Sept. 6, 1932. H. M. GUSDORF 1,876,452

PASTE LIKE DISPENSER

Filed April 8, 1931 3 Sheets-Sheet 1

Fig. 1.

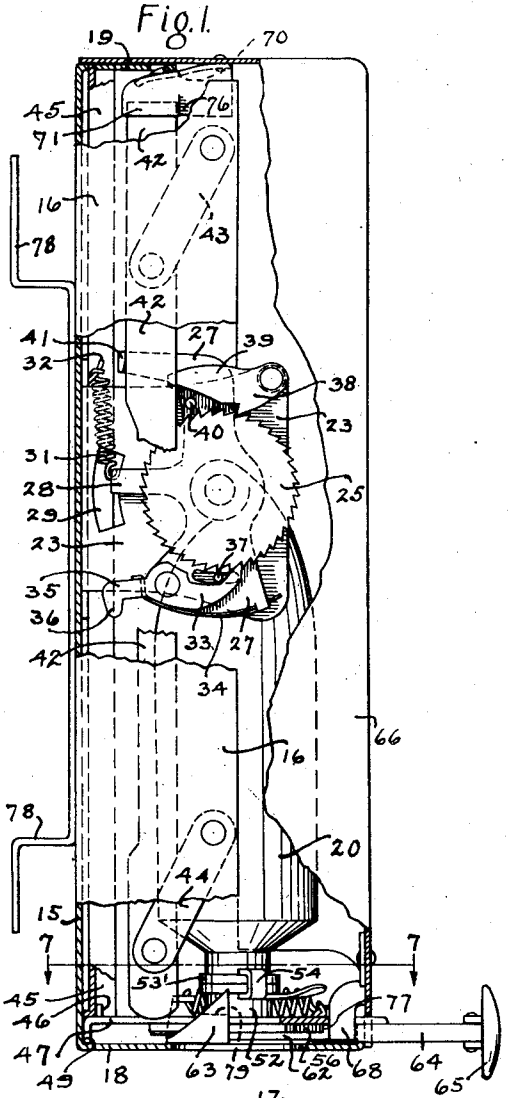


Fig. 2.

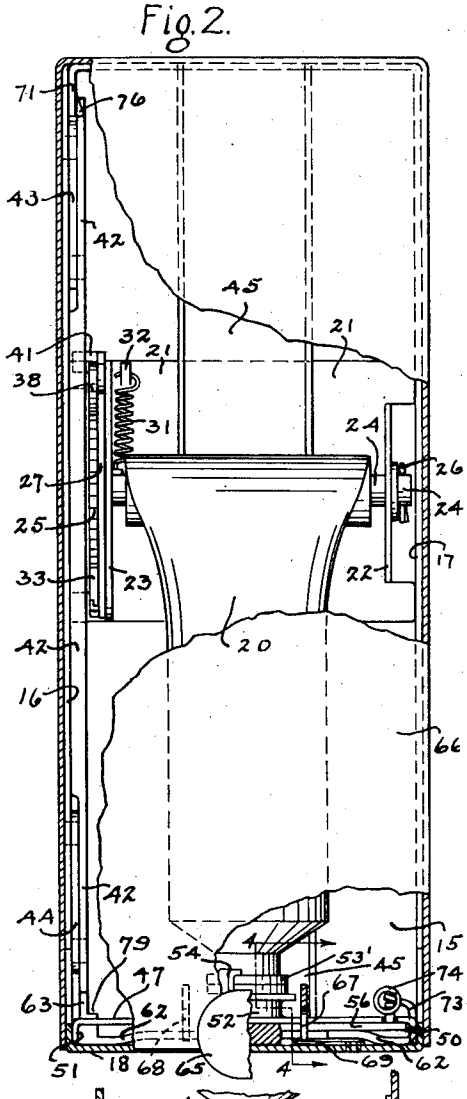


Fig. 3

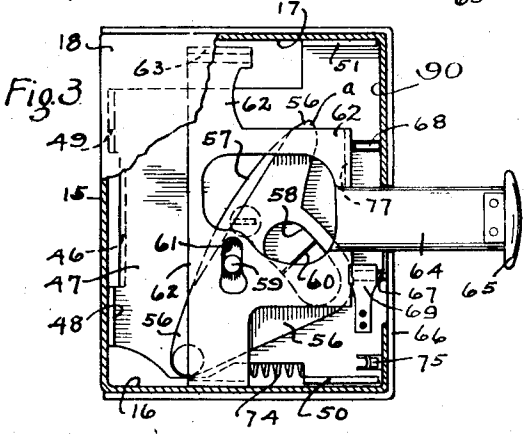


Fig. 4.

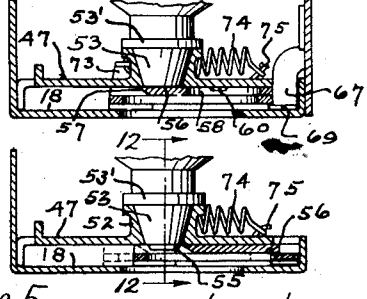
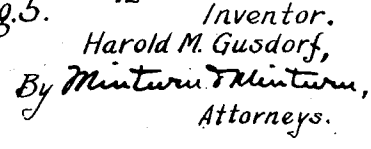


Fig. 5.



