

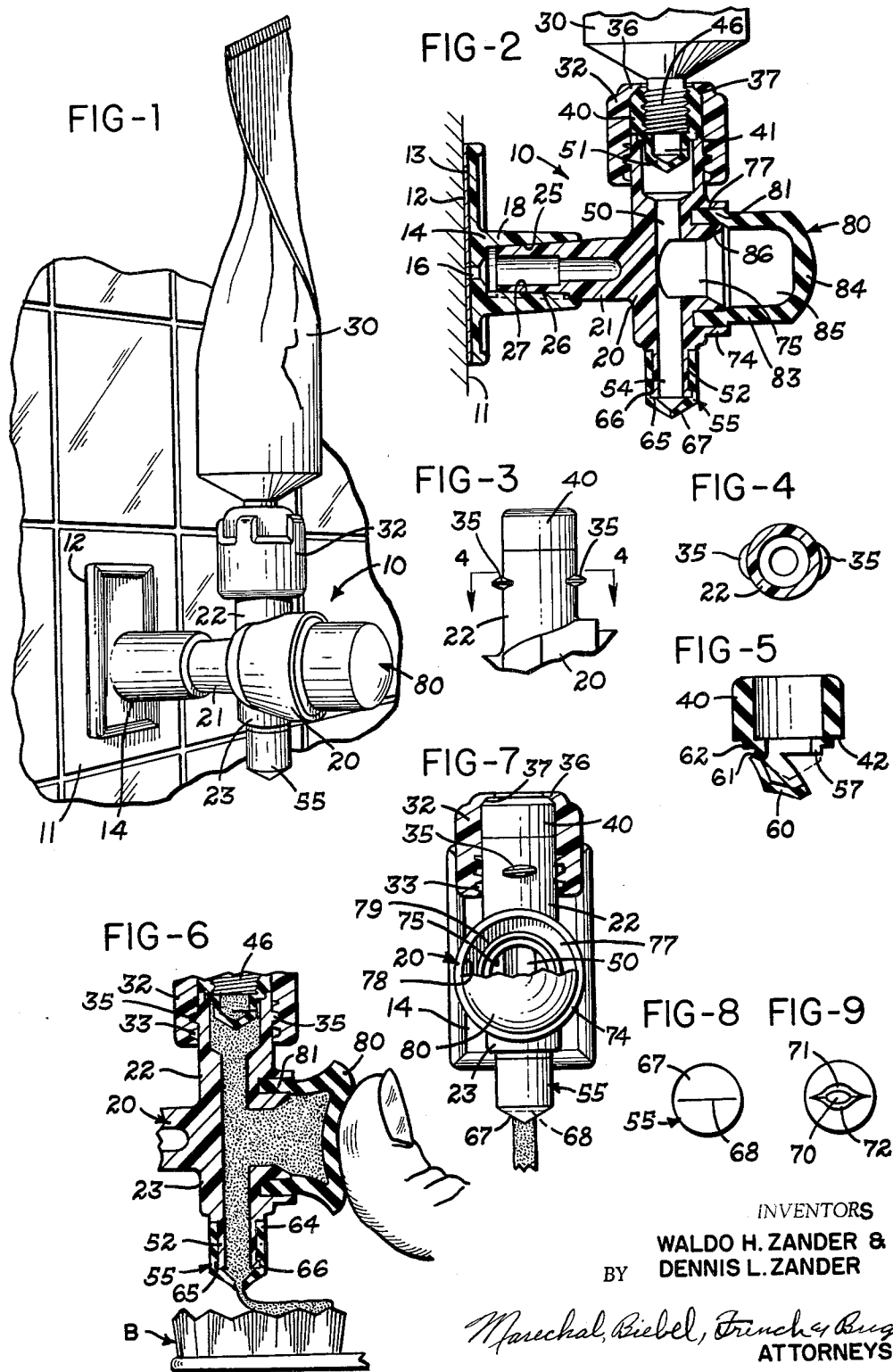
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W. H. ZANDER ETAL

