Aug. 9, 1927. 1,638,159

C. HOPEWELL

DEVICE FOR HOLDING COLLAPSIBLE TUBES

Filed March 24, 1925 2 Sheets-Sheet 1

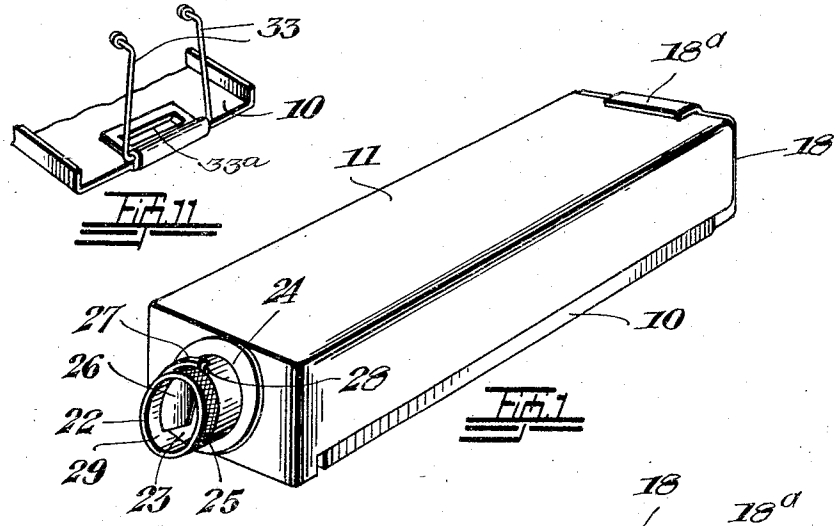


Fig. 11

Fig. 1

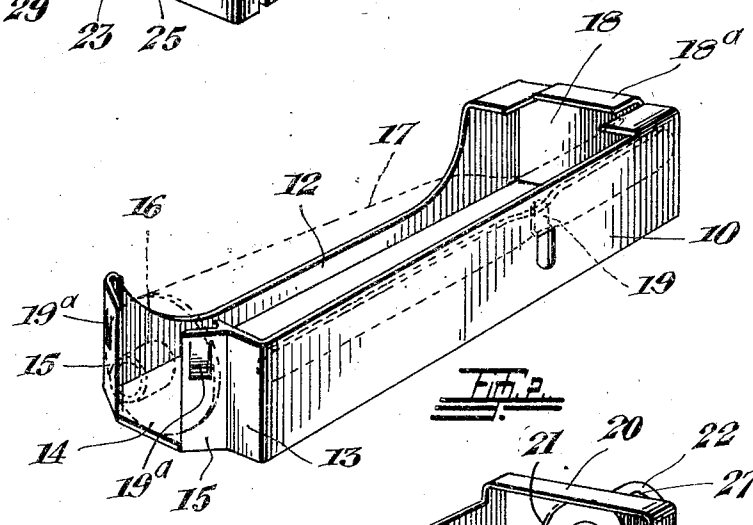


Fig. 2.

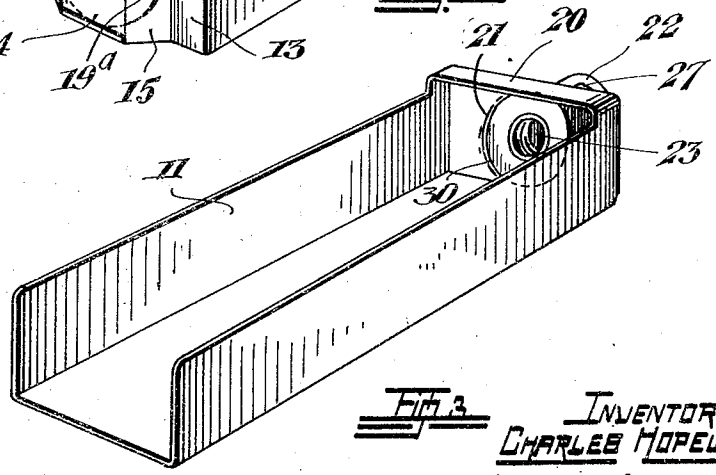


Fig. 3.