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PASTE LIKE DISPENSER

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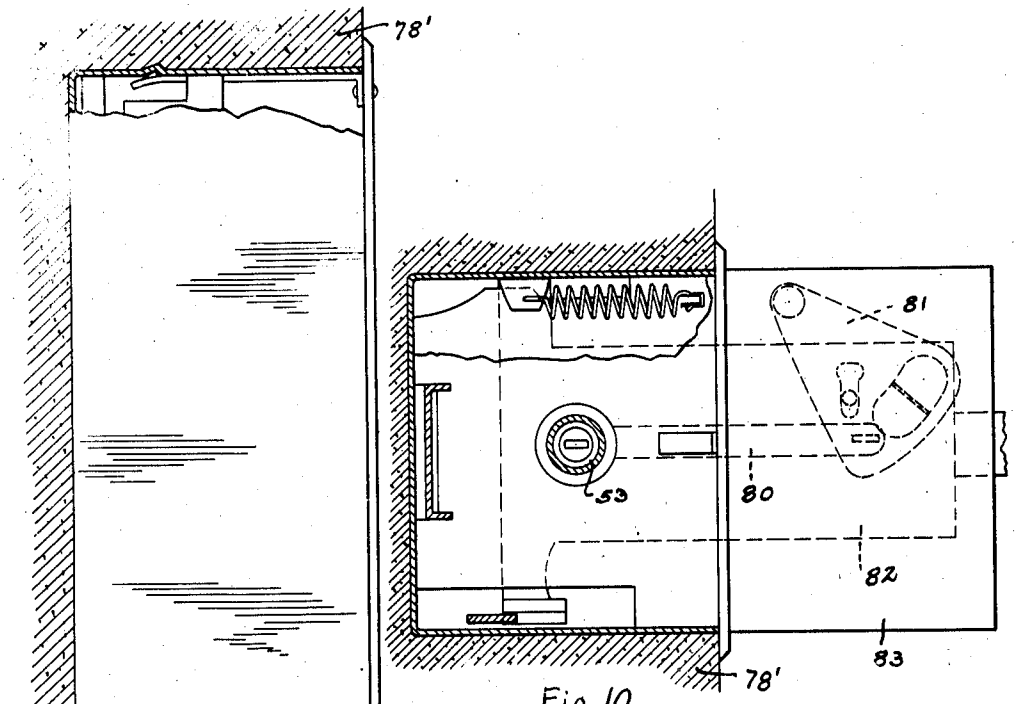


Fig. 10.

Fig. 9.

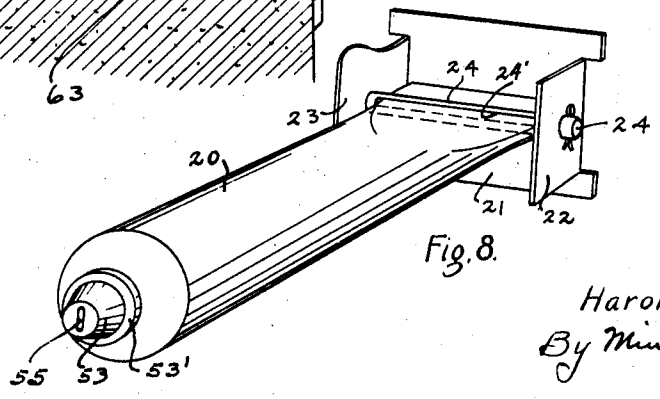


Fig. 8.

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PASTE LIKE DISPENSER

Filed April 8, 1931 3 Sheets-Sheet 3

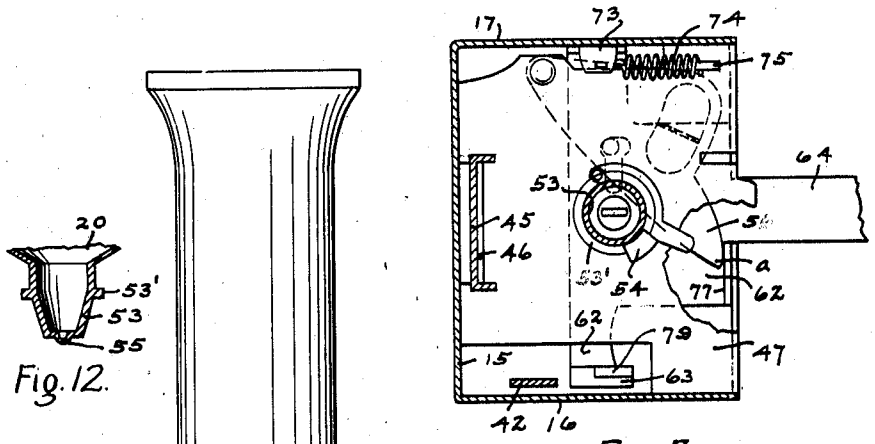


Fig. 7.

Fig. 12.

Fig. 11.

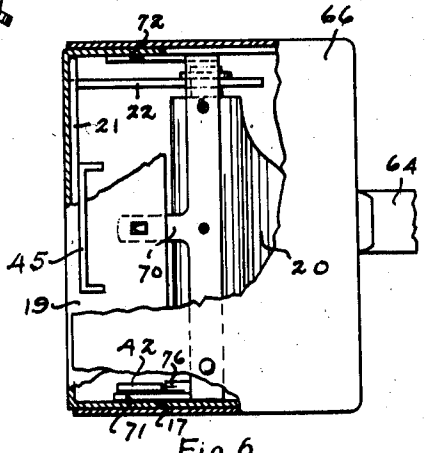


Fig. 6.

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Patented Sept. 6, 1932 1,876,452

UNITED STATES PATENT OFFICE

HAROLD M. GUSDORF, OF INDIANAPOLIS, INDIANA

PASTE-LIKE DISPENSER

Application filed April 8, 1931. Serial No. 528,620.