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WALL MOUNTED BRACKET AND DISPENSER FOR COLLAPSIBLE TUBE

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INVENTORS

WALDO H. ZANDER &
DENNIS L. ZANDER

BY

Marshall, Bieler, French & Rugg
ATTORNEYS

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WALL MOUNTED BRACKET AND DISPENSER FOR COLLAPSIBLE TUBE

Waldo H. Zander, 3225 Southdale Drive, and Dennis L. Zander, 4594 Druid Lane, both of Dayton, Ohio
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This application is a continuation-in-part of our co-pending U.S. applications for Dispensing Device, Serial No. 275,076, filed April 23, 1963, (Docket 4131), and Serial No. 285,639, filed June 5, 1963, (Docket 4151), now abandoned.

This invention relates to apparatus for dispensing semi-liquid and liquid materials, and particularly to a manually operated device for dispensing cream, paste and like material from a collapsible tube.

The invention disclosed and claimed therein relates to a dispenser for toothpaste, shaving, hair creams, shampoo, and the like which automatically dispense this material at a predetermined rate from the flexible tubes in which these materials are purchased.

The present practice in automatic toothpaste and shaving cream dispensers is to pressurize the exterior of the flexible tube in order to force the contents therefrom into a valve which controls the volume of the material that is dispensed in response to each actuation thereof. These dispensers are either quite complex and expensive, or the expedient utilized to pressurize the tube is incapable of forcing substantially all of the material from the tube thus causing some of the material to be wasted. Also, many of these devices are adapted to receive a neck or outlet of tube of only one size so that the device cannot be used with tubes of different sizes and consequently the application thereof is severely restricted. Furthermore, a serious objection to these devices lies in their inability to be easily cleaned for insuring proper operation and cleanliness, as well as for providing the capability of easily changing from one type of cream or paste material to another.

Another type of dispenser used with toothpaste, shaving cream, and the like, provides a decreased pressure at the outlet of the collapsible tube so that the material is actually drawn from the tube. These devices generally include a spring-returned actuator and a pair of one-way ball valves which control the flow of material from the tube. It is this general type of dispenser to which the present invention is directed, and as will become apparent, applicants have made substantial improvements thereon. The primary disadvantage of this type of dispenser is that they do not completely seal the paste material when inactive so that a liquid may leak therefrom, and they are easily clogged as the paste material collects and dries out at the outlet. These devices are also expensive and complicated in operation and therefore susceptible to breakdown after a short period of use.

Just as important is the difficulty which is encountered in attempting to clean such a device, since it cannot be easily disassembled due to, among other things, the coil springs of the actuator and ball valves. The cleaning feature is mandatory for commercial acceptance of the unit, since health considerations require that it be frequently cleaned.

Furthermore, the materials used with the dispenser must be inert and not susceptible to corrosion when attacked by the acids and other compounds which are present in various paste materials which are adapted to be dispensed thereby. Consequently, the use of coil springs and other metal parts is quite undesirable. Also the use of pistons in the actuators for these dispensers presents a prob-

lem since the friction causes the seals to wear with consequent leakage and loss of pressure.

Accordingly, an important object of this invention is to provide an improved positive action dispensing device for toothpaste, shaving creams, shampoo and the like which utilizes an improved, simplified, and inexpensive actuator to effect the outward flow of paste or cream material from the tube, and further to provide a dispensing device which does not require external contact with the sides of the tube in order to remove substantially all of the contents thereof.

Another object of the invention is to provide a dispenser of the aforesaid type wherein any size conventional tube regardless of the shape or dimensions can be easily and quickly secured to and removed from the dispenser by an unskilled person and without disassembling the dispenser, and particularly to provide such a device with the capability of being easily cleaned so that the operational efficiency and cleanliness can be maintained and change over to different materials can be accomplished with minimum time and trouble.

A further object of this invention is to provide a dispensing device for paste materials which automatically supplies an amount of paste material in direct proportion and response to manual operation of the actuator, and further to provide a dispensing device which is quite simple in design for maximum reliability and minimum cost and does not require coil springs or seals of any type and therefore is easy to disassemble.