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DEVICE FOR HOLDING COLLAPSIBLE TUBES

Filed March 24, 1925 2 Sheets-Sheet 2

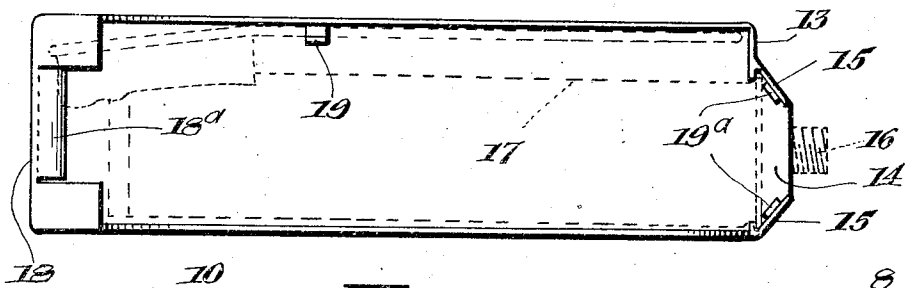


Fig. 4.

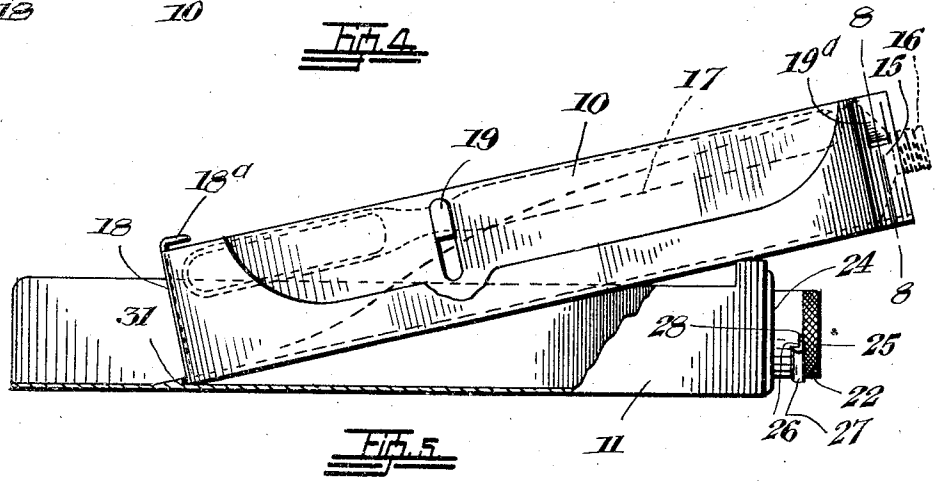


Fig. 5.

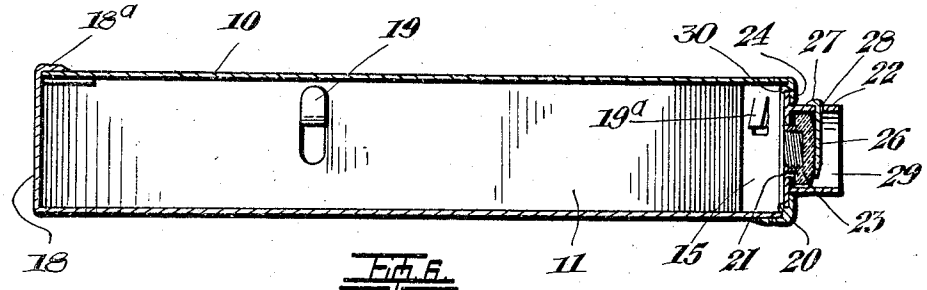


Fig. 6.

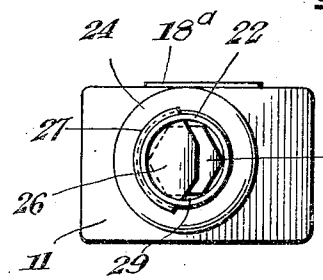


Fig. 7.

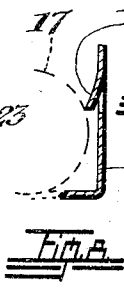


Fig. 8.

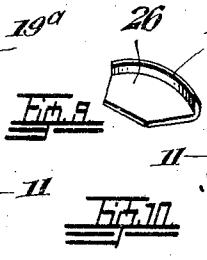


Fig. 9.

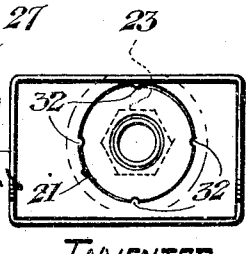


Fig. 10.

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Patented Aug. 9, 1927. 1,638,159

UNITED STATES PATENT OFFICE.

CHARLES HOPEWELL, OF OTTAWA, ONTARIO, CANADA.

DEVICE FOR HOLDING COLLAPSIBLE TUBES.

