July 13, 1965 C. B. WATSON, JR 3,194,440

PLURALITY OF TUBE SQUEEZERS AND HOLDER THEREFOR

Filed Oct. 11, 1963 3 Sheets-Sheet 1

FIG. 1

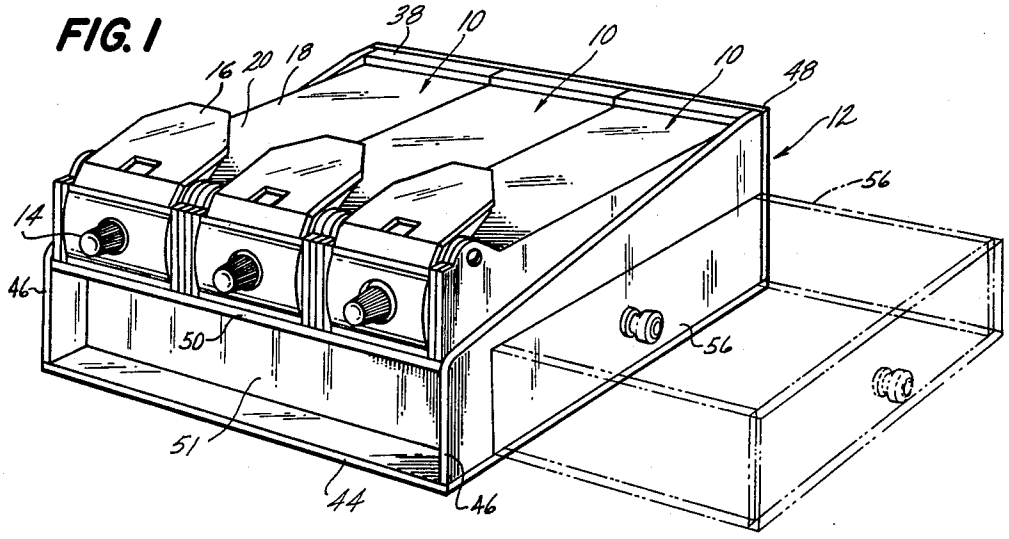
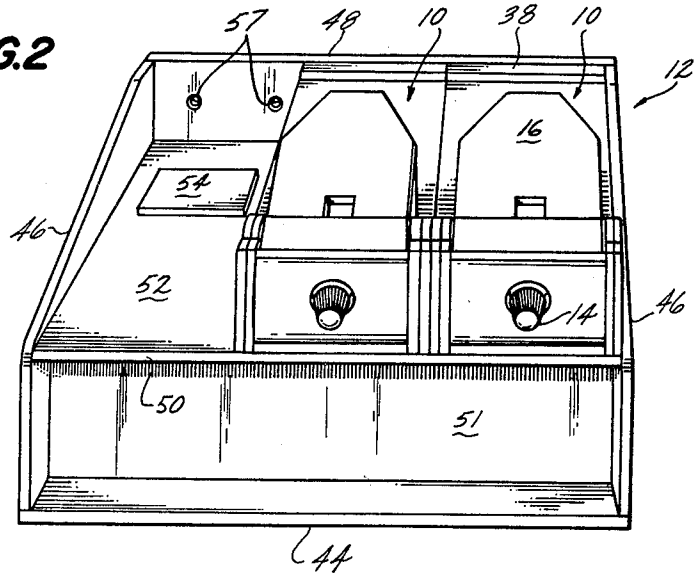


FIG. 2



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July 13, 1965 C. B. WATSON, JR 3,194,440

