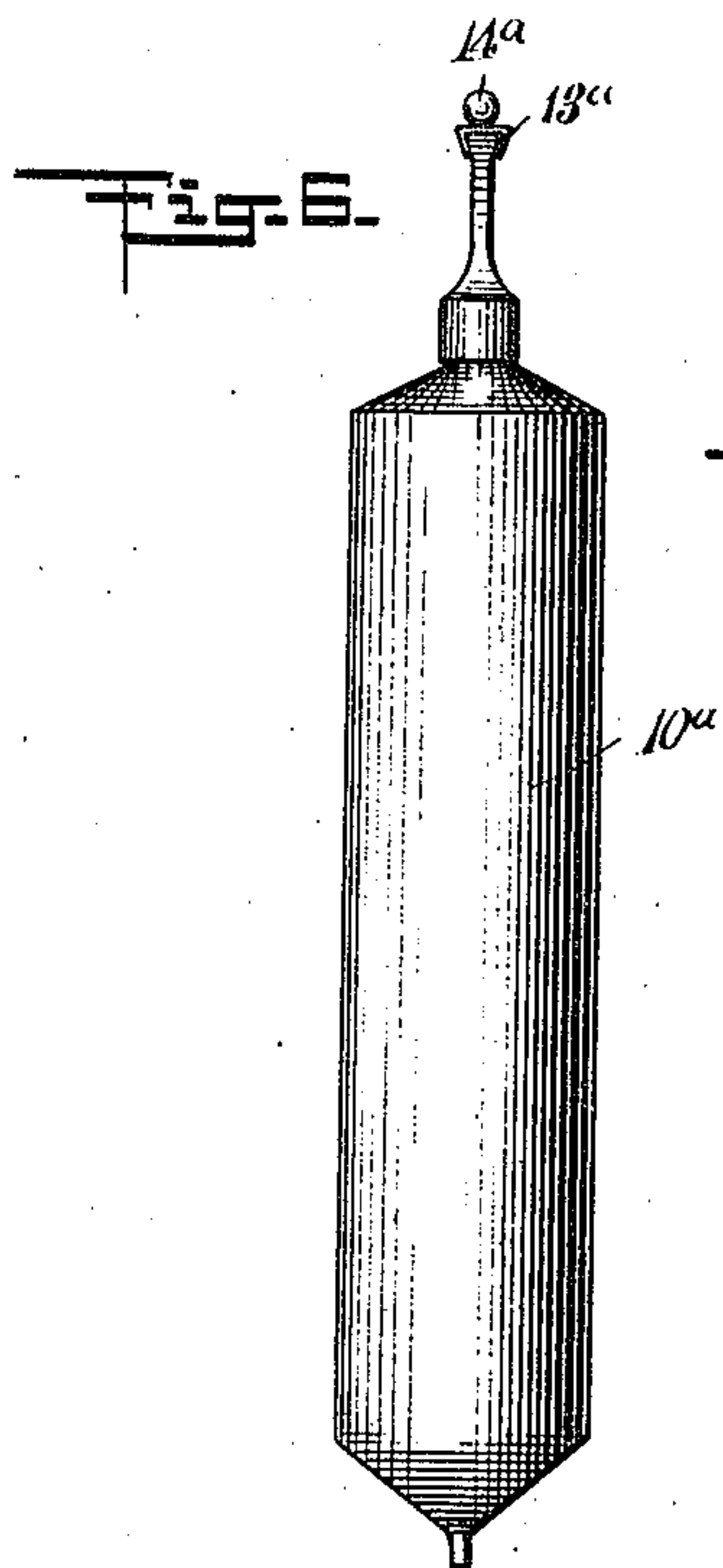
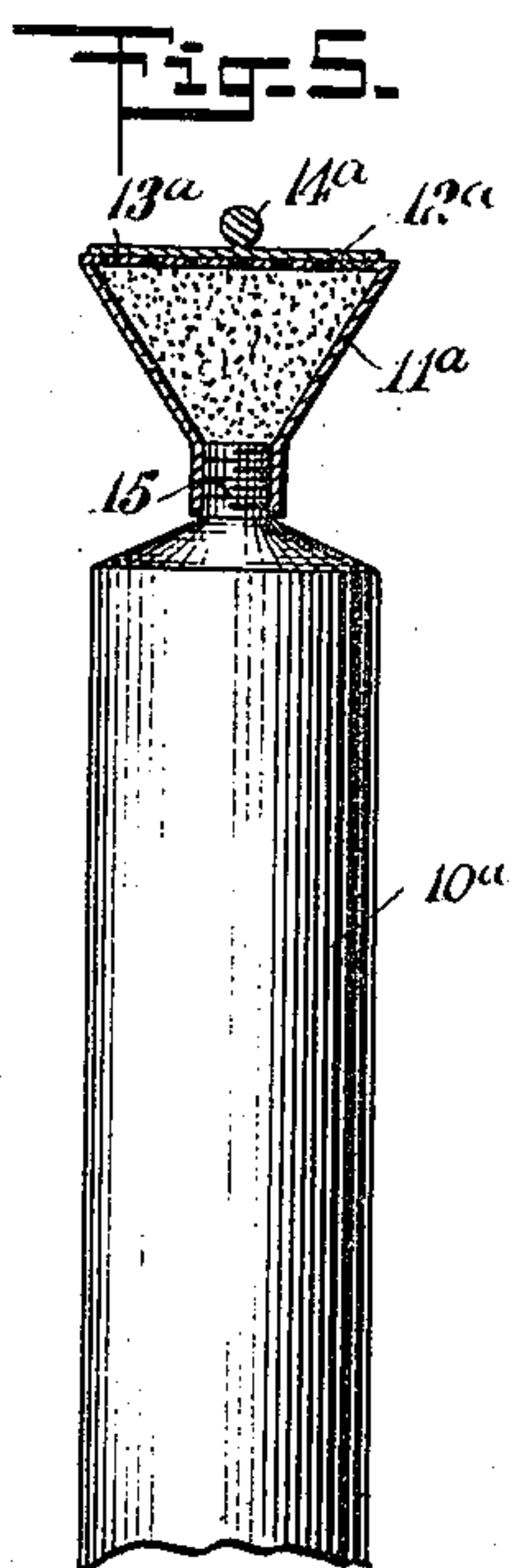
