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3,204,823

COMBINED TUBE SQUEEZER AND SUPPORT THEREFOR

Filed Sept. 24, 1963

3 Sheets-Sheet 1

FIG. 1

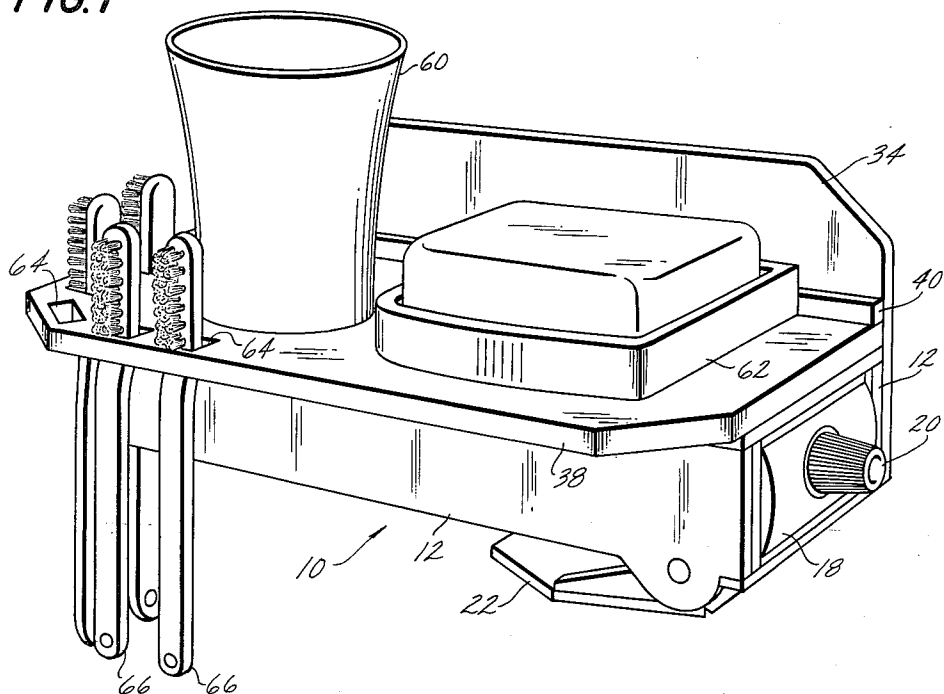
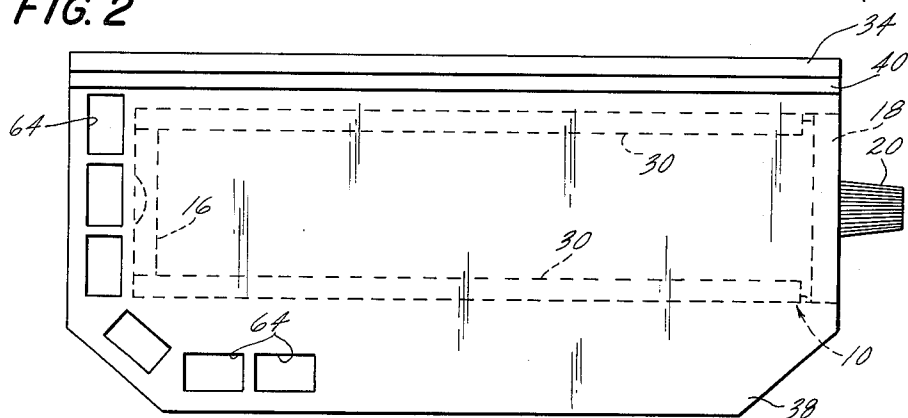