A further object of this invention is to provide a dispenser for paste and liquid materials which is completely sanitary and is tightly sealed during non-use so that the material being dispensed thereby does not leak and does not dry out, and further to provide apparatus of the aforesaid type which does not use metal parts of any type or conventional coil springs so that the possibility of corrosion or chemical reaction with the material being handled and consequent contamination of such material is not possible.

Additional objects and advantages of the invention will be apparent from the following description, the accompanying drawing, and the appended claims.

In the drawing:

FIG. 1 is a perspective view of the dispenser in accordance with the invention;

FIG. 2 is a vertical sectional view through the dispenser shown in FIG. 1;

FIG. 3 is an elevation view illustrating the structure for securing the tube on the dispenser;

FIG. 4 is a sectional view taken essentially along the line 4-4 of FIG. 3;

FIG. 5 is a vertical sectional view through the upper valve;

FIG. 6 is a fragmentary sectional view of the dispenser showing the actuator depressed;

FIG. 7 is a front elevation view, partially in section, of the dispenser; and

FIGS. 8 and 9 are bottom views of the discharge valve showing the same in its normal and deformed positions, respectively.

Referring to the drawing, wherein a preferred embodiment of the invention is illustrated, FIGS. 1 and 2 show a dispenser 10 secured to the vertical wall 11 by the pressure sensitive tape 12 which securely adheres to the rear vertical surface 13 of the plastic mounting bracket 14 of the dispenser 10. It is also possible to secure the mounting bracket 14 to the wall by driving a screw (not shown) into the wall 11 through the aperture 16 in the bracket at the base of the horizontal tubular boss 18.

The main plastic housing 20 is generally T-shaped and includes a horizontal section 21, an upper vertical sec-

tion 22, and a lower vertical section 23. The left end of the horizontal section 21 is manually press-fitted into the bore 25 in the tubular boss 18 on the mounting bracket 14. The complementary flats 26 and 27 are provided on the horizontal section and the bracket 14, respectively, for insuring that the vertical sections 22 and 23 will be mounted precisely in a vertical position so that the weight of tube 30 does not exert a force which tends to rotate the dispenser about the axis of the horizontal section 21.

The apparatus for securing a collapsible tube 30 of toothpaste, shaving cream, shampoo or the like to the upper section 22 of the housing 20 includes an annular collar 32 having the spirally disposed internal cam grooves or threads 33 therein for receiving the pins or projections 35 which extend radially from integral connections with the upper housing section 22 (FIGS. 2 and 3). The cam grooves 33 are tapered with respect to the axis of the vertical housing section 22 so that rotation of the collar 32 effects the vertical movement of the collar on the housing section 22. These cam grooves 33 also extend through the lowermost portion of the collar 32 so that the collar can be removed upwardly from the housing 20 for cleaning and the like.

The upper internal periphery of the collar 32 has an inwardly extending shoulder 36 which has a tapered surface 37 on the lower side thereof for confining the complementary upper edge of the tubular resilient bushing 40. The upper edge 41 of the vertical housing section 22 confines the square shoulder 42 of the bushing 40 so that downward movement of the collar 32 on the vertical section 22 of the housing 20 causes the bushing 40 to be compressed, thus expanding it radially inwardly to engage the threaded neck 46 of the tube 30 to lock the tube on the dispenser 10. The bushing 40 is capable of being compressed and deformed to a large degree to accommodate the wide range of threaded neck diameters present on conventional size collapsible tubes. When the collar 32 is rotated in the opposite direction, it moves upwardly and the axial pressure on the bushing 40 is relieved so that, due to its resilience, it quickly resumes its unstressed configuration (FIG. 2) wherein the neck 46 of the tube 30 is easily removed therefrom and another inserted.

The upper and lower vertical end sections 22 and 23 of the housing 20 has a passage 50 (FIG. 2) extending completely therethrough with the uppermost end thereof being normally closed by the upper one-way valve 51 formed integrally on the lower end of the bushing 40. A tubular boss 52 having a passage 54 therethrough, is formed on the housing 20 in alignment with the opposite end of the passage 50 and the lower one-way valve 55 is stretched therearound for controlling the discharge from the passage 50. In operation the valve 51 allows flow of paste material from the tube 30 into the passage 50 while blocking flow thereof in a reverse direction, whereas the valve 55 allows flow downwardly from the passage 50 and not in a reverse direction.