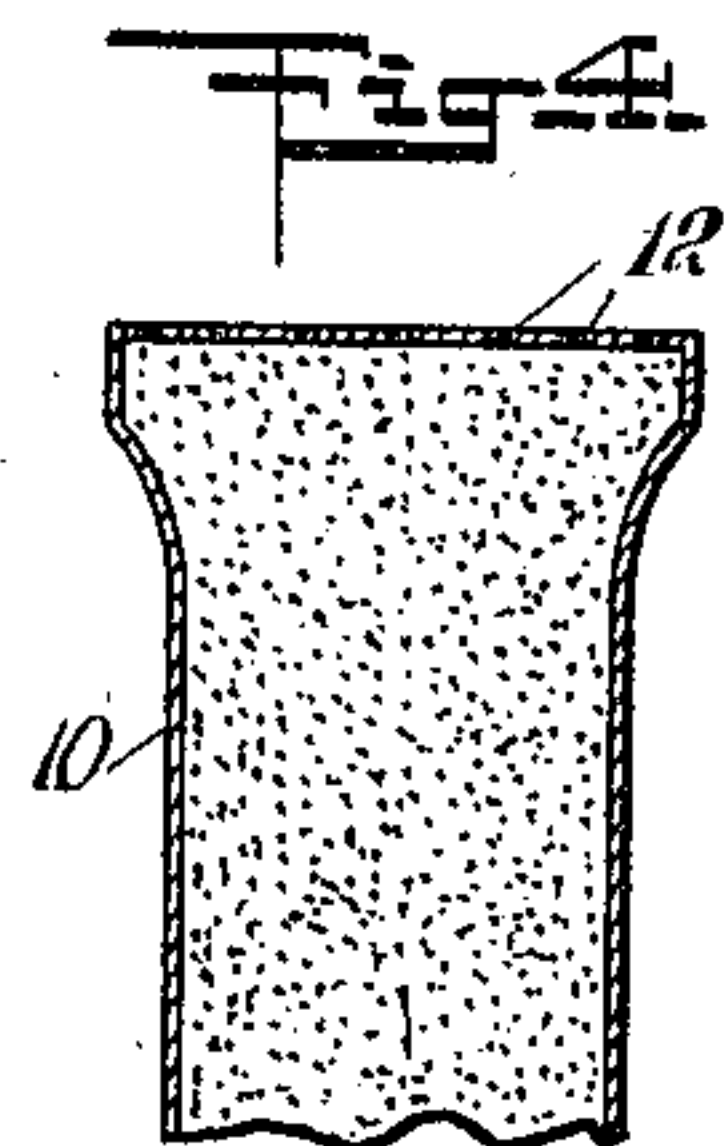