FIG. 2



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FIG. 3

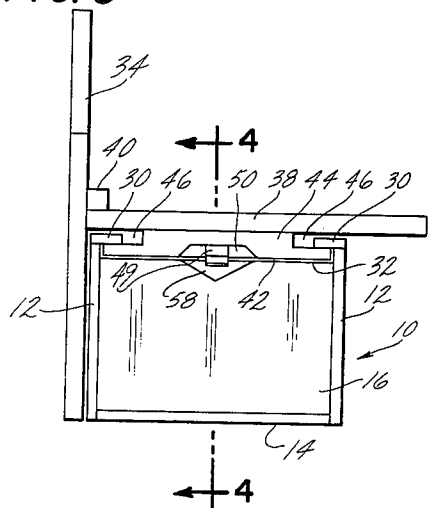


FIG. 4

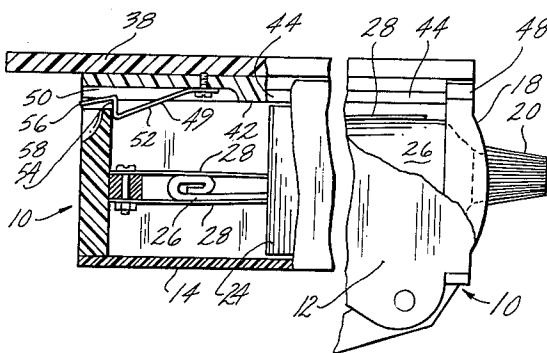


FIG. 5

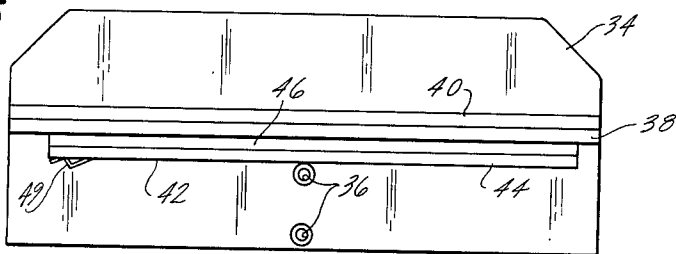
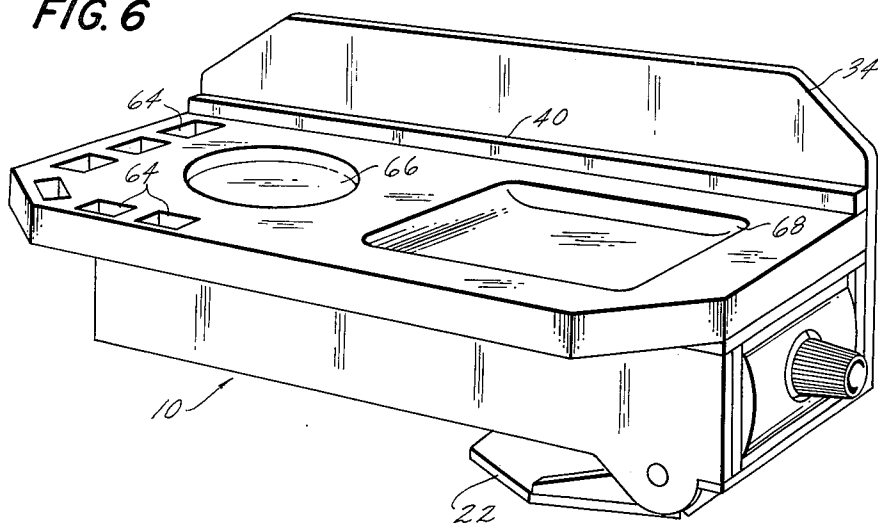