The upper valve 51 is shown in FIGS. 2-5 and includes an annular seat portion 57 which is formed integrally with the lower end of the resilient bushing 40. A flap or valve member 60 is integrally formed with this seat portion 57, and then a horizontal cut is made adjacent the annular seat 57 so that the valve member 60 will pivot downwardly about the remaining integral connection 61 with the annular seat 57. The valve seat has an outer diameter somewhat less than the adjacent portion 62, of the bushing to provide clearance for movement of the valve member 60 to an open position (FIG. 5). The valve member is generally conical in shape to provide rigidity thereto to resist upward pressure thereon when the valve member 60 is closed. This specific construction is an important part of the invention, since the valve member 60 easily moves to its open position, as shown in FIG. 5, since little downward pressure on the valve member is required to open it. On the other hand, when pressure is applied on the other side of the valve mem-

ber, the valve is tightly closed to prohibit any flow there-through. The importance of these two features will be discussed additionally in connection with the operation of the invention.

The lower valve 55 includes an elongated tubular portion 64 which fits on the downwardly extending boss 52 of the lower housing section 23. An outwardly and circumferential flange 65 on the boss 52 at the lowermost edge thereof is received in the complementary internal groove 66 in the tubular member 64 so that the valve 55 is held securely on the housing 20 against downward movement. The end wall 67 of this valve 55 is initially formed as a downwardly extending closed conical wall, as seen in FIGS. 2 and 7. A vertical cut 68 is made on a diameter through this end wall to define an outlet opening 70 (FIG. 9) which is normally closed by the resilience of the lips 71 and 72 on either side of the opening 70 which are urged toward a closed position.

When pressure within the passage 50 increases, it forces the adjacent lips 71 and 72 apart, as shown in FIG. 9, causing a ribbon 74 of paste material to flow from the dispenser 10. When this pressure is relieved, the valve lips 71 and 72 immediately snap shut and cut off the ribbon so that the exterior surface of the end wall 67 of this valve remains free from paste even after a substantial period of use. The configuration of the conical end wall 67 permits only pressure in the passage 50 to separate the lips 71 and 72 and open the valve 55, and this same configuration makes a clean cut off flow immediately upon relief of pressure in passage 50. Thus the entire periphery of the outlet opening 70 remains free from paste so that this valve 55 operates without clogging due to dried paste accumulating thereon. Each of the valves 40 and 55 is constructed of an inert resilient material capable of quickly returning to its original configuration when it is deformed during operation of the dispenser 10.

The central portion of the housing 20 has a boss 74 which extends horizontally therefrom coaxially with the horizontal section 21 and the passage 75 defined by the boss 74 and which communicates with the vertical passage 50 in the housing 20. The boss has a circumferential groove 77 formed therein so that the inner and outer walls 78 and 79 are created. A resilient cup shaped actuator 80 has the peripheral portions 81 thereof inserted snugly within the groove 77 and held snugly therein since the thickness of the peripheral portion is slightly greater than the groove 77. The actuator 80 has a tubular portion 83 which extends to the right of the housing 20 and has an end wall 84 which cooperates with the tubular portion 83 to define a relatively large chamber 85 which communicates with the passages 75 and 50. The inner wall 78 is chamfered at 86 so that the chamber 85 blends smoothly into the passage 75.

The actuator 80 is also coaxial with the horizontal section 21 of the housing 20 and the tubular boss 18 of the mounting bracket 14 so that when force is applied to the end wall 84 of the actuator, there are no torques applied to the dispenser 10 which would tend to move it from its mounted position. In fact, the pressure on the end wall 84 tends to force the mating portions of the horizontal section 21 and the mounting bracket 14 together to insure that they are always snugly interconnected. The tubular portion 83 of the actuator is particularly important since it aids in returning the actuator to its original configuration (see FIG. 6) so that it has sufficient strength to draw paste into the chamber 85.

