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TUBE DISPENSING DEVICE HAVING PIVOTALLY MOUNTED HOUSING MEMBERS WITH TRANSVERSELY SLIDABLE PRESSURE PLATES MOUNTED THEREIN

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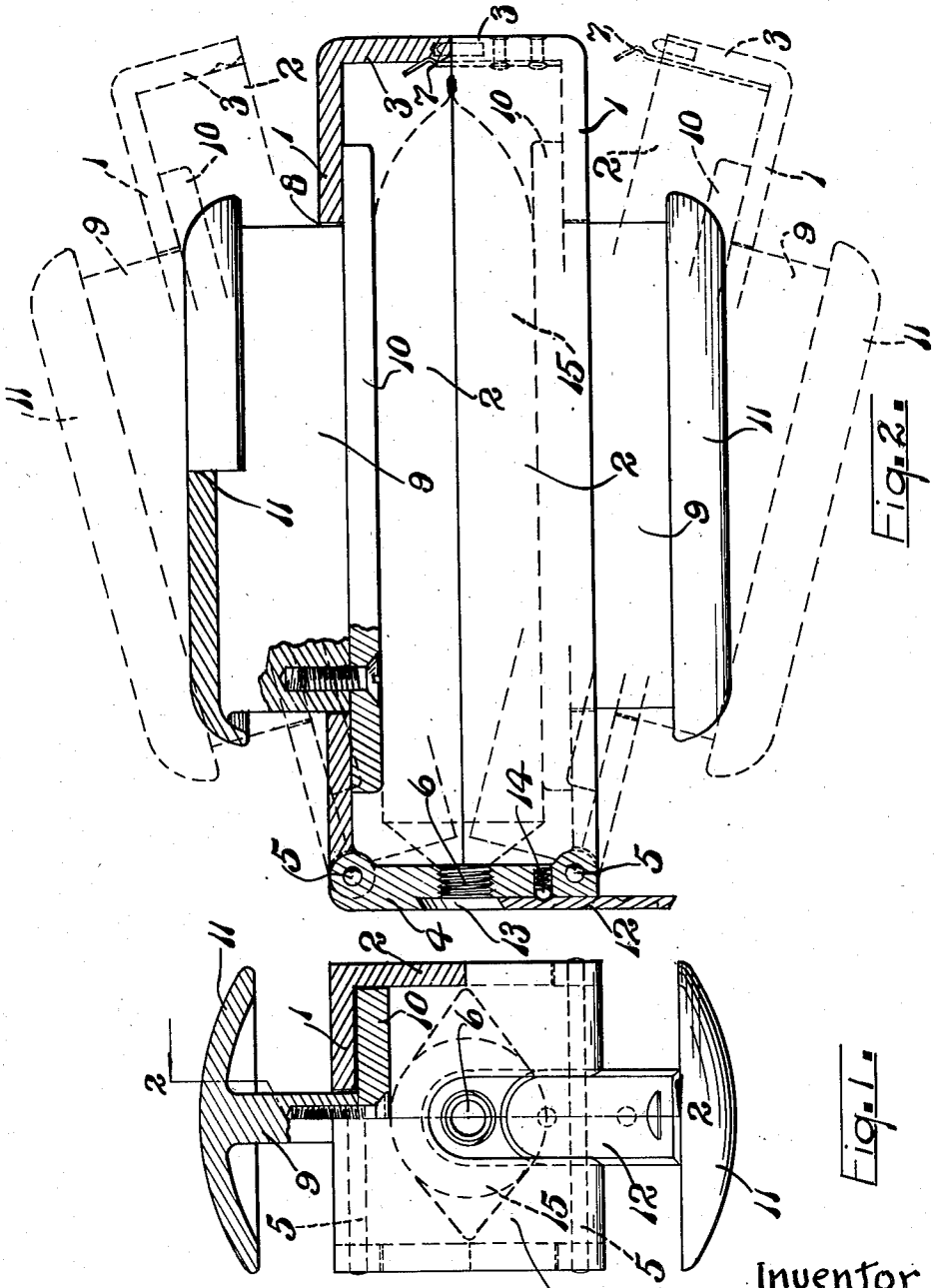


Fig. 2.

Fig. 1.

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TUBE DISPENSING DEVICE HAVING PIVOTALLY MOUNTED HOUSING MEMBERS WITH TRANSVERSELY SLIDABLE PRESSURE PLATES MOUNTED THEREIN

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5 Claims. (Cl. 222—103)

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This invention relates to a novel appliance for dispensing liquid or viscous products from collapsible tubes, and in practice is primarily designed for dispensing toothpaste from the containing tubes therefor.

It is a primary object and purpose of my invention to provide a very practical, useful and novel holder for toothpaste tubes which may, at the screw threaded outlet end of the tube at which end the paste is dispensed, be connected with the device or appliance which I have invented, the filled tube housed therewithin by closing such appliance, and pressure applied at opposite sides against the tube to dispense or eject a desired quantity of toothpaste at the outlet end of the tube. And such dispensing or ejection may continue until all or substantially all of the paste within the tube has been used.

Other objects and purposes than those particularly stated, and novel structure for attaining the objects and purposes of the invention will appear and be understood, from the following description, taken in connection with the accompanying drawing, in which,

Fig. 1 is an end elevation of the dispensing apparatus or appliance of my invention, some parts being broken away and shown in section for a better disclosure, and

Fig. 2 is a longtiudtinal section substantially on the plane of line 2—2 of Fig. 1.