FIG. 6



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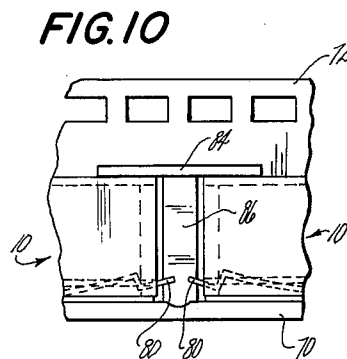
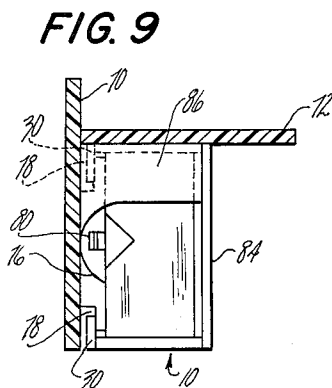
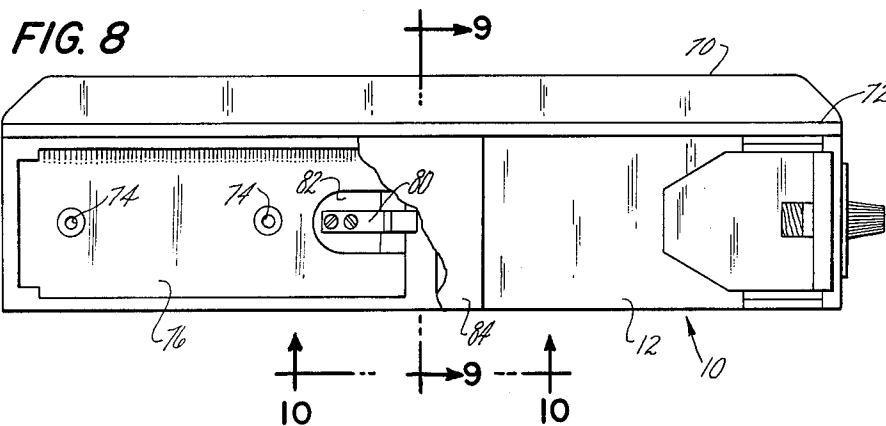
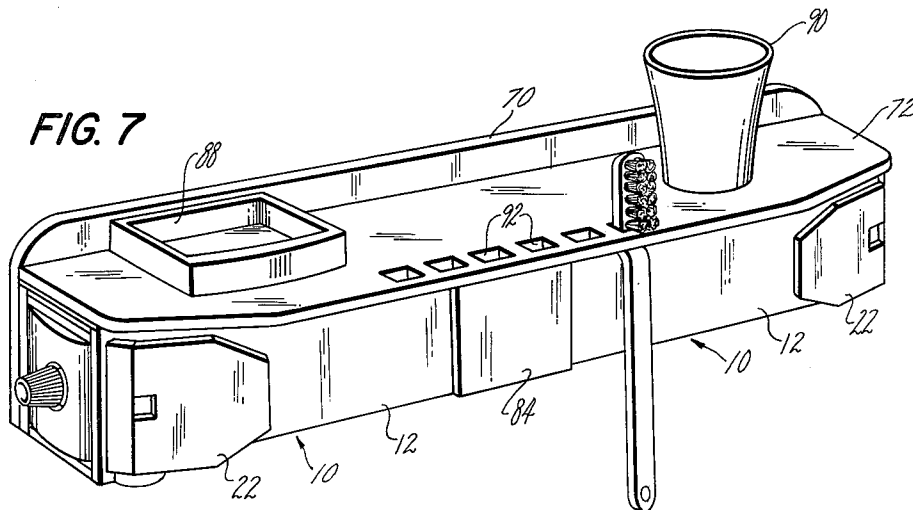
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COMBINED TUBE SQUEEZER AND SUPPORT THEREFOR

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11 Claims. (Cl. 222-93)

This invention relates to the combination of a squeezer for collapsible tubes and a support therefor, and deals more particularly with such a combination wherein the supporting means is adapted for wall mounting and additionally provides a shelf and/or a holder for toothbrushes and similar articles.

The general object of this invention is to provide a wall fixture which is highly useful and convenient in bathrooms and other areas of the home.

A more particular object of the invention is to provide a tube squeezer and support therefor which cooperate to allow easy one-hand operation of the squeezer and to provide an attractive holder for a bar of soap, a drinking glass, toothbrushes and/or other articles.

A still further object is to provide a wall fixture or combination of the above character wherein the body of the squeezer is releasably held in place relative to the support and is readily and easily removed therefrom and replaced therein to facilitate the replacement of exhausted tubes with new tubes.

Another object of this invention is to provide a wall fixture of the above character wherein the support is adapted to support two tube squeezers so as to enable the dispensing of the contents of two different tubes, such as, for example, toothpaste from one tube and shaving cream from the other tube.

Other objects and advantages of the invention will be apparent from the following description and from the drawings forming a part thereof.

The drawings show preferred embodiments of the invention and such embodiments will be described, but it will be understood that various changes may be made from the constructions disclosed, and that the drawings and description are not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawings:

FIG. 1 is a perspective view showing a combined tube squeezer and support therefor embodying the present invention;

FIG. 2 is a top view of the device of FIG. 1 with the soap tray, drinking glass and toothbrushes removed to better illustrate the shape of the shelf member, the broken lines of this figure comprising a top view of the tube squeezer located below the shelf member;

FIG. 3 is an end elevational view of the device of FIG. 1 taken looking toward the right in FIG. 2;

FIG. 4 is a fragmentary view partly in section and partly in elevation of the device of FIG. 1 with the sectional portion being taken on the line 4-4 of FIG. 3;

FIG. 5 is a front view, on a reduced scale, of the device of FIG. 1 with the tube squeezer shown removed therefrom;