This invention relates to the art of dispensers of the type adapted to dispense paste or cream-like substance from collapsible containers, and is a continuation in part of my applications for U. S. Letters Patent filed August 1, 1930, Serial No. 472,231; and filed September 30, 1930, Serial No. 485,449.

A primary object of my invention is to provide simple and reliable means for dispensing substances from collapsible containers such as soap in paste or cream form, tooth paste, and the like.

A primary object of my invention is to provide a removable container having a tip quickly attachable to the container support, the tip being initially closed and adapted to be cut off to provide a discharge port.

A primary object is to provide a non-interchangeable means for refilling the container.

Primary objects of my invention also are to provide in combination with means for pressing the substance from the container, means limiting the operation of the pressing means upon a predetermined discharge of the material from the container; means for releasing the pressing means upon removal of a container cover to permit the replacement of the container; and to provide a knife for cutting off of the container tip end.

Another important object is to provide means for preventing the covering of the container until after the tip end has been cut off to open up a discharge passage.

A further important object is to provide a container end cutting knife so formed and so mounted as to have a swinging shearing action under initial direct pressure with the maximum leverage.

A further important object is to provide a container discharge port of a shape permitting the cutting off thereunder of the discharging substance without inducing the substance to curl over or pile up around the port after successive operations.

A further important object is to provide means for cutting of the discharging substance and to provide a cover to be placed over the container discharge port immediately following the cutting off of the substance.

These and other objects as will become apparent in the following description of the invention are accomplished by the means as illustrated in the one best form as now known to me in the accompanying drawings, in which

Fig. 1 is a fragmentary side elevation of a dispensing mechanism embodying my invention;

Fig. 2, a fragmentary front elevation of the mechanism;

Fig. 3, a bottom plan view of the mechanism with the base broken away to disclose the tip and substance cut-off and tip covering mechanism.

Fig. 4, a detail in vertical section on the line 4—4 in Fig. 2;

Fig. 5, a detail in vertical section on the line 4—4 in Fig. 2, but with the cut-off knife at the preliminary point of operation;

Fig. 6, a fragmentary top plan view of the dispensing mechanism;

Fig. 7, a horizontal transverse section on the line 7—7 in Fig. 1;

Fig. 8, a view in perspective of the manner of engagement of the container with the pressure spindle;

Fig. 9, a modified form of the dispensing device, adapted to be mounted in a building wall;

Fig. 10, a horizontal section on the line 10—10 in Fig. 9;

Fig. 11, a fragmentary side elevation of the container refilling means; and

Fig. 12, a transverse section on the line 12—12 in Fig. 5.

Like characters of reference indicate like parts throughout the several views in the drawings.

I form a box to have a back 15, the sides 16 and 17, a bottom 18, and a relatively short top 19. The bottom 18 extends forwardly from between the sides 16 and 17 but the top 19 terminates at a line back of the forward edges of the sides. The box is of sufficient height to receive a collapsible tube or container 20 therewithin in a vertically disposed position.

I form a carriage to have a back plate 21 of a width permitting the plate to slide freely up and down over the box back 15 between

the sides 16 and 17 and from the sides of the plate 21 are the brackets 22 and 23. A tube spindle 24 is rotatably carried between the brackets and has an axial slot 24′, Fig. 8, through which the upper flattened end of the tube 20 may be inserted. The spindle 24 has a toothed wheel 25 fixed to one end to be positioned on the outer side of the bracket 23 and a cotter pin 26, with a washer thereunder, in the spindle 24 on the outer side of the bracket 22 retains the spindle rotatively in place axially.

Between the bracket 23 and the toothed wheel 25 is a rocker arm 27 revolvably carried on the spindle 24 as an axis. A leg 28 extends rearwardly centrally from the rear edge of the arm 27 and has an inturned end projecting through the slot 29 in the bracket 23 to receive one end of the tension spring 31, the other end of which is hooked over a tongue 32 near the upper edge of the plate 21.

On the lower part of the arm 27 which extends below the wheel 25, is pivoted a pawl 33 and a spring 34 normally rocks the forward end of the pawl upwardly to cause it to engage between the teeth of the wheel 25. The pawl has a leg 35 extending rearwardly of its pivot point, on the under side of which leg is a rounded cam-like lug 36. Between the wheel 25 and the pawl 33 is a post 37 which is fixed to the bracket 23 and extends through a slot in the arm 27, whereby rocking of the arm 27 by its lower end rearwardly a sufficient distance will cause the pawl 33 to be dragged over the post so as to rock it outwardly away from engagement with the teeth of the wheel 25.

A dog 38 is rockably attached to the bracket 23 forwardly of the arm 27 and above the wheel 25 to drop by gravity against the periphery of the wheel to prevent clockwise travel of the wheel, Fig. 1. From the rear of the dog 38 extends an arm 39 over the outer side of the upper part of the arm 27. The under side of the arm 39 slopes upwardly to the rear and normally is just above a post 40 which is fixed to and extends horizontally from the arm 27. The upper part of the arm 27 extends rearwardly sharply and has an outturned end 41 adapted to extend laterally across the rear edge of the toggle bar 42 which is movably attached to the box side 16 by the links 43 and 44.

The carriage above described is slidably retained in the box against the back 15 by a channel shaped guide 45 which is entered through a correspondingly shaped slot in the top 19 and is carried down over the forward side of the carriage plate 21 to have its lower end positioned back of the upturned ear 46 at the rear of the platform 47, the lower end of the guide 45 being bent rearwardly to space the guide from the back 15 a sufficient distance to permit the carriage plate 21 to slide freely therebetween.

