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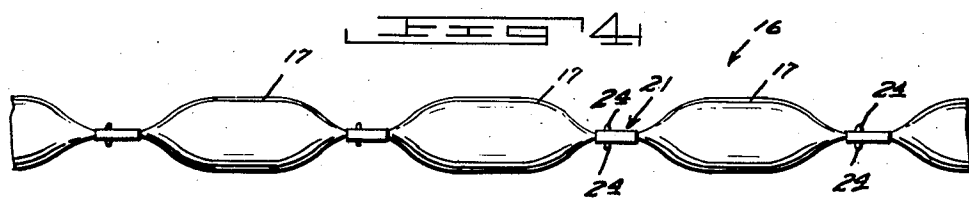
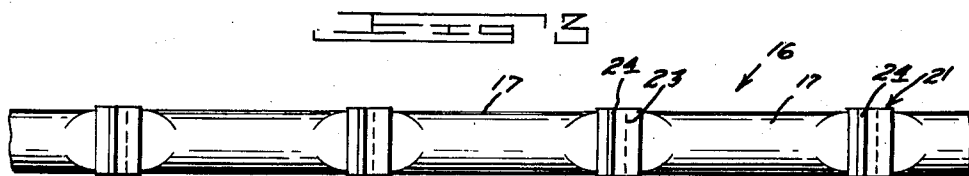
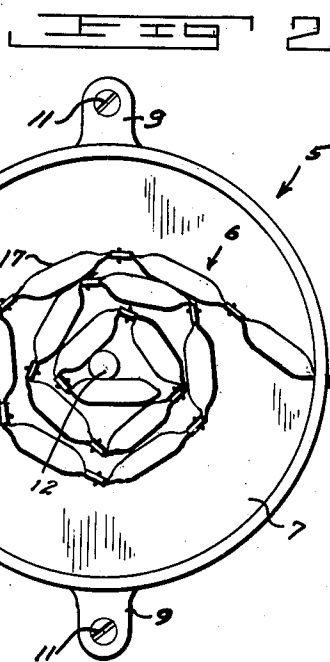
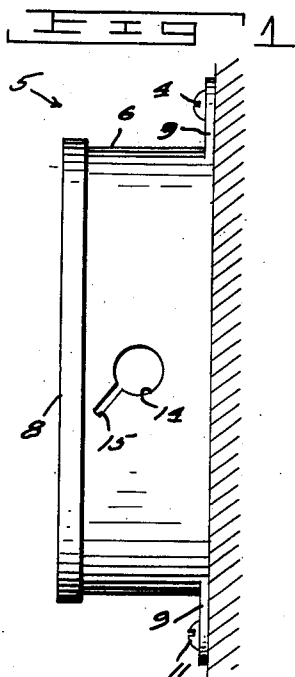
B. M. KJORSVIK

2,343,064

COLLAPSIBLE TUBE DISPENSER

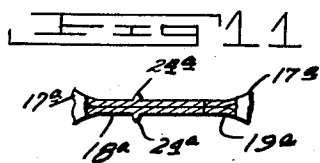
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2 Sheets-Sheet 1