An important feature of the invention is that the actuator 80 can be easily removed by hand for cleaning from the groove 77 in the housing, although it provides a fluid tight actuator when it is mounted thereon. Thus when force is applied to the end wall 84, as shown in FIG. 6, the peripheral portions 81 are forced into the groove 77 with a tendency to expand and thereby tightly seal against the passage of paste, liquids, or air between the boss 74 and the actuator 80. On the other hand, when the actua-

tor 80 is released and returning to its original configuration, there is a decreased pressure within the chamber 85 which applies a force vector to the actuator 80 due to the differential pressures acting thereon in a direction which tends to hold the actuator 80 on the housing 20. The actuator 55 is preferably constructed of a sanitary, odorless, non-deteriorating material, such as rubber, although it is within the scope of the invention to use other substantially equivalent materials.

In operation, a tube 30 of toothpaste, shaving cream, shampoo, or the like is secured to the vertical section 22 of the housing 20 by removing the usual cap from the tube, and then inserting the neck 46 of the tube 30 vertically into the collar 32. The tube 30 is held in this position while the collar 32 is rotating causing the resilient bushing 40 to be axially compressed and therefore radially expanded into engagement with the threaded portion of the neck 46. The material of the bushing 40 is sufficiently resilient so that it will surround the threads on the neck 46 and securely hold the entire tube 20 in the upright position. Since the tube is disposed vertically above the passage 50 there is no torque about the axis of the horizontal housing section 21 imparted to the housing 20.

To initiate operation of the dispenser 10, the actuator 80 is pushed or collapsed to the left, as seen in FIG. 6, against the resilience of the actuator itself. This action causes the air in the chamber 85 to be forced through the passages 75 and 50, and outwardly thereof through the lower valve 55. Once the pressure on the actuator 80 is released, the resilience of the actuator returns it to its original configuration (FIG. 2) causing a reduction of pressure in the passageway 50 which in turn causes paste or other material from the tube 30 to be drawn into the passage 50 through the upper valve 51.

The lower valve 55 blocks flow of air into the passageway 50 during the time the pressure therein is reduced, since the resilience of the lips 71 and 72, as well as the atmospheric pressure acting thereon force them tightly together. By again collapsing the actuator 80, an additional amount of air is forced from the passage 50, and the resilience of the actuator 80 again returns it to its normal configuration thus drawing an additional volume of paste material into the passage 50. This procedure is continued until all of the air is expelled from the passages 50 and 75, and the chamber 85, and these spaces are filled with the paste material, as shown in FIG. 6.

Thereafter, each time the actuator 80 is collapsed against the housing 20, a predetermined volume of paste material is forced from the chamber 85 into the passage 75 aided by the chamfer 86, into the passage 50 from where it flows through the lower one-way valve 55 onto the toothbrush B or the like. The amount of paste material which flows from the valve 55 is directly proportional to the extent that the actuator 80 is collapsed, so that it is quite easy to dispense only the desired amount of paste material. Once the actuator 80 is released, it returns to its original configuration thus drawing additional paste or cream material into the passage 50 through the upper valve 51 so long as the cream material remains in the tube 30.

The paste material begins to flow immediately upon collapsing the actuator 80 and continues to flow only so long as the actuator is collapsed to a greater extent. Thus the operator quickly and easily obtains the desired amount of material. Also, when the actuator is released a slight quantity of the material between the lips 71 and 72 of the valve 55 is withdrawn upwardly so that the lips easily close and seal this end of the passage 50.

An important advantage of this type of dispenser lies in the fact that suction created in the passage 50 alone draws the paste material from the tube 30. This suction causes the evacuation of the tube 30 to commence at the uppermost end thereof since the entire mass of paste

material has a tendency to cling and slide together with respect to the side walls of the tube 30. By sucking it through the tube neck 46, the tube 30 is thus evacuated from the upper end downwardly and from the sides inwardly so that substantially the entire amount of paste material is withdrawn from the tube. Except for atmospheric pressure, no external pressure whatsoever is applied to the tube 30 in order to achieve complete evacuation thereof.