Application filed March 24, 1925. Serial No. 18,033.

This invention relates to improvements in devices for holding collapsible tubes and more particularly to containers for holding tooth paste and shaving cream tubes and the like and the objects of the invention are to provide a durable and simply constructed device of this character of presentable appearance that will take up very little space and at the same time efficiently protect the contents without waste or leakage, while carrying them ready for use.

Still further objects are to provide a device of this character in which means, operable from the outside of the container, are provided for carrying the tube cap and which are adapted to automatically register with the top of the tube when the latter is placed therein.

Further objects are to provide a device of this description that while fulfilling the foregoing requirements, particularly for travellers, can be manufactured and placed on the market in large quantities at very low cost.

Yet another object is the provision of a container of this description that can be stamped and cut from practically one piece of material.

With the foregoing and other objects in view, the invention consists essentially of a container for collapsible tubes and the like formed in sections adapted to engage with one another and provided with means operable from the outside for holding the cap of a tube, fitting it onto the tube and removing it from the tube simultaneously with the clamping and opening of the container, respectively.

Referring now to the drawings in which like characters of reference indicate corresponding parts in each figure,

Figure 1 is a perspective view of the container complete in closed position,

Figure 2 is a perspective view of the invention showing the tube carrying section with tube in dotted lines,

Figure 3 is a perspective view of the cover section detached from the tube carrying section,

Figure 4 is a plan view of the tube carrying section,

Figure 5 is a side elevation partly in section showing the tube carrying section supported in slantwise position ready for use in the cover section,

Figure 6 is a longitudinal section showing the retaining lugs for the tube,

Figure 7 is an end view showing the cap holding member,

Figure 8 is a section on line 8—8 of Figure 5 showing the retaining means for the cap holder,

Figure 9 is a perspective detail of the cap retaining plate,

Figure 10 is a modified form of containing means for the cap holder, and

Figure 11 is a fragmentary detail of an alternative form of holder.

Referring now more particularly to the drawings, in which an example of my invention is shown, 10 and 11 designate a tube carrying section and a cover section respectively, of any suitable material and here shown of nickel plated, sheet steel or the like and formed from a single piece of this material, thereby materially reducing the cost of production. The tube carrying section 10 is preferably rectangular and open at the top with one side 12 restricted as illustrated in Figure 2. The end 13 has stamped therein a slot 14 having slightly bulged sides 15 adapted to engage at 16 with the collapsible tube 17, as indicated in dotted lines, designed to fit lengthwise in the section 10 and to be retained there by suitable lugs 19ª. The other end 18 of the member 10 is closed and formed integral therewith by simply bending the material at right angles. The lip 18ª, which forms part of the end 18, is adapted to fit over the cover 11 and retain it when in closed position, as illustrated in Figure 1.

As illustrated in Figures 2 and 5, the tube carrying member or section 10 is also adapted to hold a tooth brush or the like by means of the retaining lug 19 integral therewith. The lugs 19ª hold the tube 17 securely within the member 10 at the same time preventing any movement of the tube while the cap is being removed or replaced.

Referring now to the cover section 11, this is open at one end and closed at the other end at 20. In the closed end is an aperture 21 having rotatably mounted therein a sleeve member 22 formed with a flange or bead 30 at one end to engage as illustrated in Figures 6 and 7 with the unapertured portion of the closed end 20 of the section 11. The sleeve member 22 when fitted into the casing end 20 is designed to protrude there-

beyond as at 24 and is provided with a knurled edge 25 whereby it can be readily rotated (see Figure 5). This sleeve is essentially designed to engage with the neck 16 of the tube and to carry a top or cap 23 for the tube, the cap being held in non-rotatable position by means therein of a slip plate 26 adapted to be inserted in the sleeve member 22 through a slot 28 in the side thereof, the slip plate being provided with a suitable flange 27. As illustrated in Figure 7 the cap 23 is thus fitted in non-rotatable position within the opening 29 of the sleeve member 22 between the flanged inner end thereof and the slip plate 26 so that when the member 22 is rotated the cap 23 will rotate therewith to engage with the threaded neck 16 of the tube 17 and thus gradually close the tube and at the same time clamp the container sections 10 and 11 together. Then, on the member 22 being rotated in the opposite direction, the cap is gradually removed from the tube and simultaneously therewith the sections are unclamped or opened. Instead of the bead or flange 30, and as illustrated in Figure 10 in the modified form, stops 32 may be provided to retain the member 22 in position.