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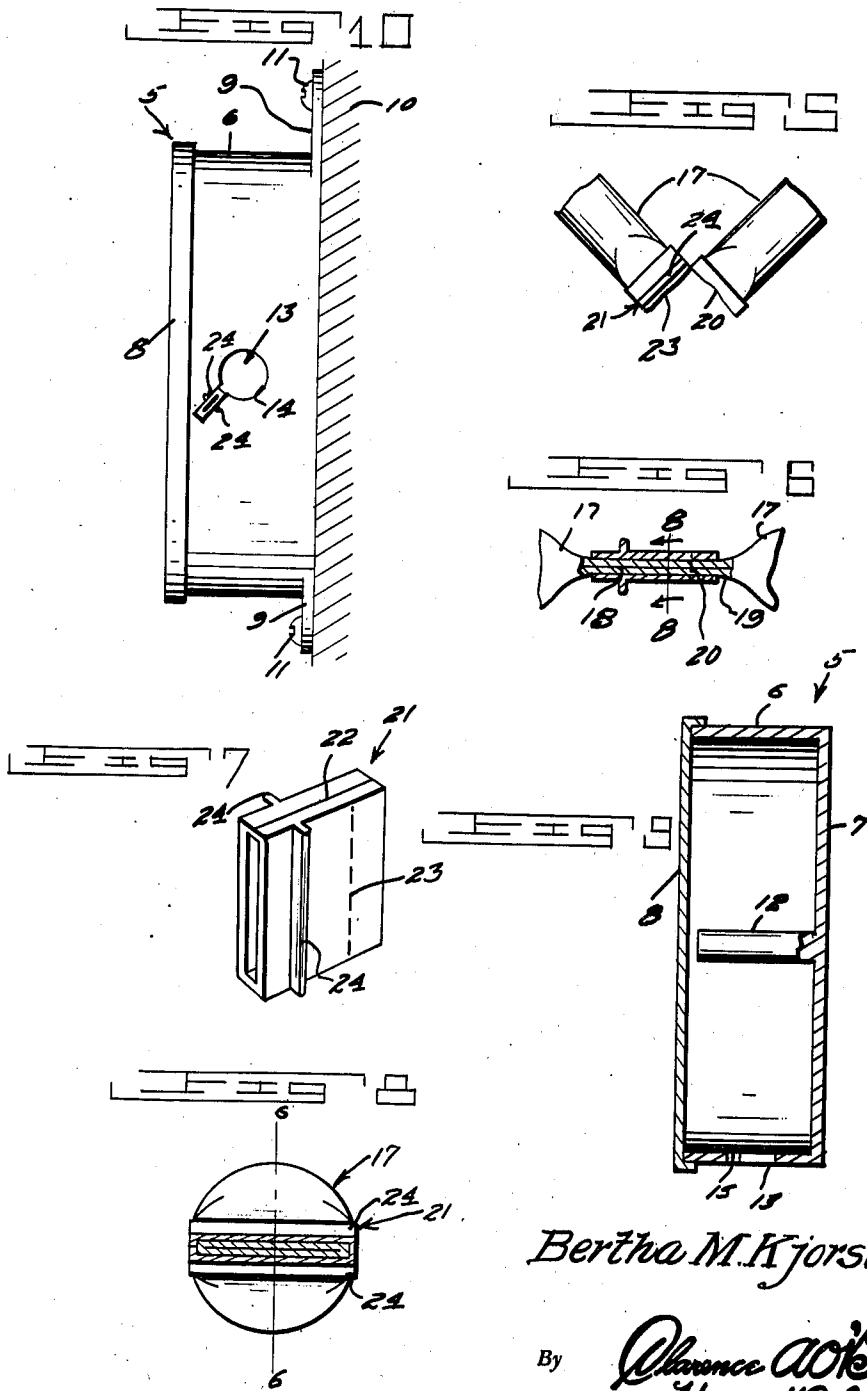
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UNITED STATES PATENT OFFICE

2,343,064

COLLAPSIBLE TUBE DISPENSER

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Application July 18, 1942, Serial No. 451,455

4 Claims. (Cl. 312—39)

The invention relates to a device comprising a magazine or container in which a plurality of collapsible tubes are mounted in end to end relation for dispensing one at a time from the container or magazine by severance of the individual collapsible tubes as they are drawn from or emitted from the magazine or container, the primary object of the invention being to provide an arrangement of this character in an efficient and practical form, whereby the dispensing of such commodities as toothpaste, shaving cream, ointment and the like in individual collapsible tubes is rendered practical and sanitary, especially with regard to the provision of such dispensing means in public places.

Other important objects and advantages of the invention will be apparent from a reading of the following description taken in connection with the appended drawings, wherein for purposes of illustration preferred embodiments of the invention are shown.