An important feature of the invention lies in the use of a simple cup shaped actuator 80 which does not require metal springs or the like to return it to its initial position. In most prior art devices, these springs are present, and in addition to the possibility of corrosion and contamination of the paste or liquid being delivered, they are difficult to remove and clean, and they add additional expense to the actuator. In order to use an actuator of the type described above, applicants have found that the upper valve 51 must not require any substantial amount of pressure to open the same since this pressure must be generated by the return of the actuator to its normal configuration. In other words, all of the reduced pressure generated by return of this actuator to its normal position is used to draw paste material into the passageway and chamber. This upper valve must also absolutely prevent the return flow of paste material into the tube 30.

According to the invention, the flap valve 60 is formed integrally with the annular seat 51 on the bushing 40, and there is little pressure required to open this valve. Since there is a fluid tight connection between the interior of the tube and the passage 50, this paste cannot dry out and in no way decreases the effectiveness of operation of this valve if the valve member 60 remains open after the actuator 80 is released and returns to its original shape. Once the actuator 80 is depressed, there is a slight upward movement of paste material which immediately closes the valve member 60 and seals the upper portion of the passage 50.

The lower valve 55 however must be designed so that it sharply cuts off the flow of paste material therethrough when the actuator 80 is released. Additional pressure is available to open this valve since the actuator 80 is manually depressed, and therefore the specific configuration of the lower valve 55 requires much more pressure to open than the upper valve 51. While this pressure is greater, it requires only a slight manual force on the actuator 80 which can be easily operated by a small child. As indicated above, the flow of paste from the lower valve 51 is in the form of a ribbon which is sharply cut off when pressure is relieved from the actuator 80 which causes the lips 71 and 72 to snap shut. This cut off is aided by the slight amount of upward movement of the paste in the lower part of the passage 50 which is created when the actuator 80 starts to resume its normal configuration. Thus the minute amount of paste between the lips 71 and 72 is moved so that at the same time that these lips cut the ribbon off they are cleaned. It has been found that this valve arrangement operates substantially and indefinitely without the accumulation of dried paste material on the lips of the outlet passage.

The entire dispenser 10 can be easily disassembled for routine cleaning or for cleaning when it is desired to utilize the device with another type of paste, cream, or liquid material. The housing 20 is easily detached from the bracket 14 by imparting a pulling action parallel to the axis of the horizontal section 21. The actuator 80 is similarly easily removed by imparting a twisting and pulling action to withdraw the peripheral portion 81 from the groove 77 in the boss 74 thus releasing the actuator 80 from the housing 20.

The collar 32 and bushing 40 (including the valve 51) are removed by rotating the collar 32 so that the cam grooves 33 disengage the projection 35 thus permitting the collar 32 to be removed vertically from the upper housing section 17. The lower valve 55 can easily be removed

since it is stretched onto the tubular boss 52. By merely reversing this procedure the entire dispenser can be easily reassembled. Thus it should be quite apparent that the entire dispenser 10 can be disassembled and completely cleaned without special tools by a person of average skill.

It should now be apparent that the dispenser 10 is particularly adapted for handling paste materials such as toothpaste and shaving cream in an efficient manner. However, liquids such as shampoos which present fewer problems than paste materials, can be handled by this dispenser without difficulty. The particular configuration of the lower valve 55 prevents any leakage which might occur during periods of inactivity since the lips 71 and 72 are tightly held together due to resilience of this lower valve.

The invention has thus provided an inexpensive and very simple dispenser which can be easily disassembled for cleaning by the average person without the use of tools. The dispenser uses no metal parts, and especially uses no metal springs, or for that matter any springs at all, and therefore eliminates the possibility of contamination of the materials being handled thereby. The absence of such coil springs also allows the dispenser to be easily cleaned and prevents clogging of the valves. The particular configuration of the upper and lower valves, and the fact that the upper valve requires little pressure to open it whereas the lower valve tightly seals itself, permits the use of a simple cup-shaped actuator which returns to its original configuration due to its resilience. In addition, the dispenser is provided with apparatus for securing thereto collapsible tubes having different size necks.