Referring now to the structure at the lower end of the box, the platform 47 is spaced upwardly from the bottom 18 by the legs 48, 49, at the rear, and the legs 50 and 51 at the sides near the front. On the upper side of the platform 47 is a boss 52 having a laterally projecting ring about its upper periphery and having an internal inverted conical bore opening by its lower end through the platform 47. The tube 20 is provided with a conical tip 53 adapted to fit closely within the bore of the boss 52, the penetration therein being limited by the ring 53′ at the base of the conical part of the tip 53. A latch 54 is provided to swing from the boss 52 to engage over the rings of the tip and of the boss whereby the tube tip is retained within the boss, in which position an outwardly, punched part 55 of the tip over the passage within the tube protrudes from below the underside of the platform 47.

On the underside of the platform is a rocker plate 56 pivoted thereto at one side toward the rear. The rear edge of the plate is sharpened to form a knife 57, and an arcuate slot 58 is formed in the plate forwardly of the knife edge to have a width greater than the diameter of the tube tip end and a length several times as great. A wire 60 extends radially across the slot. A pin 59 extends downwardly from the underside of the plate 56 and slidingly enters a transverse slot 61 in a pusher plate 62 which is slidingly carried on the box bottom 18 in sliding contact with the plate 56.

A wedge block 63 extends upwardly from one side of the pusher plate 62 to be in line with the lower end of the toggle bar 42 and a push bar 64 extends forwardly from the pusher plate 62 and carries a button 65 on its outer end. An ear 73 extends upwardly from the pusher plate on the side opposite the block 63 and has an end of the tension spring 74 fixed thereto, the other end of the spring being hooked over the ear 75 at the forward end of the platform 47. A box cover 66 is provided to telescope over the sides 16 and 17 and top 19 of the box. On the lower end inside of the front wall of the cover are fixed the two inwardly and downwardly extending feet 67 and 68 which are adapted to be inserted through slots in the platform 47 and to bear by their forward edges against the upturned lip 90 of the front edge of the box bottom 18.

The lower end of the foot 67 strikes the free end of a leaf spring 69 which is fixed by one end of the box bottom 18 and normally springs upwardly by the free end against the underside of the platform 47. On the inside of the upper end the cover is fixed a tongue 70 which is adapted to releasably engage over the edge of a hole in the top 19. Ears 71 and 72 are fixed to the

inner side of the cover top to extend rearwardly under and against the top 19.

Assuming the cover 66 to be in place and no tube in the box, the upper end of the cover 66 is pulled outwardly to disengage the tongue 70 and the ears 71 and 72 from under the top 19, following which action the cover is pulled upwardly to lift the feet 67 and 68 from out through the platform 47, and the cover is set aside. When the foot 67 is raised, the spring 74 pulls the pusher plate 62 forwardly to cause it to strike and bear against the forward upturned bottom lip 90. The plate 56 moves therewith by reason of the pin 59 extending through the slot 61 and the knife edge 57 is swung forwardly to uncover the bottom of the bore through the boss 52. A tube 20 is then placed in the box to have its tip end within the boss and the latch 54 is swung around to retain the tip in place. The carriage is raised to allow the flattened upper end of the tube 20 to be inserted through the slot 25 in the spindle 24.

The ear 71, when the cover 66 is in place, extends between the upper end of the toggle bar 42 and the side 16 of the box, and has an inturned tongue 76 against which the toggle bar is normally pressed by reason of the spring 31 pulling upwardly on the leg 28 which rocks the arm 27 to push the end 41 against the rear edge of the bar 42 to move it forwardly. Upon removal of the cover 66, however, the tongue 76 is removed therewith and the spring 31 can then pull the leg 28 upwardly a greater distance, and, in doing so, the arm carries the post 40 forwardly under the arm 39 of the dog 38 to lift the dog from engagement with the teeth of the wheel 25. At the same time, the lower end of the arm 27 is moving rearwrdly under pull of the spring 31 to pull the pawl 33 back over the post 37 to guide the pawl out away from the teeth of the wheel 25. Therefore, with the cover 66 removed so as to permit forward travel of the toggle bar 42 beyond that theretofor limited by the tongue 76, the wheel 25 and its spindle 24 become free to be revolved without contact of the dog or pawl against the wheel.

The wheel 25 is revolved slightly by hand to bend over the upper end of the tube which projects through the spindle slot, and the device is then ready for operation. The cover 66 can not be replaced at once for the reason that the feet 67 and 68 can not be passed through the slots of the platform 47 since the pusher plate 62 has been carried forwardly thereunder by the spring 74 when the cover was previously removed. The button 65 must be pushed inwardly first to cause the plate 62 to move a sufficient distance to be out from under the platform slots. During this travel of the plate 62, the forward upturned edge 77 of the plate has initially contacted with the extreme outer point *a* of the rocker plate 56 and, by direct pressure thereon rocked the plate 56 rearwardly to push the knife edge 57 against the extruded end 55 of the tip 53. At this initial point of travel, the post 59 is in the enlarged end of the slot 61, but continued rearward travel of the pusher plate 62 rocks the rocker plate 56 to carry the post 59 into the narrower part of the slot 61 to have further movement of the plate 56 caused by the pressure of the side wall of the slot 61 against the post 59 thereby changing the point of application of power from the push on the point *a* to speed up the travel of the plate 56 and complete the shearing off of the extrusion 55 to open up a discharge port in the tube end.

