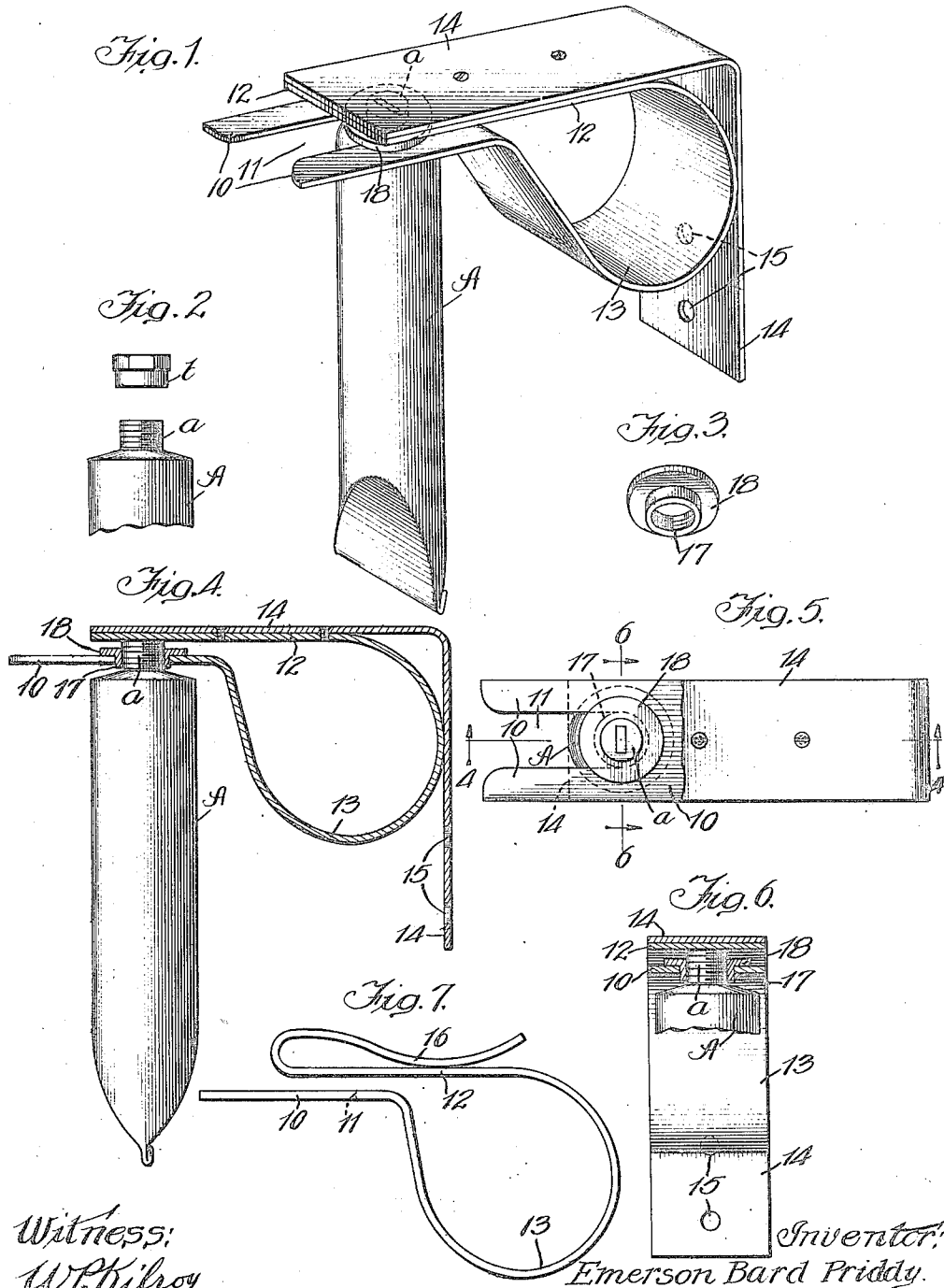


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 COLLAPSIBLE TUBE HOLDER.
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1,247,600.

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE-TUBE HOLDER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EMERSON BARD PRIDDY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Collapsible-Tube Holders, of which the following is a specification.

To persons using tooth paste or other material which is marketed in collapsible tubes, the necessity of screwing the closing cap off and on at each use of the tube is a source of annoyance which has long been recognized. In addition to the inconvenience there is an ever-present liability that the cap will be lost or misplaced so that the tube cannot be sealed.

This invention contemplates the production of a device which provides a support for a collapsible tube and which eliminates the necessity for removing and replacing the threaded cap on the tube.

Another object is to provide a holding device so arranged that a tube may be quickly and conveniently associated therewith or removed therefrom.

A further object is to provide an effective seal for the tube to prevent deterioration of its contents.

Another object is to produce a holding device which is extremely simple and durable and which may be cheaply manufactured.

Other objects and advantages of the invention will be fully understood from a perusal of the following detailed description.