Like reference characters refer to like parts in the different figures of the drawing.

In the structure disclosed as a preferred embodiment of my invention, a housing is provided having two sections or halves one of which has an upper side 1 and the other a lower side 1, from each of which spaced sides 2 extend toward each other, each housing part at one end having an end closure 3. The two parts of the housing, at the opposite ends of the upper and lower sides 1 thereof, are connected with a closure plate 4 for the opposite end, by a pivotal connection indicated at 5, so that the two halves of the housing may be swung apart about the pivots 5 as shown in dash lines in Fig. 2, for the placing of a tube containing toothpaste or other similar material therein, the screw cap closure at the outlet of the toothpaste tube being removed and the exteriorly threaded outlet end portion of the tube screwed into an interiorly threaded opening 6 centrally located through the end member 4. One end 3 of one of the members of the housing carries a spring latch member 7 which is adapted to releasably engage with the other end member 3, the latch extending

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across the juncture between them as shown in Fig. 2, and seating in a recess adapted to receive it.

Each of the upper and lower sides 1 of the two housing members has an elongated opening 8 therein extending longitudinally of said housing members. Through such opening a member 9 slidably passes and at its inner edge is equipped with a pressure plate 10 permanently connected thereto in any suitable manner. At the outer end of each member 9, an enlarged head 11 is connected or is integrally formed therewith, so that by grasping the two heads 11 in the hand or between the fingers and thumb of the hand, pressure may be applied against opposed sides of the collapsible tube to force its fluid contents out at the open end of the tube through the end member 4.

The interiorly threaded opening 6 into which the outlet end portion of the tube is screwed is adapted to be closed by sliding closure plate 12, mounted at the outer side of the end member 4 in suitable retaining guides 13 therefor. Such sliding closure 12 may be moved to its open position, as shown, when the toothpaste or other contents of the tube is to be dispensed and, preferably, is releasably held in either the open or the closed position by a spring actuated ball latch 14, which is moved into recesses made at the inner side of the plate 12, there being two of such recesses spaced from each other, in one of which the spring actuated ball 14 is seated when the closure plate 12 is in open position, and in the other in which it is seated when closed.

The tube which is to be thus collapsed and its contents dispensed or ejected is indicated in dash lines at 15. It lies lengthwise of and within the closed housing. The housing parts are swung open about the pivots 5 to substantially the dash line position shown, the closure cap of the tube removed and the exteriorly threaded outlet end portion of the tube screwed into the opening at 6. The housing is then closed and will stay in closed position, being retained by the latch at 7. The openings 8 will be sufficiently longer than the parts 9 which pass therethrough that a slight tilting of the pressure members may be had so as to exert pressure against the closed end portion of the tube 15 in the beginning so as to flatten the tube more at its closed end than at its outlet end to thus insure the greatest efficiency in getting the contents of the tube out of it. When one tube has had its contents dispensed, it may be removed and another put in its place.

The closure plate 12 is to close off the open

end of the tube so that the contents at such open end do not harden, and also to insure against the dispensing of the contents of the tube accidentally or otherwise. The structure described is very useful, practical, is easily constructed and fully serves the purposes for which designed. The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. In a dispensing apparatus a housing comprising a plate having an opening therethrough adapted to receive the outlet end of a collapsible tubular container of fluid material, housing members pivotally connected at one end, one at each of two opposite side edges of said plate, said housing members extending away from said plate and having elongated recesses at their inner sides, a pressure member within each housing member adapted to engage opposite sides of a collapsible tube in the housing when it is closed, and means connected with each of said pressure members extending outwardly through the outer sides of the housing members, engageable by the hand for applying pressure to opposite sides of a collapsible tube to force the contents therefrom at its outlet end.

2. A structure as defined in claim 1, each of said housing members at its outer side having an elongated opening longitudinally thereof, said means connected with each pressure member comprising an elongated member passing freely through said opening, and means manually engageable for exerting pressure upon said pressure members comprising, heads one at the outer end of each of said elongated members, and said openings through said housing members being greater in length than the length of said members passing therethrough, whereby the pressure members may be tilted within the closed housing to thereby initially apply pressure at the end of the collapsible tube farthest away from the outlet end.

3. In a structure of the class described, a plate having a centrally located screw threaded opening therethrough, two housing members of generally channel form in cross section, each at one end of the web of said channel housing member having a pivotal connection to said plate, the pivotal connections being at opposite side edges of the plate, the opposite ends of said housing members having end closures, whereby when the housing members are brought together a completely enclosed housing is provided, pressure plates one within each of said housing members adapted to be located against the inner sides of the webs thereof, said webs of said housing members having elongated openings therethrough lengthwise of the webs, members secured one to each of said pressure plates extending freely through said elongated openings, and a head at the outer portion of each of said last mentioned members adapted to be manually grasped to move said pressure plates toward each other.

4. A structure as defined in claim 3, and releasable latching means mounted on the end closure of one of said housing members for detachable engagement with the end closure of the other of said housing members to releasably secure the housing members together in closed position.

5. A structure as defined in claim 3, and a movable closure member at the outer side of said first mentioned plate, movably mounted thereon, and adapted to be moved to two positions, in one of which it closes said threaded opening therethrough and in the other it uncovers said opening.

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No references cited.