The distance between the knife edge 57 and the rear end of the slot 61 exceeds the diameter of the lower end of the tip 53 and this portion of the plate therebetween serves as a cover over the then opened end of the tip. When this portion of the plate 56 is centrally disposed over the tip end, the leaf spring 69 is then just uncovered by the pusher plate 62 and snaps upwardly to be in front of the pusher plate so that upon removal of pressure on the button 65, the plate 62 then remains in that position with the tension spring 74 pulling the pusher plate 62 forwardly against the raised spring 69.

The tube tip end having been cut off, the cover 66 is now applied by inserting the feet 67 and 68 through the slots in the platform to have the foot 67 bear against and push down the spring 69 so as to permit the upper end of the cover to be swung rearwardly and permit the ears 71 and 72 to enter under the box top 19 and have the tongue 70 engage therewith. The spring 69 is slightly wider than is the foot 67 so that the pusher plate 62 is held back a sufficient distance to permit the foot 67 to be entered in front thereof. Immediately the spring 69 is depressed, the pusher plate flies forwardly against the feet 67 and 68. The variance in widths of the spring and the feet is slight however, so that the opened tube tip end remains covered by the plate 56. The toggle bar 42 is carried rearwardly by the tongue 76 to cause the pawl 33 and dog 38 to contact with the wheel 25.

With the cover 66 in place, the dispenser is then ready to discharge the substance from the tube. With the pusher plate 62 at rest in its forward position, the wedge block 63 is removed forwardly somewhat from the toggle bar 42. Pressure on the button 65 moves the pusher plate 62 to rock the plate 56 rearwardly to carry the slot 58 thereof back over the tube end and as the slot starts thereover, the wedge block 63 contacts with the lower end of the toggle bar 42 and pushes it rearwardly to push back on the arm end 41 to in turn rock the arm 27 to cause the pawl 33 to engage against a tooth on the wheel 25 and

revolve the wheel to wind the upper end of the tube 20 around the spindle 24. The relation between the full travel of the toggle bar 42 and the number of teeth on the wheel 25 is such that, when the button 65 has been pushed inwardly to its limit, the wheel 25 has been revolved an angular distance of two teeth.

This distance, however, applies only for about half of the winding of the tube. As the tube is wound about the spindle 24 during successive operations, the thickness of the material of the tube wound on the spindle exerts too large a leverage on the tube, and in order to compensate for this increase in effective spindle diameter, so as to provide substantially an equal discharge at the beginning and ending of a tube, the lower portion of the rear edge of the toggle bar 42 is cut away whereby, as the arm end 41 comes down thereon upon emptying of the tube 20, the leg 28 is pulled upwardly by the spring 31 to swing around the arm 27 by the amount of the cut away portion.

This cut away portion is proportioned so as to change the position of the pawl 33 relative to the post 37, whereby, during the extreme forward travel of the bar 42 with the arm end 41 then down on the cut away portion, the pawl 33 is dragged back over the post 37 and upon rearward travel of the bar 42, the pawl is withheld by the post 37 from engaging with the first appearing tooth on the wheel and drops around the post 37 to engage the second tooth so that the wheel is then revolved a distance of but one tooth.

By the time the button 65 has been pushed back far enough to cause the spindle 24 to start winding the tube 20 therearound, the plate 56 has been rocked rearwardly to have the wire 60 across the slot 58 to be substantially at the rear of the tip end opening. During the winding of the tube on the spindle, pressure is thereby created upon the contents of the tube and reverse travel of the spindle to relieve that pressure is prevented by the dog 38 dropping against the wheel teeth. The material in the tube being somewhat viscous, a time element is involved between the creation of that pressure and the completion of the discharge from the tube end by reason of that pressure.

Therefore, when the button 65 is released after its full rearward travel and the spring 74 starts to return the plates 62 and 56 to their forward positions, the material is still flowing somewhat from the tube end, and as it flows, the wire 60 cuts through the downwardly hanging column of material and shears it off neatly to allow it to drop cleanly and prevents the piling up of the material around the tube end or on the plate 56.

When the tube 20 has been compressed to its limit, the carriage has moved downwardly until the lug 36 on the leg of the pawl 33 has been lowered to be in the path of the shoulder 79 on the inner side of the wedge block 63. Now as the button 65 may then be pushed in, the shoulder 79 strikes the lug 36, pushes it upwardly as the block 63 moves rearwardly, and thereby rocks the pawl 33 downwardly away from the wheel 25 so that no motion of the wheel can then take place. By reason of this releasing means, no damage can be done to the tube pressing means upon continued operation of the button 65.

The carriage moves downwardly as the tube is wound upon the spindle, carrying the arm end 41 downwardly along the bar 42 as above indicated. When the tube has been wound as much as possible onto the spindle, the cover 66 is removed as described, and the latch 54 swung around to permit the carriage and tube 20 to be raised to withdraw the tip 53 from the boss 52. The tip end of the tube may then be pulled to unwind and pull the tube out from off the spindle 24. The carriage can be removed if desired by lifting out the channel guide 45.

The tube tip 53 is shaped to have an external inverted conical shape but the inner passage therethrough is preferably formed to converge to a slot-like discharge end which is normally closed by the end 55 which has been extruded from within during forming of the tip end. It is to be noted that the slot is formed at right angles to the upper tube flattened end so that the slot closure 55 is presented to the knife 57 by its end and not its side and also, more particularly, the cut-off wire 60 is passed over the opened slot end to end. It has been discovered that by so passing a wire over a slit-like discharge orifice, positioned as above described, the heretofore unsolved difficulty of discharging material building up around the orifice or adhering to other cutting off means is eliminated.