PLURALITY OF TUBE SQUEEZERS AND HOLDER THEREFOR

Filed Oct. 11, 1963 3 Sheets-Sheet 2

FIG. 3

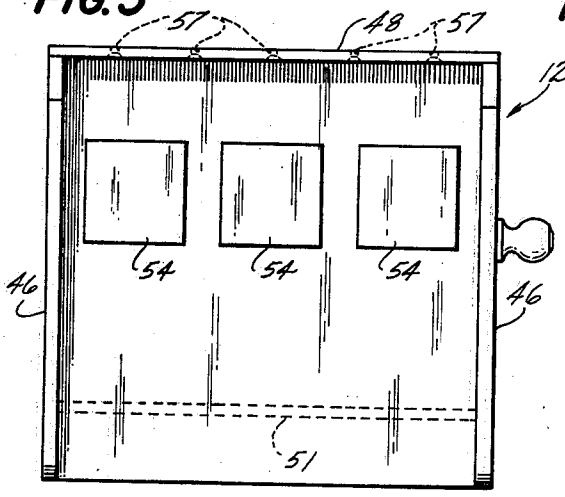


FIG. 4

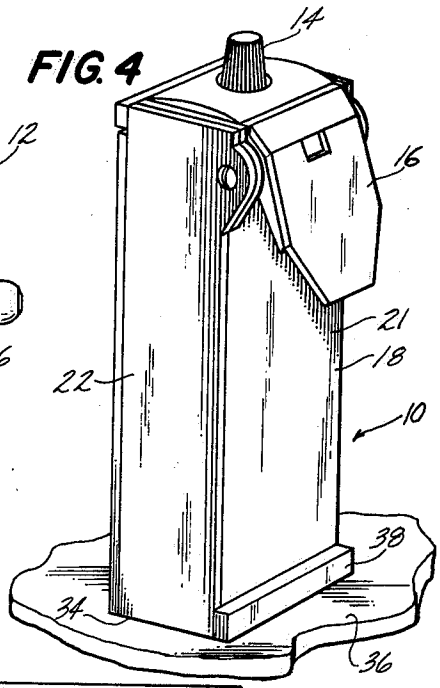


FIG. 5

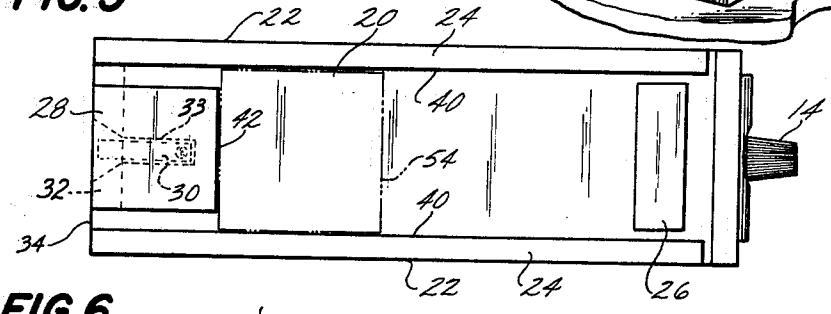
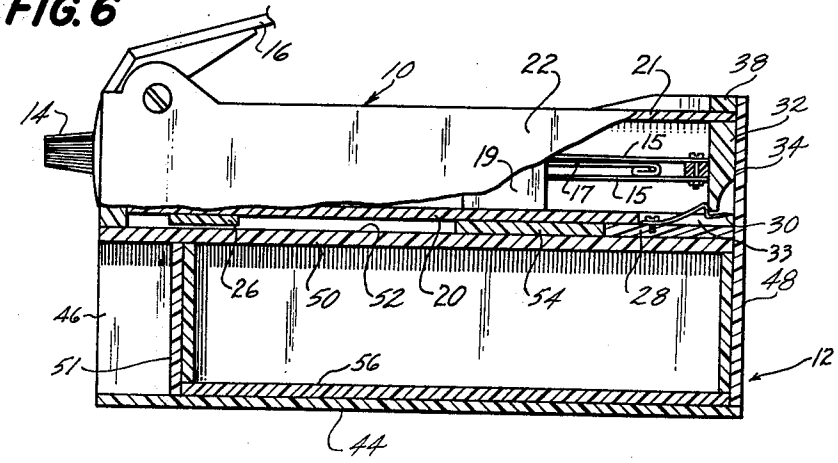