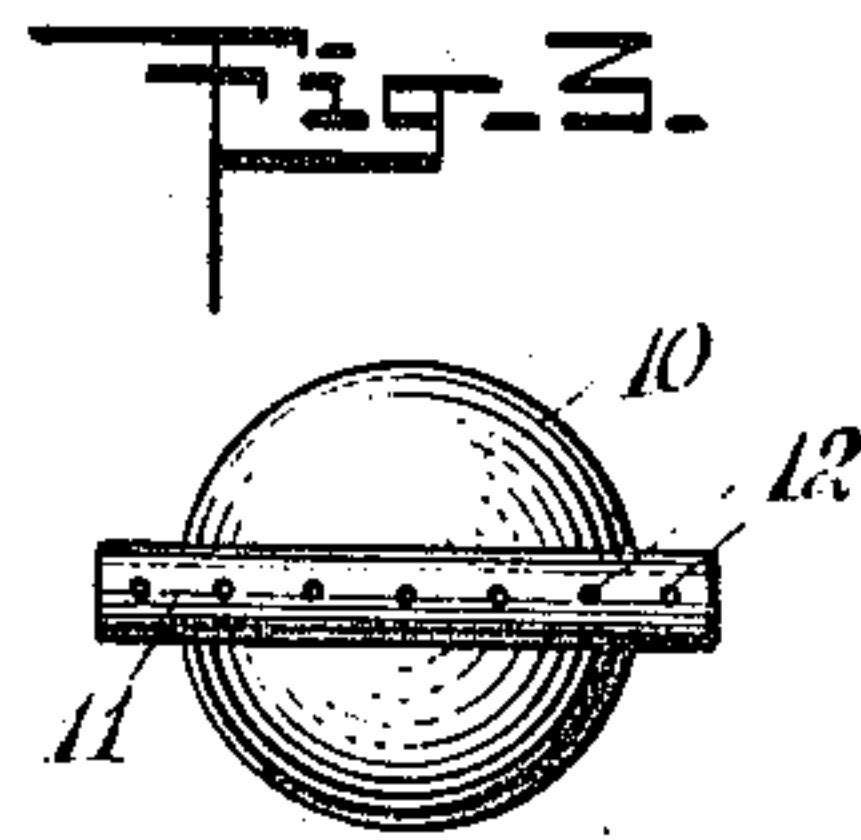
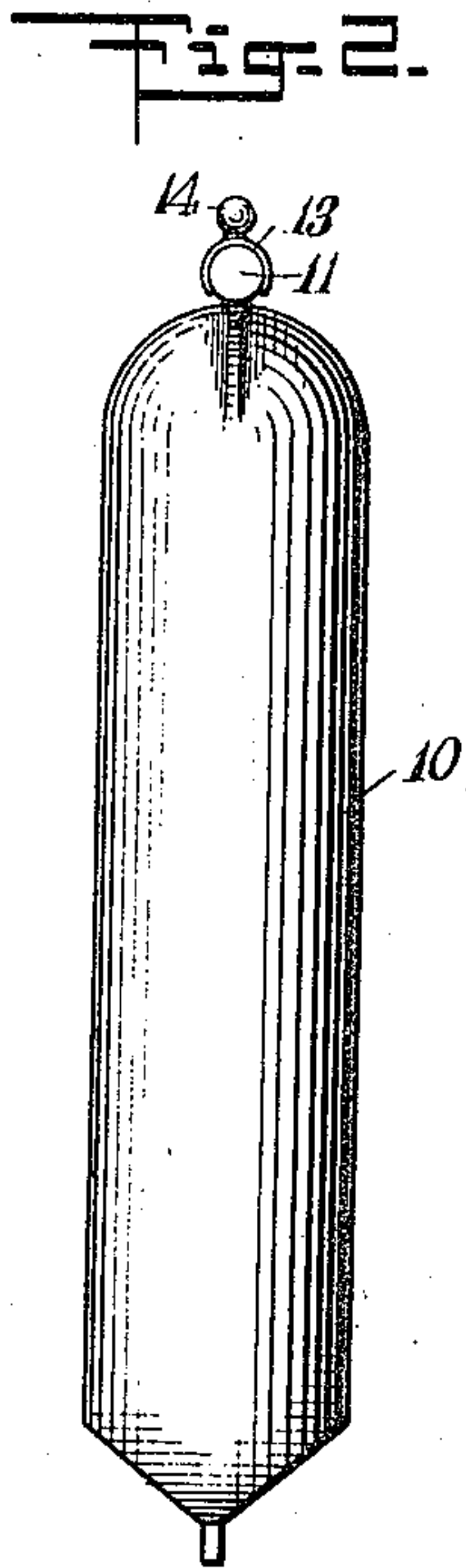