In some installations, the box is supported by the bracket 78, while in others, it is preferable to mount the box within a wall 78′, Figs. 9 and 10, in which case, the extruded end 55 of the tip 53 is cut off by hand before the container tube 20 is positioned in the box, and a pipe 80 leads from the under side of the boss 52 to outside of the wall and turns downwardly over the cut-off plate 81 which corresponds to the plate 56 except that in this case, no knife edge is employed. The pusher plate 82 actuates the cut-off plate 81 similarly to the plate 62 and both plates are confined within the extending housing 83.

The emptied tube 20 may be discarded or may be refilled if made of the proper material. The tube 20 may be made out of block tin or aluminum, in which case it will usually have been flattened out to such an extent by having been rolled around the spindle 24 that it will be broken and not be in a condition for refilling. Where a refillable container tube is

desired, non-metallic material is employed, one material being a rubberized fabric.

For refilling container tubes, a collapsible supply tube 84 is furnished filled with the desired material. It has a tip end 85 corresponding to the tip 53 of the tube 20, and a fitting 86 is furnished having a conical bore in each end communicating one with the other. The supply tube tip is entered in one bore and the container tube tip is entered in the other bore. A latch 87 pivoted to the fitting 86 is swung around to engage over the rings on the two tube tips so as to retain the fitting therebetween. By means of a key 88, the supply tube 84 is rolled from its outer end to collapse it and force its contents through the fitting 86 into the tube 20.

When the tube 20 has been filled by transfer of the material from the supply tube 84, the latch 87 is swung around to permit the withdrawal of the tube tip 53 from the fitting 86, and in its place, the plug 88 preferably attached to the fitting 86 by the chain 89 is inserted, after which the latch 87 is swung thereover to retain the plug and thus prevent hardening of the material at the end of the tube tip 85.

While I have here described and shown my invention in the one best form as now known to me it is obvious that structural changes may be made without departing from the spirit of the invention, and I, therefore, do not desire to be limited to that precise form, nor any more than may be required by the following claims.

I claim:

1. In a dispenser of paste-like substances, a box, a vertically disposed toggle bar movably supported by the box, a carriage vertically slidable in the box, a spindle rotatably carried by the carriage, a toothed wheel on the spindle, pawl means between the toggle bar and the wheel, and means for pushing said bar to cause said pawl means to revolve said wheel a predetermined distance upon each operation of the bar.

2. In a dispenser of paste-like substances, a box, a vertically disposed toggle bar movably supported by the box, a carriage vertically slidable in the box, a spindle rotatably carried by the carriage, a toothed wheel on the spindle, pawl means between the toggle bar and the wheel, and means for pushing said bar to cause said pawl means to revolve said wheel a predetermined distance upon each operation of the bar, and means between said pawl means and said wheel limiting the engagement of said pawl means with the wheel upon predetermined vertical travel of the carriage.

3. In a dispenser of paste-like substances, a collapsible container tube, means for rolling the tube by one end to cause a discharge of the contents therefrom, and means adapted to decrease the rate of rolling the tube following a predetermined operation of the first means.

4. In a dispenser of paste-like substances, a spindle, a toothed wheel on the spindle, a shiftable toggle bar, a rocker arm adjacent the wheel having a member adapted to be in contact with the bar, a pawl on the arm normally in contact with said wheel, a post fixed relative to said pawl, said pawl being located on said arm to be lifted by sliding over the post from said wheel upon rocking of said arm a predetermined amount, and said toggle bar having a cut away portion over which said bar contacting member may pass upon travel long the bar.

5. In a dispenser of paste-like substances, a spindle, a toothed wheel on the spindle, a shiftable toggle bar, a rocker arm adjacent the wheel having a member adapted to be in contact with the bar, a pawl on the arm normally in contact with said wheel, a post fixed relative to said pawl, said pawl being located on said arm to be lifted by sliding over the post from said wheel upon rocking of said arm a predetermined amount, and said toggle bar having a cut away portion over which said bar contacting member may pass upon travel along the bar, stop means normally limiting the travel of the toggle bar to a point permitting rocking of said arm less than said predetermined amount, and said cut away portion permitting rocking of the arm said amount.

6. In a dispenser of paste-like substances, a spindle, a toothed wheel on the spindle, a shiftable toggle bar, a rocker arm adjacent the wheel having a member adapted to be in contact with the bar, a pawl on the arm normally in contact with said wheel, a post fixed relative to said pawl, said pawl being located on said arm to be lifted by sliding over the post from said wheel upon rocking of said arm a predetermined amount, and said toggle bar having a cut away portion over which said bar contacting member may pass upon travel along the bar, stop means normally limiting the travel of the toggle bar to a point permitting rocking of said arm less than said predetermined amount, and said cut away portion permitting rocking of the arm said amount, and spring means normally rocking said arm to cause said arm member to carry said bar against said stop.

7. In a dispenser for paste-like substances, a revolvable spindle, a toggle bar horizontally reciprocable, spindle revolving means connecting with and operated by reciprocation of the bar, said spindle being adapted to travel vertically of the bar, a cover for the dispenser, bar stop means carried by the cover, and spindle releasing means operable upon removal of said stop means.