FIG. 6



July 13, 1965 C. B. WATSON, JR 3,194,440

PLURALITY OF TUBE SQUEEZERS AND HOLDER THEREFOR

Filed Oct. 11, 1963 3 Sheets-Sheet 3

FIG. 7

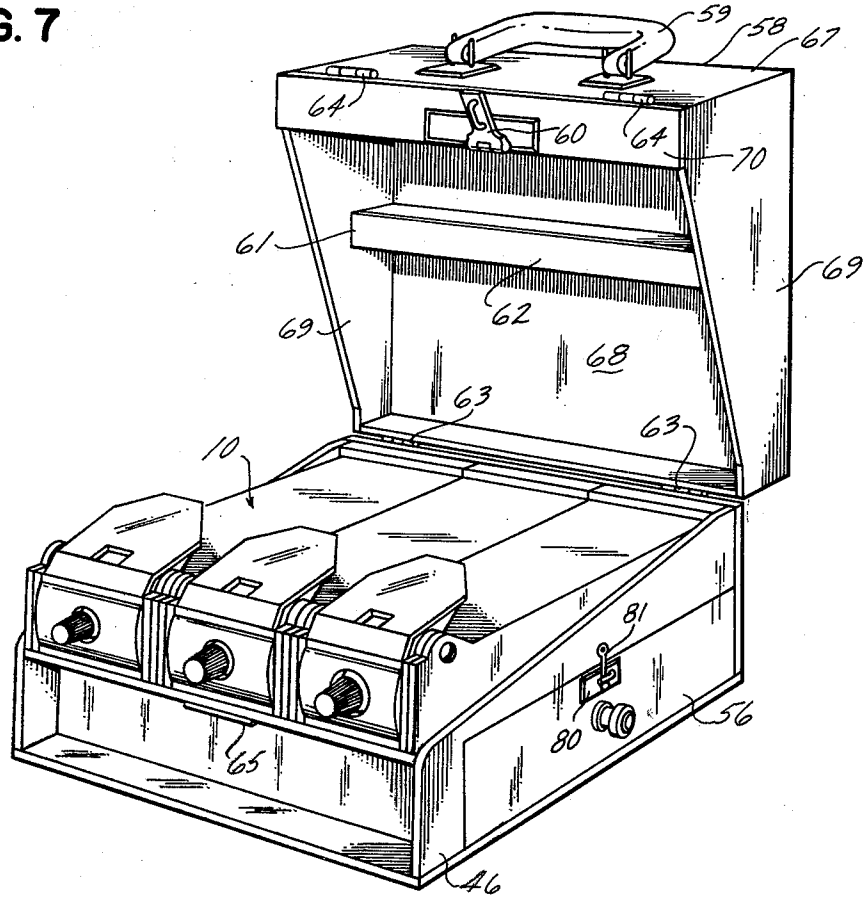
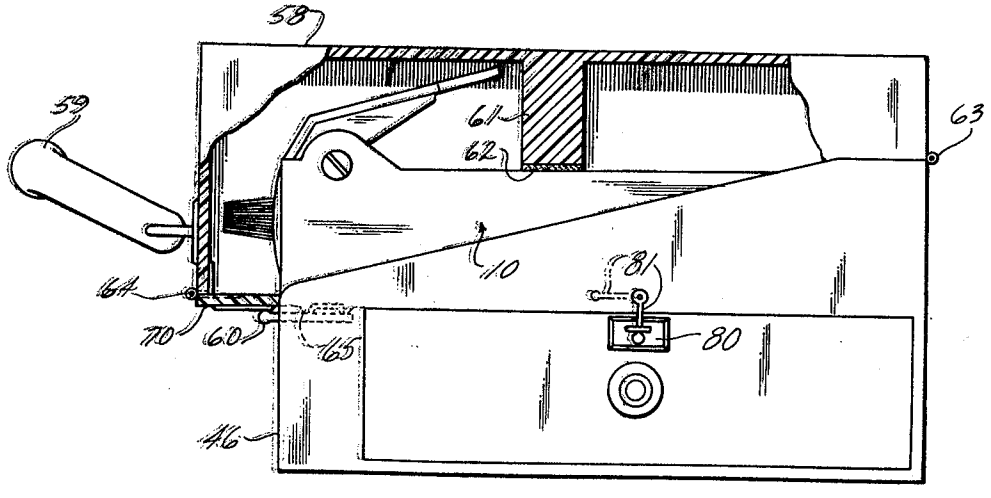