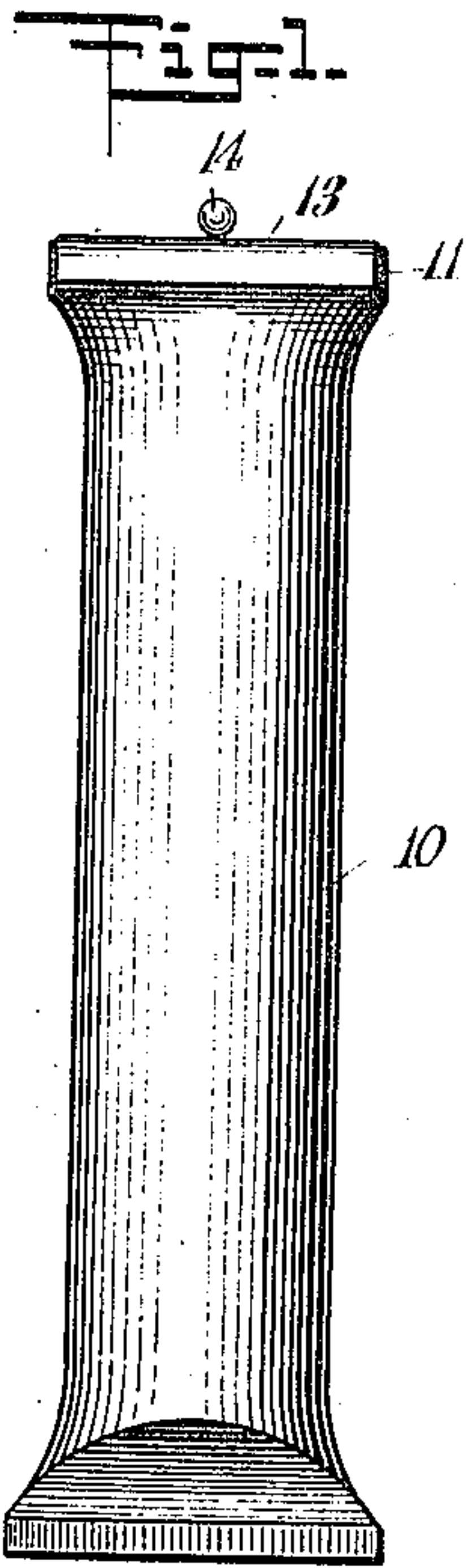