FIG. 6 is a view similar to FIG. 1 but showing a slightly different embodiment of the invention;

FIG. 7 is a perspective view showing two tube squeezers and a support therefor, which combination comprises another embodiment of the present invention;

FIG. 8 is a front view of the FIG. 7 device with the left tube squeezer being shown removed and with other parts being shown broken away to show more clearly the structure of the support;

FIG. 9 is a vertical sectional view of the FIG. 7 device taken on the line 9-9 of FIG. 8; and

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FIG. 10 is a fragmentary bottom view of the FIG. 7 device taken on the line 10-10 of FIG. 8.

Turning to the drawings and first considering FIGS. 1 to 5, these figures illustrate one embodiment of the present invention wherein a support is combined with one tube squeezer to provide a useful fixture for a bathroom or any other place where a product is dispensed from a collapsible tube. The tube squeezer as illustrated in these figures is designated generally by the reference number 10 and includes an elongated body or case for receiving a tube to be squeezed and having an open longitudinal side through which a tube is moved in being placed into and in being taken out the squeezer. The body may take various different shapes, but in the illustrated case is generally rectangular in form and cross section and is comprised of two parallel side walls 12, 12, a bottom wall 14, a rear end wall 16, and a removable front end cap 18. The sidewall 12 which faces forwardly toward the user is substantially imperforate, so that when a collapsible tube is positioned within the body the collapsible portion of the tube is wholly concealed from view. The front end cap has a central opening through which projects the nozzle of a tube contained in the body, the nozzle in FIG. 1 being covered by a conventional screw cap 20 which is removed when it is desired to obtain material from the tube. The cap 20 may be replaced on the nozzle after each use of the squeezer or may be discarded at the time of the first use, as may be desired by the user. Replacing the cap 20 after each use has the advantage of eliminating any possibility of material dispensing from the tube between uses, however, usually with the cap removed little or no dripping occurs unless the material in the tube is quite runny.

At the front end of the body 12 is an operating handle 22 which is pivotally secured between the sidewalls 12, 12 for movement about a transverse axis and which extends along and in spaced relation to the front portion of the bottom wall 14. The handle is biased to a limited position away from the bottom wall 14 and in operation is movable toward the bottom wall, or upwardly in FIG. 1. Inside the squeezer body as shown in FIG. 4, is a squeezer assembly block 24 having a longitudinally extending opening through which passes the collapsible tube 26 and two flexible slabs 28, 28 located on opposite sides of the tube. The squeezer assembly block 24 includes pressure elements for engaging and pressing together the flexible slabs 28, 28 so as to squeeze the tube 26 therebetween. Each stroke of the operating handle 22 advances the squeezer assembly block 24 a slight distance toward the tube nozzle and causes a given amount of the material to be expelled from the tube nozzle. The operating mechanism of the tube squeezer may be varied widely without departing from the present invention, however, for the purpose of illustration the tube squeezer 10 is shown to be similar to the one described in detail in my copending application Serial No. 294,905 entitled Collapsible Tube Squeezer and filed July 15, 1963, and reference is made to said latter application for a more complete understanding of the construction of the squeezer 10.

As shown best in FIG. 3, and by the broken lines of FIG. 2, each sidewall 12 at its upper or free longitudinal edge includes a laterally inwardly directed flange 30 which extends substantially the full length of the squeezer body. The space between the inner edges of the two flanges 30, 30 is the space through which the tube 26 is moved in being placed into or in being taken out or the squeezer body and this space is slightly less than the space between the sidewalls 12, 12. Also, as shown in FIG. 3, the rear end wall 16 has its upper edge 32 located slightly below the flanges 30, 30 so as to leave a small space between the edge 32 and the two flanges.

The support for the tube squeezer is adapted for wall

mounting and for this purpose includes a flat member 34 which in use engages the supporting wall and includes one or more countersunk openings 36, 36 for receiving screws or other fastening devices for holding the support to the wall. Extending outwardly from the forward face of the upright member 34 is a flat shelf member 38 which may be either integral with or rigidly fixed to the upright member. Both the shelf member 38 and the upright member 34 may, for example, be made of plastic and the shelf member secured to the upright member by means of glue. An additional fillet piece 40 may also be glued in the upper corner of the joint between the two members to increase the strength of the joint and to improve the appearance of the shelf. The attachment holes 36, 36 are preferably located below the shelf member 38, as shown in FIG. 5, so as to be hidden by the tube squeezer 10 when the latter is in its assembled condition with the support.