While the form of apparatus herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of apparatus, and that changes may be made therein without departing from the scope of the invention which is defined in the appended claims.

What is claimed is:

1. A dispensing device for a tube of paste material or the like comprising, a housing adapted to be mounted on a vertical wall or the like, an elongated vertical passage in said housing having upper and lower openings, fastening means for releasably securing the tube to said housing in an inverted vertical position with the outlet of the tube in communication with said upper opening, said fastening means including a plurality of oppositely disposed outwardly extending guide pins rigidly secured to said housing around said upper opening, a collar having oppositely disposed guide grooves therein which taper transversely of the axis of said collar and receive said pins, said pins and said grooves cooperating to move said collar axially on the upper end of said housing in response to rotation thereof, an internal flange on said collar, a resilient tubular bushing interposed between said upper end and said internal flange for radial inward expansion in response to downward movement of said collar on said one end to engage the neck of the flexible tube, a downwardly extending integral flap on the lower end of said tubular bushing providing for flow of the material into said passage while blocking flow from said passage to the tube, a lower one-way valve in said passage near said lower opening providing for flow of the material from said passage through said lower opening while blocking flow in a reverse direction, means defining an actuator opening in communication with said passage between said valves, a resilient actuator member secured on said housing and defining a chamber having a predetermined volume, said chamber being in fluid tight communication with said passage through said actuator opening and being collapsible with respect to said housing for forcing therefrom an amount of paste material proportional to the extent that said actuator member is collapsed, and means for returning said member to its normal configuration subsequent to being collapsed to draw sufficient paste into said passage past said integral flaps and into said chamber through said actuator open-

ing to fill said passage and said chamber so that when said actuator member is collapsed said amount of material is forced outwardly of said passage through said second one-way valve.

2. A dispensing device for a tube of paste material or the like comprising, a housing adapted to be mounted on a vertical wall or the like, an elongated vertical passage in said housing having upper and lower openings, fastening means for releasably securing the tube to said housing in an inverted vertical position with the outlet of the tube in communication with said upper opening, said fastening means including outwardly extending guide projection means on said housing around said upper opening, a collar having internal thread means which taper transversely of the axis of said collar and engage said projection means, said projection means and said thread means cooperating to move said collar axially on the upper end of said housing in response to relative rotation thereof, an internal flange on said collar, and a resilient tubular bushing interposed between said upper end and said internal flange for radial inward expansion in response to downward movement of said collar on said one end to engage the neck of the flexible tube, an upper one way valve disposed at the lower end of said tubular bushing providing for flow of the material into said passage while blocking flow from said passage to the tube, a lower one-way valve in said passage near said lower opening providing for flow of the material from said passage through said lower opening while blocking flow in a reverse direction, and means defining an actuator opening in communication with said passage between said valves, an actuator member secured on said housing and defining a chamber having a predetermined volume, said chamber being in fluid tight communication with said passage through said actuator opening and being collapsible with respect to said housing for forcing therefrom an amount of paste material proportional to the extent that said chamber is collapsed, said actuator member including means for returning said member to its normal position subsequent to said chamber being collapsed to draw sufficient paste into said passage through said upper one way valve and into said chamber to fill said passage and said chamber so that when said chamber is collapsed said amount of material is forced outwardly of said passage through said lower one-way valve.

3. A dispensing device as defined in claim 2 wherein said upper valve has an annular seat integrally connected to the lower portion of said bushing, a flap valve member hingedly secured to said valve seat on the lowermost side thereof, said flap valve having an outer diameter greater than the inner diameter of said seat so that pressure within said passage closes and seals said upper valve and suction in said passage opens said flap valve with a minimum of effort to draw material into said passage from the collapsible tube.

4. A dispensing device as defined in claim 2 wherein said lower valve member includes a tubular portion adapted to be snugly held on said lower vertical section, a downwardly tapered conical end wall on said tubular portion having a diametrical cut therein for closing the lower end of said passage and opening in response to increased pressure in said passage so that an opening is defined between the lips formed by the end wall adjacent the cut which cleanly cuts off the flow of paste material through said opening when the pressure in said passage is reduced thereby substantially eliminating clogging of said lower valve.