In the drawings:

Figure 1 is a general side elevational view of the container or magazine.

Figure 2 is a front elevational view with the cover removed.

Figure 3 is a fragmentary plan view of a plurality of connected individual collapsible tubes showing the employment of clamps for the secure connection of the individual collapsible tubes prior to severance.

Figure 4 is an edge elevational view of Figure 3.

Figure 5 is a fragmentary top plan view showing two of the collapsible tubes in the act of severance.

Figure 6 is an enlarged fragmentary longitudinal vertical sectional view taken through the clamp and showing the same in place on the terminals of two adjacent collapsible tubes.

Figure 7 is an enlarged perspective view of such a clamp.

Figure 8 is a transverse vertical sectional view taken through Figure 6 along the line 8—8 and looking toward the left in the direction of the arrows.

Figure 9 is a transverse vertical sectional view taken through the container or magazine.

Figure 10 is a view similar to Figure 1 but showing a tube terminal clamp in position in the slot of the keyhole opening in the side of the container or magazine.

Figure 11 is a longitudinal vertical sectional view taken through another form of connection between the terminals of the tubes which eliminates the use of a clamp.

Referring in detail to the drawings, the numeral 5 generally designates a suitable type of container or magazine which may comprise a generally cylindrical casing 6 having a closed bottom or inner wall 7 and an open front closed by a removable cover 8, with mounting tabs or ears 9 at the back of the casing to enable mounting the container on a vertical support 10 by means of screws or the like 11. As shown in Figure 9 there projects from the back wall 7 an axially arranged stub shaft 12 whose forward end is slightly spaced from the cover 8, the chain or strip of separable collapsible tubes being wound spirally on the stub shaft 12 as indicated in Figure 2 of the drawings. The side wall of the casing 6 is formed with a keyhole-shaped opening 13 which comprises the substantially circular opening 14 through which the collapsible tubes can be easily drawn, and the downwardly and forwardly angulated slot 15 which is of a width and length to accommodate closely the terminal portions of the connected collapsible tubes, the edges of the slot 15 being sufficiently sharp to cut the terminals of the connected collapsible tube when the tube which has been drawn out of the casing 6 is twisted and pulled relative to the casing 6 in a manner to be described.

While several different forms of strips of collapsible tubes may be provided and the individual tubes connected to each other by different means, there are herein shown two forms of such means, one such form being shown in Figures 3, 4, 5, 6, 7 and 8 of the drawings to which attention is now drawn.

The strip of connected collapsible tubes is generally designated by the numeral 16 and consists of a plurality of collapsible tubes 17 of suitable length and diameter made of suitable material such as pliable metal or plastic or other flexible material, with the opposite ends thereof flattened to provide flattened terminals 18 and 19 as shown in Figure 6 of the drawings, the terminal 18 being substantially longer than the terminal 19 and the two terminals being separated by a perforation or weakened line 20. In the form being described a clamp which is generally designated 21 is employed which consists of a generally rectangular body of suitable metal or other material which has a rectangular C-shaped or C-shaped cross section as indicated in Figures 7 and 8 with the line of separation indicated by the numeral 22, and the top and bottom surfaces of the clamp being provided with weakened lines or perforations 23 which are aligned with the perforations or weakened lines

20 separating the terminals of the joined collapsible tubes. The arms and sides of the clamp 21 embrace the top and bottom of the terminals and the side edges thereof as indicated in Figure 8, with the clamp overlying the terminal 18 and the greater portion of the terminal 19, as clearly indicated in Figure 6 of the drawings. Upper and lower transverse lugs 24 are provided on the upper and lower surfaces of the clamp 21; the purpose of the lugs 24 being to abut the side wall of the casing 6 at the sides of the slot 15 to bear against such surface and to enable the collapsible tube which has been extended through the opening 13 to be twisted relative to the slot and torn along the weakened lines 20 and 23, and severed as indicated in Figure 5 of the drawings. The lugs 24 engage the outside surface of the side wall of the casing 6 and prevent the tube remaining after the dispensed tube has been severed, from falling back into the container through the opening 13, so that the next tube is ready to be grasped by its exposed terminal and by being moved out of the slot 15 to be withdrawn from the container through the opening 14 to, in turn, have its terminal portion moved into the slot 15 for the severing operation.