The support also includes a means providing a surface generally conforming to the area of the open side of the squeezer body and which surface is adapted to close such open side when the squeezer is in its assembled condition with the support. Additionally, the support includes guide surfaces extending along the edges of such closure surface for engaging the flanges 30, 30 of the squeezer body so as to restrain the squeezer body to longitudinal sliding movement in a horizontal direction relative to the support and vertically hold the squeezer on the support after the squeezer is moved to the desired assembled position.

The above referred to closure surface may be located on either the underside of the shelf member 38 or on that portion of the upright member 34 which is located below the shelf member. In the combination shown in FIGS. 1 to 5, it is located on the underside of the shelf member. Referring to FIGS. 3, 4 and 5, the closure surface is indicated at 42 and is generally flat and horizontal and comprises the bottom surface of a closure portion 44 of the shelf member 38. The closure portion 44 may be integral with the main body of the shelf member, but in the present case is shown to consist of an initially separate member glued or otherwise fixed to the underside of the main body of the shelf member. The portion 44 has a length substantially equal to the length of the squeezer body and along its two longitudinal edges is recessed as shown in FIG. 3 to provide longitudinally extending grooves 46, 46 adapted to receive the body flanges 30, 30. The width of the lower part of the portion 44 is such as to be greater than the spacing between the flanges 30, 30 and slightly less than the spacing between the sidewalls 12, 12. The flanges 30, 30 and the grooves 46, 46 therefore serve as mutually cooperating guide means on the body and on the support for restraining the squeezer to longitudinal sliding movement relative to the support and for vertically supporting the squeezer from the support. The vertical dimension of the portion 44 is such that when the squeezer body is assembled with the support, the rear or left end of the portion fits between the flanges 30, 30 and the upper edge 32 of the rear end wall 16 as shown in FIG. 3.

From the foregoing it will be understood that the squeezer 10 is movable by means of the engagement of the flanges 30, 30 with the portion 44 in a horizontal direction to assemble and disassemble the squeezer relative to its support. When the squeezer is disassembled from the support, its open side is immediately exposed to facilitate the removal of an exhausted tube therefrom and the replacement of a fresh tube therein. When the squeezer is moved into assembled relation with the support, the closure portion 44 in addition to holding the squeezer to the support also closes and conceals the open side of the squeezer.

Means are also provided for releasably holding the squeezer in its assembled relation to the support. Referring to FIGS. 3, 4 and 5, these means include an upper portion 48 of the front end cap 18 which is engageable

with the front or right end face of the closure portion 44 to limit leftward sliding movement of the squeezer assembly relative to the support and further includes a manually releasable latch member 49 engageable with the rear end wall 16 to prevent rightward movement of the squeezer after the squeezer is moved to its assembled position. The latch member, which is generally located on the underside of the shelf member 38, comprises a piece of spring material which is partially located in a recess 50 in the left end of the closure portion 44. The latch member is fixed to its right end to the portion 44 and includes an inclined portion 52 which is located in the path of movement of the upper edge 32 of the rear wall 16 so as to be engaged and displaced thereby as the squeezer is moved longitudinally of the support toward its assembled position. To the left of the inclined portion 52 is an abutment portion 54 having a leftwardly facing abutment surface adapted to engage the rear wall 16 as shown in FIG. 4 to prevent rightward movement of the squeezer body. Also included on the latch member is a portion 56 which extends to the left of the abutment portion 54 and which is engageable by the finger or thumb of a user to depress the same toward the portion 44 and to move the abutment portion 54 out of interference with the end wall 16 to allow the squeezer body to be moved to the right and out of assembled condition with the support. In the vicinity of the latch member, the rear end wall 16 is provided with a recess 58 to facilitate manipulation of the latch member.

Returning to FIG. 1, it will be noted that the shelf member 38 is conveniently used for holding small articles such as the illustrated drinking glass 60 and soap tray 62. Additionally, the member 38 may be provided with a number of vertically extending openings 64, 64 for receiving and holding toothbrushes, such as shown at 66, 66, or similar articles. In order that the openings 64, 64 may accommodate such articles, the shelf member 38 projects forwardly beyond the sidewall of the squeezer and to the left beyond the end wall of the squeezer. The openings may be variously located on the shelf, however, in the illustrated example it will be noted that no such openings are located forward of the shelf area reserved for the soap tray or in line with the operating handle 22 since toothbrushes or other articles received in such openings would interfere with the operation of the handle 22 or with the use of the soap tray.