8. For dispensing paste-like substances from a collapsible tube, a box, a cover for the box, a carriage, a revolvable spindle on the carriage adapted to engage an end of the

tube, a horizontally reciprocatable bar vertically disposed in the box, a rocker arm carried by the carriage adapted to be rocked upon reciprocation of the bar, a pawl between said arm and said spindle, a post on the carriage fixed relative to travel of the pawl, a stop on said cover against which said bar normally rests, and spring means rocking said arm upon travel of said bar when said stop is removed to rock said pawl over said post.

9. For dispensing paste-like substances, a platform having an opening through which a tip of a substance containing tube may be supported to protrude therefrom, a rocker plate under the platform adapted to swing thereacross, a knife edge on the plate adapted to shear off said protruding tube end, said rocker plate having a slot therethrough spaced a distance from said knife edge, and means for rocking said plate.

10. For dispensing paste-like substances, a platform having an opening through which a tip of a substance containing tube may be supported to protrude therefrom, a rocker plate under the platform adapted to swing thereacross, a knife edge on the plate adapted to shear off said protruding tube end, said rocker plate having a slot therethrough spaced a distance from said knife edge, and means for rocking said plate, said tube having a slit-like passage in the lower portion of said tip, and said protruding end comprising substantially a depressed bar over the end of said passage, said bar being turned to have an end presented toward said knife edge.

11. In a dispenser, a platform having an orifice therethrough, a rocker plate pivoted under the platform adapted to swing around under the orifice, a pusher plate adapted to be reciprocated under the platform with the rocker plate therebetween, a post on the rocker plate projecting downwardly into a transverse slot in the pusher plate, said slot having a longitudinal enlargement at one end, and an upturned end on the pusher plate adapted to contact with the rocker plate upon initial travel of the pusher plate while said post is in said enlargement.

12. In a dispenser, a platform having an orifice therethrough, a rocker plate pivoted under the platform adapted to swing around under the orifice, a pusher plate adapted to be reciprocated under the platform with the rocker plate therebetween, a post on the rocker plate projecting downwardly into a transverse slot in the pusher plate, said slot having a longitudinal enlargement at one end, and an upturned end on the pusher plate adapted to contact with the rocker plate upon initial travel of the pusher plate while said post is in said enlargement, said rocker plate having a knife edge on its rear side and a slot therethrough spaced forward from the knife edge.

13. In a dispenser, a platform having an orifice therethrough, a rocker plate pivoted under the platform adapted to swing around under the orifice, a pusher plate adapted to be reciprocated under the platform with the rocker plate therebetween, a post on the rocker plate projecting downwardly into a transverse slot in the pusher plate, said slot having a longitudinal enlargement at one end, and an upturned end on the pusher plate adapted to contact with the rocker plate upon initial travel of the pusher plate while said post is in said enlargement, said rocker plate having a knife edge on its rear side and a slot therethrough spaced forward from the knife edge, and a wire across said slot.

14. For dispensing paste-like substances from collapsible containers, a platform, a hollow boss on the platform adapted to receive the discharging end of a container, a rocker plate rockably mounted to be swung across the lower open end of the boss, said rocker plate having a portion thereof adapted to cover over said open end, a pusher plate under and adapted to reciprocate said rocker plate, a box supporting said platform, a cover for the box, a foot on the cover, a spring normally holding said two plates in a forward position to have the rocker plate cover said open end, and a spring member normally tending to extend into the path of the pusher plate to limit the forward travel thereof, said foot on said cover being adapted to depress said spring member and permit said pusher plate to move against the foot.

15. For dispensing paste-like substances from collapsible containers, a platform, a hollow boss on the platform adapted to receive the discharging end of a container, a rocker plate rockably mounted to be swung across the lower open end of the boss, said rocker plate having a portion thereof adapted to cover over said open end, a pusher plate under and adapted to reciprocate said rocker plate, a box supporting said platform, a cover for the box, a foot on the cover, a spring normally holding said two plates in a forward position to have the rocker plate cover said open end, and a spring member normally tending to extend into the path of the pusher plate to limit the forward travel thereof, said foot on said cover being adapted to depress said spring member and permit said pusher plate to move against the foot, and said spring member being extended rearwardly slightly beyond the rear edge of said foot whereby said pusher plate may travel forwardly over the spring member upon withdrawal of said foot, the amount of said last forward travel of the pusher plate being sufficient to carry said covering portion of the rocker plate forwardly from over said open end.

16. In a dispenser for paste-like substances, a platform having a discharging orifice, a re-

ciprocatable plate under said orifice, a portion of said plate being adapted to cover over over said orifice in a forward position of the plate, means normally limiting the forward travel of the plate to have said portion stop over said orifice, a foot adapted to shift said limiting means and serve as the limiting stop, said limiting means remaining ineffective upon removal of said foot, and said plate being movable forwardly upon removal of the foot a distance to permit said plate portion to uncover said orifice.

17. In a dispenser for paste-like substances, a platform having a discharging orifice, a reciprocatable plate under said orifice, a portion of said plate being adapted to cover over said orifice in a forward position of the plate, means normally limiting the forward travel of the plate to have said portion stop over said orifice, a foot adapted to shift said limiting means and serve as the limiting stop, said limiting means remaining ineffective upon removal of said foot, and said plate being movable forwardly upon removal of the foot a distance to permit said plate portion to uncover said orifice, and a knife edge on the rear side of said plate.