In the accompanying drawings, Figure 1 is a perspective view illustrating a holder embodying the features of my invention and showing a collapsible tube in association with the holder. Fig. 2 is a fragmental side elevation of a collapsible tube with the threaded cap removed therefrom. Fig. 3 is a perspective view of a collar adapted to be threaded onto the neck of the tube to cooperate with the holder. Fig. 4 is a central sectional view on line 4—4 of Fig. 5. Fig. 5 is a plan view with a portion broken away to disclose parts beneath. Fig. 6 is a transverse sectional view in the plane of line 5—5 of Fig. 5. Fig. 7 is an elevation of a modified form of holder equipped with a spring clip to provide association with a horizontal shelf or similar support.

My invention is susceptible of embodiment in many different forms, and while I have herein shown the preferred embodi-

ment and will describe the same in detail, it should be understood that I do not intend to thereby limit the invention to the structure disclosed. The scope of the invention will be pointed out in the appended claims.

A holder embodying my invention comprises a portion providing a support for the collapsible tube and another portion arranged to overlie the open end of the tube and seal the latter. These two portions are arranged to be held in proper relation so that the sealing portion will be maintained in close contact with the end of the tube. The means by which this result is effected may take various forms, but the preferred way of accomplishing the end is to provide spring-pressure means adapted to constantly press one portion toward the other so that the tube and the sealing portion will be maintained in close contact. Positively acting means may, however, be used instead of the spring means, if desired.

The portion which provides the support for the collapsible tube A preferably takes the form of a plate 10 apertured to receive the neck of the tube, the aperture preferably being in the form of an open-ended slot 11 extending inwardly from the end of the plate. In other words, the plate is of bifurcated character to provide two prongs. The opposing or sealing portion of the device may be of any suitable form such as a plate 12 overlying the bifurcated plate 10 and adapted to contact the upper end of the tube neck and seal the discharge orifice therein. The bifurcated plate 10 projects beyond the end of the sealing plate to provide for convenient association of a tube therewith, and the projecting portion may also serve as a hanger for a tooth brush.

The preferred means for drawing the opposing portions of the holder toward each other and for holding them in proper position comprises a spring 13 which, in this instance, is integral with the plates 10 and 12 and constitutes the mid portion of a strip of spring steel or like material from which said plates are formed. As indicated, the plate portions and spring portion are formed by bending a strip of spring steel to bring the end portions into proximity and parallel relation, the mid portion of the strip being bowed and the strip being tempered in such shape so that the spring portion acts to press the plate portions toward each other. The spring element, however,

is not necessarily made integral with the other elements, but might be separate therefrom and of a different shape and position without affecting the function or operation of the device.

The means for mounting or supporting the holder may take various forms. In the embodiment shown in Figs. 1 to 6, inclusive, the device is arranged to be mounted by means of an angular bracket 14 having a horizontal arm and a vertical arm, the former being rigidly secured to the sealing plate 12 and the latter having apertures 15 adapted to receive screws by which the bracket may be rigidly attached to the vertical face of a wall or other suitable support. Obviously, if it is desired to attach the holder to the lower face of a horizontal support, the vertical arm of the bracket might be dispensed with and the securing screws passed upwardly through the horizontal arm thereof. Or if desired, the bracket might be omitted entirely and the holder fixed directly to the support.

In the form shown in Fig. 7, the holder is supported by a clip 16 which preferably is of a yielding character and which overlies the sealing plate 12, said clip and plate being arranged to embrace a horizontal shelf or like support for mounting the device thereon. Other mounting means than those herein mentioned may be provided if desired.

Collapsible tubes of the character now in common use for marketing tooth paste and other materials consist of a body portion A, a neck portion *a* of reduced diameter and a cap *b* threaded onto said neck portion. In order to adapt such a tube for use with my improved holder, I provide a collar 17 having a radial flange 18 and having interior threads to adapt it to be turned onto the neck *a*. Preferably the collar is of an exterior diameter slightly less than the width of the slot 11 in the holder so that the tube with the collar thereon may be slipped into the slot with the flange 18 overlying the upper face of the plate at the edges of the slot. By drawing down on the tube to depress the plate 10 and then pushing the tube rearwardly the collar may be slid along the slot to carry the upper end of the neck *a* beneath the sealing plate 12 so that when the tube is released the spring will force the tube and the plate toward each other to tightly seal the plate 12 over the end of the neck.

It is obvious that instead of providing a separate collar to be attached to the neck of a standard tube a flange or the like might be formed on the neck *a* or on the cap *b* in the manufacture of the tube. If the flange were provided on the cap, a hole would be formed through the top of the wall by the user, as for example, by cutting off a protruding boss to expose an opening in a manner well

known in the collapsible tube art. The cap would then be left on the tube at all times to cooperate with the holder.