FIG. 6 shows an embodiment of the present invention which is identical with that shown in FIGS. 1 to 5 except for the shelf member 38a being made of substantially thicker material than in the former embodiment and including a recess 66 specifically designed to receive the bottom portion of a drinking glass and another recess 68 specifically designed to receive a bar of soap. As so designed, the shelf 38a eliminates the need for a separate soap tray, the recess 68 serving the purpose of the tray.

Instead of utilizing only one tube squeezer as in the above-described embodiments, the combination of the present invention may also be designed to include one support and two separate squeezers to permit the dispensing of two different materials from two separate collapsible tubes. Such a combination is shown in FIGS. 7 to 10, inclusive. In the figures, the tube squeezers are again indicated generally by the reference numerals 10, 10 and may be identical with the squeezer 10 described above in connection with FIGS. 1 to 5. The support includes an upright member 70 which is slightly greater in length than the combined lengths of the two tube squeezers 10, 10 and a horizontal shelf member 72 which extends the full length of the upright member 70, as shown. Located below the shelf member 72 so as to be hidden by the tube squeezers 10, 10 are a number of countersunk openings 74, 74 in the upright member for attaching the support to a wall or other supporting structure. The tube squeezers 10, 10 are located below the shelf member 72 and may, if desired, be supported from the undersur-

face of the shelf member in a manner generally similar to that shown in connection with the squeezer of FIGS. 1 to 5. For the purpose of comparison, however, FIGS. 7 to 10 show the squeezers supported from the upright member 70.

Referring to FIGS. 7 and 8, the two squeezers 10, 10 are, when assembled with the support, arranged so that the operating handles 22, 22 thereof face forwardly toward the user and so that the discharge end of one squeezer is located at each end of the shelf member 72. It will also be noted that with the two squeezers arranged in this manner the imperforate wall 12 of each squeezer faces forward. Associated with each of the two squeezers is a closure portion 76 which is fixed to or integral with the upright member 70 and generally similar to the closure portion 44 of FIGS. 1 to 5. One such closure portion is shown at the left in FIG. 8 and it is to be understood that a similar portion is provided to the right thereof for the right-hand squeezer 10. Each closure portion 76, as shown in FIG. 9, is recessed to provide two longitudinal grooves 78, 78 for receiving and cooperating with the flanges 30, 30 of the associated squeezer. Each closure portion 76 also has fixed thereto a latch member 80, generally located on the portion of the upright member 70 below the shelf member 72, similar to the latch member 49 of FIGS. 1 to 5 and located partially in a recess 82 in the inboard end of the closure portion. The two closure portions 76, 76 are so located on the main body of the upright member 70 that when the squeezers 10, 10, are in assembled condition with respect to the support the inboard or rear ends thereof are separated a slight distance from each other, as shown in FIG. 10. A space is thus provided between the two squeezers enabling the insertion of a user's finger to manipulate and release either one or both of the two latch members 80, 80 to free the squeezers for sliding movement from their assembled condition with the support. To conceal the gap between the two squeezers and to thereby provide a more attractive appearance, a depending skirt member 84 is provided on the support as best shown in FIG. 7. To firmly support the skirt 84, a brace member 86 is also provided as shown in FIGS. 9 and 10. This brace member is located in the gap between the two squeezers and is glued or otherwise fastened to the upright member 70, the shelf member 72 and the skirt 84. It will therefore be understood that the brace member not only serves to provide a support for the skirt 84 but also aids in strengthening the joint between the upright member and the shelf member and in holding the shelf member in its horizontal position relative to the upright member.

From FIG. 7 it will be immediately apparent that the described support and squeezer combination allows the dispensing of two different materials, such as toothpaste and shaving cream, from two different collapsible tubes and also provides a convenient shelf for items such as the illustrated soap tray 88 and drinking glass 90. In addition, the shelf member 72 may be provided with a number of vertical openings 92, 92 for receiving and holding articles such as the illustrated toothbrushes 94, 94.