5. A dispensing device for a collapsible tube of paste material which device is easily disassembled and cleaned comprising, a bracket adapted to be secured to a wall or the like, a main housing releasably secured to said bracket and having a horizontal section and upper and lower vertical sections, said upper and lower sections having a vertical passage extending therethrough, means defining an inlet at the top of said passage and an outlet at the

bottom thereof, means for securing the tube to said upper section of said housing in an inverted vertical position with the outlet of the tube in communication with said inlet, an upper one-way valve in said passage near said inlet providing for flow of the material into said passage while blocking flow from said passage to the tube, a lower one-way valve in said passage near said outlet providing for flow of the material from said passage through said outlet while blocking flow in a reverse direction, a tubular boss projecting horizontally from said housing coaxially with said horizontal section and defining a horizontal passage in communication with said vertical passage, means defining a horizontal circumferential groove in said boss having a predetermined width, a resilient actuator member releasably secured on said boss defining a chamber having a predetermined volume in fluid tight communication with said passages for forcing fluid therein into said passages and outwardly through said lower valve when said actuator member is collapsed, said actuator including a tubular portion having an end wall at one end thereof with the other end thereof having an opening adapted to communicate with said horizontal passage, said other end of said actuator having a periphery complementary to said groove for snug insertion into said groove for holding said actuator on said housing, said tubular portion having sufficient resilience for returning said actuator member to its normal configuration subsequent to being collapsed to draw the material into said vertical passage through said upper valve and into said chamber through said horizontal passage.

6. A dispensing device for a tube of paste material or the like comprising, a housing adapted to be mounted on a vertical wall or the like, an elongated vertical passage in said housing having upper and lower openings, means for releasably securing the tube to said housing in an inverted vertical position with the outlet of the tube in communication with said upper opening, a first one-way valve in said passage near said upper opening providing for flow of the material into said passage while blocking flow from said passage to the tube, said first one-way valve being opened in response to a predetermined pressure in said elongated passage, a second one-way valve in said passage near said lower opening providing for flow of the material from said passage through said lower opening while blocking flow in a reverse direction, said second one-way valve being opened in response to a pressure in said elongated passage which is substantially greater than said predetermined force thus insuring that the lower valve will not leak and will cleanly cut off the flow of paste therethrough, means defining an actuator opening in communication with said passage between said valves, a resilient cup shaped actuator member secured on said housing and defining a chamber having a predetermined volume, said chamber being in fluid tight com-

munication with said passage through said actuator opening and being collapsible with respect to said housing for forcing therefrom an amount of paste material proportional to the extent that said actuator member is collapsed, said actuator member having a resilience sufficient to return it to its normal configuration subsequent to being collapsed to open said first one-way valve and draw sufficient paste into said passage through said first one-way valve and into said chamber through said actuator opening to fill said passage and said chamber so that when said actuator member is collapsed said amount of material is forced outwardly of said passage through said second one-way valve, said first valve requiring a minimum amount of force to open the same so that said resilient actuator member effectively draws paste material into said chamber whereas said second valve requires a substantially greater force to open.

7. A dispensing device as defined claim 6 wherein said upper valve has an annular seat integrally connected to the lower portion thereof, a flap valve member hingedly secured to said valve seat on the lowermost side thereof, said flap valve having an outer diameter greater than the inner diameter of said seat so that pressure within said passage closes and seals said upper valve and suction in said passage opens said flap valve with a minimum of effort.

8. A dispensing device as defined in claim 6 wherein said lower valve member includes a tubular portion adapted to be snugly held on said lower vertical section, a downwardly tapered conical end wall on said tubular portion having a diametrical cut therein for closing the lower end of said passage and opening in response to increased pressure in said passage so that an opening is defined between the lips formed by the end wall adjacent the cut which cleanly cuts off the flow of paste material through said opening when the pressure in said passage is reduced thereby substantially eliminating clogging of said lower valve.

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