O. GERDTZEN.
DISCHARGE HEAD FOR COLLAPSIBLE TUBES.
APPLICATION FILED APR. 15, 1910.

975,348.

Patented Nov. 8, 1910.



WITNESSES:

F. G. Hachenberg
W. H. Holt

INVENTOR

Oscar Gerdtzen
BY *Munroe*
ATTORNEYS

UNITED STATES PATENT OFFICE.

OSCAR GERDTZEN, OF VALPARAISO, CHILE.

DISCHARGE-HEAD FOR COLLAPSIBLE TUBES.

975,348.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed April 15, 1910. Serial No. 555,708.

To all whom it may concern:

Be it known that I, OSCAR GERDTZEN, a citizen of the Republic of Chile, and a resident of Valparaiso, Chile, have invented a new and Improved Discharge-Head for Collapsible Tubes, of which the following is a full, clear, and exact description.

The invention is an improvement in discharge heads for collapsible tubes, more especially such tubes as are used for dentifrices in the form of cream or paste, and has in view a relatively long and narrow discharge head undercut at opposite sides, and a spring clip cover adapted to removably seat on the head over the discharge and engage the opposite sides of the head below the maximum width of the upper portion.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a collapsible tube having my improvements applied thereto; Fig. 2 is a similar view, looking in a direction at right-angles to Fig. 1; Fig. 3 is a plan of the tube with the cover removed; Fig. 4 is a vertical section through the upper portion of the same; Fig. 5 is a vertical section through the discharge head, showing it as constructed of a separate piece and detachably applied to the ordinary form of collapsible tube; Fig. 6 is an edge view of the head shown in Fig. 5 as applied to the tube; and Fig. 7 is a sectional view similar to Fig. 5, showing a still further form of the invention.

Referring more particularly to Figs. 1 to 4 inclusive, there is shown a collapsible tube 10, having the customary construction except in the matter of the discharge end, which, instead of having the usual nipple, is constructed with a discharge head 11, directly communicating with the body of the tube and having a relatively long and narrow discharge in its discharge face, constituted by a series of small perforations or pin-holes 12, the pin-holes being close together to give an approximately uniform discharge

of the cream or paste with which the tube is filled, equal to or slightly greater in length than the diameter of the tube. The head, it will be noted, presents a blunt discharge face, which prevents it from sinking into the bristles of the brush when the head bears against the latter in applying the paste. The head is also contracted in width at the throat or point at which it joins onto the tube, and receives a spring clip cover 13, which conforms to the outer portion of the head and bindingly engages the same at the opposite sides below the point of maximum width, the cover having a knob or other projection 14 by which it may be conveniently lifted from and placed over the perforations.

In Fig. 5 I have shown the discharge head 11^a, corresponding to the discharge head 11, made as a separate part and detachably applied to the ordinary form of paste tube by threading it upon the usual discharge nipple 15, of the collapsible tube 10^a, the head being of substantially triangular form in vertical longitudinal section, with the discharge face of the head having pin-holes 12^a correspondingly arranged to the pin-holes 12 in the form of the invention first described. A spring clip cover 13^a is preferably provided for covering the perforations in the head and has a knob 14^a for removing and applying it.

The form of the invention shown in Fig. 7 is much the same as that shown in Figs. 5 and 6, except that it is provided with a central opening 16, so that the tube may be hung on a hook or nail when not in use, the wall of the opening forming in connection with the outer wall of the head, passages 17 for the paste, diverging from the nipple 15, and connecting with the opposite ends of a passage 18 arranged under the perforated discharge face.

It is obvious that the discharge of the head in any of the forms of the invention shown can be constructed in the nature of a narrow slit, if desired, instead of the perforations, in either case the tube being adapted to deliver the paste approximately uniformly along the length of the brush and

force it into and between the bristles without moving the tube back and forth as it is squeezed, for this purpose.

Having thus described my invention, I
5 claim as new and desire to secure by Letters Patent:

In combination with a collapsible tube for
paste, a relatively long and narrow discharge head undercut at opposite sides, and
10 a spring clip cover removably seating on

the head over the discharge and engaging at the opposite sides of the head below the maximum width of the upper portion.

In testimony whereof I have signed my name to this specification in the presence of
two subscribing witnesses.

OSCAR GERDTZEN.

Witnesses:

G. CARVALLON,

CHAS. F. BAKER.