Referring to Figure 11 of the drawings which shows another form of connection between the adjacent collapsible tubes it will be seen that the clamp 21 is absent, the material used in the construction of the tubes 17a and their terminals 18a and 19a being sufficiently rugged to enable elimination of the clamp. Lugs 24a are provided on the upper and lower sides of the terminal 18a to function like the lugs 24 on the clamp 21 in connection with the slot 15 in the dispensing openings in the casing 6.

Although there are shown and described herein preferred embodiments of the invention it is to be definitely understood that it is not desired to limit the application of the invention thereto except as may be required by the scope of the subjoined claims.

Having described the invention, what is claimed as new is:

1. A device of the character described comprising a casing adapted for mounting on a support, a central stub shaft projecting into the said casing from its rear wall, a continuous strip of individual collapsible tubes, said strip being wound upon said stub-shaft, the side wall of said container being formed with an opening including a portion large enough to permit withdrawal of any one of the collapsible tubes, and an angulated slot portion leading off from the first-mentioned opening portion, said collapsible tubes being connected in end to end relation by flat terminal means having transversely extending weakened portions adapted to seat in said slot, abutment means for preventing the outermost one of said tubes to fall back into the casing, the collapsible tube already drawn through said opening being adapted to be twisted to separate it from its adjacent tube along the said weakened lines, by pulling and twisting the dispensed tube relative to the container.

2. A device of the character described comprising a casing having an internal central stub shaft projecting from the rear wall thereof, a strip consisting of a plurality of collapsible tubular containers, said strip being wound around said stub shaft, an opening formed in the side wall of the casing having a portion sufficiently large to enable withdrawal of any one of the collapsible tubular containers from the casing and having another slot-like portion, flattened terminals connecting adjacent ones of said tubes, said flattened terminals being adapted to fit in the slotted portion, abutment means comprising lugs on the flattened terminals adapted to engage the outer side of the casing adjacent said slot to prevent the terminal portion of a tube within the casing from moving back into the casing through said slot, said terminal having a weakened line located outwardly of the lug enabling tearing the withdrawn tube from said strip.

3. A device of the character described comprising a casing having an internal stub shaft projecting from a rear wall thereof, a strip consisting of a plurality of collapsible tube containers connected in end to end relation, said strip being wound around said stub shaft, an opening formed in a side wall of the casing having a portion sufficiently large to enable withdrawal of any one of the collapsible tube containers from the casing and having a slot-like portion, flattened terminals connecting adjacent ones of said tubes, said flattened terminals being adapted to fit in the slotted portion, lugs on the terminal portions adapted to engage the outer side of the casing adjacent said slot to prevent the terminal portion of a tube within the casing from moving back into the casing through said slot, said terminals having a weakened line located outwardly of the lug enabling tearing the withdrawn tube from said strip.

4. A device of the character described comprising a casing having an internal stub shaft projecting centrally from a rear wall thereof, a strip consisting of a plurality of collapsible tube containers connected in end to end relation, said strip being wound around said stub shaft, an opening formed in a side wall of the casing having a portion sufficiently large to enable withdrawal of any one of the collapsible tube containers from the casing and having a slot-like radial extension portion, flattened terminals connecting adjacent ones of said tubes, said flattened terminals being adapted to fit in the slotted portion, lugs on the terminal portions adapted to abut against the outer side of the casing wall adjacent said slot to prevent the terminal portion of a tube within the casing from moving back into the casing through said slot, said terminal having a weakened line located outwardly of the lug enabling tearing the withdrawn tube from said strip, said lugs being formed on the upper and lower sides thereof.

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