The invention claimed is:

1. The combination comprising a tube squeezer having an elongated body for receiving a tube to be squeezed and which body has an open longitudinal side through which such a tube is moved in being placed into and in being taken out of said body, said body including means defining guides adjacent the longitudinal edges of said open side, said body further including a substantially imperforate longitudinal forwardly facing portion, a support adapted for attachment to a wall and including means defining an elongated surface generally conforming to the area of said open side of said squeezer body, said support further including guides adjacent said elongated surface and arranged to engage said squeezer guides so as to restrain said squeezer to longitudinal sliding movement relative to said support, manually operable

means for releasably holding said squeezer body at a point along its path of said relative sliding movement whereat said surface of said support substantially closes said open side of said squeezer and a squeezing mechanism associated with said squeezer body having a manually operable lever located exteriorally of said body and pivotally connected in fixed position relative thereto.

2. The combination defined in claim 1 further characterized by said support including a generally horizontal shelf member located above said elongated surface so as to overlie said squeezer body when said squeezer body is assembled with said support.

3. The combination defined in claim 2 further characterized by said elongated surface being located on the underside of said horizontal shelf member.

4. The combination defined in claim 1 further characterized by said support including a generally vertical member for engaging the wall to which the support is mounted and also including a generally horizontal shelf member extending forwardly from said vertical member, said elongated surface being located on the forward face of said vertical member and below said shelf member so that said shelf member overlies said squeezer when said squeezer body is assembled with said support.

5. The combination comprising two tube squeezers having elongated bodies for receiving tubes to be squeezed and each of which bodies has an open longitudinal side through which such a tube is removed in being placed into and in being taken out of said body, each of said bodies further including means defining guides adjacent the longitudinal edges of its open side, a support adapted for attachment to a wall and including two elongated closure portions arranged end-to-end and each having a closure surface conforming generally to the area of said open sides of said squeezer bodies, each of said closure portions further including guides adjacent their longitudinal edges for cooperating with said squeezer body guides to restrain said squeezers to longitudinal sliding movement relative to said support, and two manually operable means each associated with a respective one of said closure portions for releasably holding the associated squeezer body at a point along its path of said relative sliding movement whereat said closure surface of said closure portion substantially closes said open side of said squeezer.

6. The combination defined in claim 5 further characterized by said support including a generally horizontal and elongated shelf member, said shelf member being located above said closure portions so as to overlie said squeezer bodies when said squeezer bodies are assembled with said support and said closure portions and said releasable holding means being further so arranged that when said squeezer bodies are assembled with said support the forward ends thereof are located one at either end of said shelf member.

7. The combination comprising a support member adapted for fixed mounting to a supporting structure and having one portion which provides a generally horizontal and elongated shelf when so mounted, two tube squeezers each including a body for receiving a tube to be squeezed and a squeezing mechanism having a manually operable operating means located externally of said body, and co-operating means on said support member and on said squeezer bodies for releasably attaching both of said squeezers simultaneously to said support member so as to hold said squeezers in such positions as to permit manual operation of said operating means and to permit said squeezers to be individually removed from said support member.

8. The combination comprising a support including a generally vertical member for engaging a wall to which the support is mounted and also including a generally horizontal shelf member extending forwardly from said vertical member, said vertical member having a portion extending below said shelf member, a tube squeezer in-

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cluding a body for receiving a tube to be squeezed and a squeezing mechanism, cooperating means on said support and on said squeezer body for releasably attaching said squeezer to said support forward of said vertical member and completely below said shelf member, said squeezer body having an imperforate surface which faces forwardly when said squeezer body is attached to said support, and a manually operable lever pivotally connected to said squeezer body at one end thereof for operating said squeezing mechanism.

9. The combination defined in claim 8 further characterized by said vertical member defining a plurality of mounting openings extending transversely therethrough below said shelf member to accommodate fasteners for mounting said support on a wall so that when the squeezer body is removed from the support the holes are revealed and when the squeezer body is assembled with the support the holes are hidden by the squeezer body.

10. The combination defined in claim 8 further characterized by said lever being pivotally connected to said

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body for rotation about a vertical axis, and the means on said support for releasably attaching said squeezer body thereto being located on the portion of said vertical member located below said shelf member.

11. The combination defined in claim 8 further characterized by said lever being pivotally connected to said body for rotation about a transverse axis and means on said support for releasably attaching said squeezer body thereto being located on the underside of said shelf member.

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