Assuming the tube to be of the form now generally in use which is shown in the drawings, when a person having one of my improved holders buys a tube of material, he removes the cap *b*, throws it away, and substitutes the collar 18 so that the tube is adapted for association with the holder. The nuisance of screwing the cap off and on at each use of the material is thereby entirely eliminated. A convenient and definitely located holder for the tube is provided, and the tube is maintained in sealed condition to prevent contamination or deterioration of its contents.

I claim as my invention:

1. A collapsible tube holder comprising two parallel adjacent plate portions provided with spring means for pressing them toward each other, one of said plate portions constituting a supporting element and the other a sealing element, said supporting element projecting beyond the sealing element and having an open-ended slot in its projecting portion adapted to receive a collapsible tube, the said supporting element being arranged to be drawn away from the sealing element by engagement of a collapsible tube in said slot, whereby the tube may be slid along the slot into position to have its discharge orifice sealed by the sealing element.

2. The combination with a collapsible tube having a threaded neck, of a flanged collar threaded onto said neck and supporting means comprising a sealing element and an adjacent supporting element spring-pressed toward each other, the supporting element projecting beyond the sealing element and having an open-ended slot extending into position opposite the sealing element, whereby the collapsible tube may be slid into said slot with the flanged collar overlying the slot to support the tube in position to be sealed by said sealing element.

3. A collapsible tube holder comprising two adjacent parallel horizontal plates spring-pressed toward each other, the upper plate being stationarily mounted, the lower plate projecting beyond the upper one and having an open-ended slot extending inwardly from such projecting portion to a position opposite the upper plate, the lower plate being adapted to be sprung downwardly away from the upper plate to allow the collapsible tube to be slid into said slot beneath the upper plate.

4. The combination of two adjacent members, one of which constitutes a sealing member and the other a supporting member, the latter projecting beyond the sealing member and having an open-ended slot in

such projecting portion, the two members being spring-pressed toward each other, and a collapsible tube slidable into said slot and provided with means at its neck portion

5 adapted to cooperate with said supporting member adjacent to said slot to support the tube, said supporting member being arranged to yield away from said sealing member to permit the tube to be slid into
10 sealing relation with said sealing member.

5. A collapsible tube holder comprising two opposed members lying face to face in close relation, one of said members having an open-ended slot adapted to receive a
15 collapsible tube and the other member being arranged to seal the open end of the tube, spring means for pressing one of said members toward the other, and a collar adapted to receive the neck of a collapsible tube and
20 arranged to slidably engage in said slot to support the tube.

6. A collapsible tube holder comprising two opposed plates lying face to face in close relation, one of said plates having an
25 open-ended slot adapted to receive a collapsible tube, and the other plate being arranged to seal the open end of the tube, and spring means for pressing one of said plates toward the other, said plates being
30 adapted to be sprung apart by engagement of the tube therewith so as to permit the tube to be slid into said open-ended slot.

7. A collapsible tube holder comprising a sealing portion and an adjacent tube-supporting portion spring-pressed toward each
35 other, said tube-supporting portion projecting beyond the sealing portion and having an open-ended slot in such projecting part, and said supporting portion being arranged
40 to yield away from said sealing portion to permit a collapsible tube to be slid into said slot and into position to have its discharge orifice sealed by said sealing portion.

8. The combination with a collapsible
45 tube having a threaded neck, of a collar threaded onto said neck and having a radial flange, a plate having an open-ended slot adapted to slidably receive the neck and underlie said flange, a sealing member ad-

jacent to the slot, and means for holding
50 the plate and the sealing member in position for said member to overlie the end of the neck and seal the discharge orifice.

9. A collapsible tube holder comprising two plate portions lying face to face in close
55 proximity and an intermediate bowed spring portion, said plate portions and spring portion being formed of an integral piece of metal and one of said plate portions having a slot extending inwardly from its
60 end.

10. A collapsible tube holder comprising two plate portions lying face to face in close proximity and an intermediate spring portion, said plate portions and spring portion
65 being formed of an integral piece of metal, one of said plate portions being apertured to disengageably receive a collapsible tube and the other portion being adapted to seal the end of the tube.
70

11. The combination of two plates disposed horizontally one above the other, the lower plate having a bifurcated end providing an open-ended slot adapted to slidably
75 receive the neck of a collapsible tube, means for yieldingly pressing said plates toward each other, and a collapsible tube provided with means to cooperate with said bifurcated plate to support the tube thereon, the opposed plate being adapted to seal the
80 end of the tube when associated therewith and said spring means being arranged to hold the tube and the sealing plate in close contact.

12. The combination of two opposed
85 plates, one of which is bifurcated to provide an open-ended slot and the other of which lies opposite to said slot to provide a sealing means, spring means tending to move said plates toward each other, and
90 a collapsible tube provided with means at its neck portion to engage with said bifurcated plate to be supported thereby, said spring means being adapted to hold said tube with its aperture sealed by said sealing plate.
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In testimony whereof, I have hereunto set my hand.

EMERSON BARD PRIDDY.