18. In a dispenser for paste-like substances, a platform having a discharging orifice, a reciprocatable plate under said orifice, a portion of said plate being adapted to cover over said orifice in a forward position of the plate, means normally limiting the forward travel of the plate to have said portion stop over said orifice, a foot adapted to shift said limiting means and serve as the limiting stop, said limiting means remaining ineffective upon removal of said foot, and said plate being movable forwardly upon removal of the foot a distance to permit said plate portion to uncover said orifice, said plate being cut away forwardly of said plate portion, and a wire fixed to the plate to extend across the cut away portion, said wire being located to be carried across said orifice upon reciprocation of the plate.

19. In a dispenser of paste-like substances, a collapsible container tube having a tip, said tip having a discharge passage therethrough, an integral closure over the outer end of said passage, means for initially cutting off said closure, means for collapsing said tube step by step, wire substance cut-off means, and cover means automatically disposed over said tube end between operations of said collapsing means.

20. In a dispenser of paste-like substances, a collapsible container tube having a tip, a discharge passage through the tip, means for collapsing the tube step by step, wire substance cut-off means, and cover means automatically covering said tip between operations of the collapsing and cut-off means.

21. For a dispenser of paste-like substances, a collapsible container tube, a tip on the tube having a tapered outer surface, said tip having a discharge passage therethrough from said tube, said passage terminating by its outer end in a slit-like opening, and a bar-like cover over the opening integral with the tip.

22. For a dispenser of paste-like substances, a collapsible container tube, a tip on the tube having a tapered outer surface, said tip having a discharge passage therethrough from said tube, said passage terminating by its outer end in a slit-like opening, and a bar-like cover over the opening integral with the tip, and an annular collar about said tip at the base end of said tapered surface.

23. In a dispenser of paste-like substances, a carriage comprising a back, side brackets, a spindle rotatably carried by the brackets, a toothed wheel on the spindle, a rocker arm pivotally carried by one of said brackets adjacent said wheel, a pawl on one end of said rocker arm spring pressed against said wheel, a post fixed to said carriage between said pawl and said wheel located to cause said pawl to strike the post and be lifted away from the wheel upon sufficient rocking of said arm, a dog fixed to the bracket adjacent said wheel and adapted to drop against the wheel, a post fixed to said rocker arm to strike and raise said dog upon sufficient travel of the arm, and a spring between said arm and said carriage normally tending to rock said arm to cause both said pawl and said dog to be shifted away from said wheel.

24. In a dispenser of paste-like substances, a spindle, a toothed wheel on the spindle, a shiftable toggle bar, a rocker arm adjacent the wheel having a member adapted to be in contact with the bar, a pawl on the arm normally in contact with said wheel, a post fixed relative to said pawl, said pawl being located on said arm to be lifted by sliding over the post from said wheel upon rocking of said arm a predetermined amount, and said toggle bar having a cut away portion over which said bar contacting member may pass upon travel along the bar, and a dog adapted to drop against said wheel.

25. In a dispenser, a discharge orifice, a rocker plate adapted to slide across the orifice, means for rocking said plate and variable leverage means between the plate and the rocking means whereby the effective power transmitted from the rocking means to the plate varies as the plate is rocked.

26. In a dispenser, a discharge orifice, a rocker plate adapted to slide across the orifice, a knife edge on the plate, said plate having an orifice covering portion adjacent the edge, a cut-off wire carried by the plate, a pusher plate adapted to rock said plate, means on said pusher plate initially engaging said plate at one point removed from the pivot

point of the plate, and second engaging means between said two plates becoming operable following the operation of said first engaging means, said second engaging means being located between said first engaging means and the pivot point of the rocker plate.

27. In a dispenser of substances from a collapsible tube, a tube rolling mechanism, a box holding said mechanism adapted to be sunk within a room wall, a housing extending from said box, a pipe leading from the discharge end of said tube to within said housing, a substance cut-off member, a pipe end cover, said member and cover being carried within said housing and adapted to be reciprocated over said pipe end, means for reciprocating said member and said cover, and extension means from said reciprocating means extending from said housing into said box for actuating said mechanism.

28. For dispensing substances from a collapsible tube, a box, a carriage vertically slidable in the box, a removable guide in front of the carriage slidably guiding said carriage over a wall of the box, a revolvable spindle carried by the carriage adapted to engage an end of the tube, a horizontally reciprocatable bar vertically disposed in the box, and means interconnecting said spindle and said bar for transforming reciprocating motion of the bar into rotary motion of the spindle.

29. For dispensing substances from a collapsible tube, a box, a carriage vertically slidable in the box, a revolvable spindle carried by the carriage adapted to engage an end of the tube, a horizontally reciprocatable bar vertically disposed in the box, and means interconnecting said bar and said spindle for transforming reciprocating motion of the bar into rotary motion of the spindle.

30. For dispensing substances from a collapsible tube, means for applying pressure to said tube to cause a discharge of the contents from an end thereof, a cover for said tube end, a content discharge cut-off member, means for removing said cover from said end preliminary to the operation of said pressure means, means for moving said cut-off member across the tube end following the operation of said pressure means and returning said cover over said end, and a push member, all of said means being operated by reciprocation of the push member.

31. For dispensing substances from a collapsible tube, means for applying pressure to the tube to cause a discharge of the contents from an end thereof, a reciprocatable push member adapted to operate said pressure means following a predetermined inward travel, a cover for said tube end, a content discharge cut-off member, said cover and cut-off member being connected to said push member to have the push member remove said cover from said end prior to the completion of said travel, and spring means moving said cut-off member across said end and carrying said cover thereafter to over said end upon return travel of the push member.

In testimony whereof I affix my signature.

HAROLD M. GUSDORF.