In Figure 5 is illustrated the manner in which as the cover section 11 is removed it is further utilized to support the tube carrying section 10 in a slantwise position, the end 18 contacting with the stop 31 in the former, thereby enabling the user to obtain the required amount of paste or soap, as the case may be, without having to lift either of the sections 10 or 11.

In the modified form, as illustrated in Figure 11, for holding the tube, the slotted end 13 of the member 10 is done away with and a U-shaped member 33, preferably wire, is pivotally mounted thereon with rounded bulb shaped ends adapted to engage with the tube. With this attachment and to engage with the shoulder of the tube is stamped a recess 33^a in the base of the section 10.

From the foregoing the operation of my invention will be apparent. The tube 17, as illustrated in Figure 2, is first deprived of its cap 23 and placed in the tube holding section 10, the top or cap receiving portion 16 registering with the opening in the end of the section 10. The cap is then placed within the cap carrying member 22 in the cap carrying section 11 by removing the slip plate 26 and then replacing it. Section 11 is then slid or fitted over section 10, the cap 23 in the cap carrying member 22 in the former registering accurately with the top 16 of the tube. The member 22 is then rotated to engage with the top of the tube in the usual manner and at the same time moving the section 11 into closed, clamping position with the section 10. To open the container and simultaneously take the cap off the tube, it is only necessary to rotate the member 22 in the opposite direction.

The essential feature, and one might say the basic feature, of my invention is the combined cap carrying and clamping member 22 in combination with means for retaining the collapsible tube in position so that, when the cap carrying member causes the cap to engage with the top of the tube, the tube will remain fixed thereby enabling the cap carrying member to operate to put on or take off the cap and at the same time to clamp or open the container.

A further feature of my invention is the construction of the combined cap carrying and clamping member 22 and the cap retaining, removable plate whereby, once the cap is placed in its allotted space, it is held there safely and always ready to engage with the top of the collapsible tube. This obviates all the trouble and inconvenience caused by losing the cap and carrying it in the container in such a way that it is liable to drop out when removed from the tube.

A still further and unique feature of my invention is that which enables the tube to be supported, as illustrated in Figure 5, when in use, in a slantwise position so that if the paste is inclined to run through being melted it will not, in this position, flow out or be wasted, although available for use. The advantage thus obtained will be appreciated particularly by travellers in hot countries and heated trains where, with the tube retained in a horizontal position, it is practically impossible to prevent waste through the paste therein becoming liquified.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention within the scope of the claims, constructed without departing from the spirit or scope thereof, it is intended that all matter contained in the accompanying specification and drawings shall be interpreted in an illustrative and not in a limiting sense.

What I claim as my invention is:

1. In a container or the like for collapsible tubes, a combined cap carrying and clamping member rotatably mounted in the container and operable from without the container.

2. In containers and the like for collapsible tubes, a combined cap carrying and clamping member rotatably mounted in the container and adapted to detachably carry a cap or top.

3. In a combined cap carrying and clamping member for tube containers and the like, means for retaining a cap comprising a slot in said member and a flanged slip plate adapted to engage with said slot and to contact with the cap or the like in said member.

4. In containers and the like for collapsible tubes, a combined cap carrying and

clamping member rotatably mounted in the container and comprising a flanged sleeve provided with a slip plate designed to hold, between the flange and the said plate, a tube cap or the like.

5. In a device of the character described, a tube carrying section and a cover section adapted to slidably engage with one another, a combined cap carrying and clamping member operatively mounted in the cover section and protruding therebeyond and designed on the sections being fitted together to register with the top of a tube, tube retaining means integral with the tube carrying section and adapted to detachably and fixedly retain a tube therein and means for operating the cap carrying and clamping member from without the container.

6. A container comprising a body portion formed of separate sections adapted to engage with one another, a combined cap carrying and clamping member operatively mounted in one of said sections and operable from without the sections.

7. In a device of the character described, a tube carrying section open on the top side and provided with an opening at one end thereof, a cover section adapted to engage with and be clamped to the tube carrying section, a combined cap carrying and clamping member rotatably mounted in the cover section and operable from without said cover section, said member registering, when the said sections are brought into clamping position, with the said end opening in the tube carrying section, whereby the said member may be operated by rotation in one direction thereby causing the cap enclosed within said member to engage with the nozzle of a collapsible tube in the tube carrying section and simultaneously therewith automatically clamp together the said sections, and by rotation in the opposite direction, to disengage the said cap from the said nozzle, thus automatically separating the said sections.

In witness whereof I have hereunto set my hand.

CHARLES HOPEWELL.