FIG. 8



United States Patent Office 3,194,440 Patented July 13, 1965

3,194,440

PLURALITY OF TUBE SQUEEZERS AND HOLDER THEREFOR

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Filed Oct. 11, 1963, Ser. No. 315,650
10 Claims. (Cl. 222—93)

This invention relates to the combination of a plurality of squeezers for collapsible tubes and a holder therefor, and deals more particularly with such a combination wherein the holder is adapted for placement on a table top or other similar horizontal surface; and which is also adapted to be fastened to any vertical wall surface if the user should so desire; and which is also adapted to be used as a portable carrying case when hinged cover with carrying handle is added thereto.

The general object of this invention is to provide a plurality of tube squeezers and a holder therefor so that a user may conveniently group together a number of collapsible tubes and selectively dispense material from any one of such tubes by a simple manipulation of the appropriate squeezer.

A further object of this invention is to provide a combination such as set forth above which is attractive in appearance and wherein the holder is adapted for placement on adressing table, kitchen counter, workbench or on any other similar table surface or for mounting on a wall in an area where collapsible tubes are used, and wherein the holder securely holds the squeezers to permit operation thereof with one hand while nevertheless permitting the squeezers to be individually removed from the holder for the substitution of fresh tubes or for use of the squeezers apart from the holder.

Another object of this invention is to provide a combination such as set forth above wherein the squeezers are held by the holder in such positions as to enable operation of a squeezer with one hand and to enable the insertion of the other hand or other object below the nozzle of the tube being squeezed to catch the contents of the tube.

Still another object of this invention is to provide a combination as set forth above wherein the holder serves the additional function of providing a drawer or other space for the convenient storage of replacement tubes or other articles.

A still further object of this invention is to provide a combination as set forth above wherein the holder is fitted with a hinged cover to connect the holder into a convenient carrying case for a number of tube squeezers.

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

The drawings show a preferred embodiment of the invention and such embodiment will be described, but it will be understood that various changes may be made from the construction 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 of a holder and a plurality of tube squeezers embodying the combination of the present invention, the full lines showing the drawer of the holder in its closed position and the broken lines showing the drawer in its extended position;

FIG. 2 is a perspective view of the combination of

FIG. 1, but showing the holder with one of the tube squeezers removed therefrom;

FIG. 3 is a top plan view of the holder of FIG. 1 shown with the tube squeezers removed therefrom;

FIG. 4 is a perspective view of one of the tube squeezers of FIG. 1 shown apart from the holder and stood in an upright position on a horizontal surface;

FIG. 5 is a bottom view of one of the tube squeezers of FIG. 1;

FIG. 6 is a view partly in elevation and partly in section of the combination of FIG. 1 with the sectional portion being taken on a vertical plane passing longitudinally through the holder.

FIG. 7 is a perspective view of the holder when fitted with hinged cover with carrying handle and latch, as for use as a portable carrying case, this view showing the cover in its open position; and

FIG. 8 is a side elevational view of the combination of FIG. 7, this view showing the cover in its closed position and also showing part of the cover broken away to reveal the relative position of the squeezers and the retaining bar of the cover.

Turning to the drawings and first considering FIGS. 1 and 2, these figures illustrate the combination of the present invention wherein a number of tube squeezers 10, 10 are combined with a holder 12 in such a manner that the squeezers are arranged for convenient manipulation by a user when the squeezers are placed in the holder and the holder placed on a table top or similar horizontal supporting surface. In the illustrated example, the holder 12 is designed to hold three tube squeezers 10, 10, however, it will be understood that the holder may be designed to hold any other number of squeezers without departing from the invention. The complete combination is shown in FIG. 1, whereas FIG. 2 illustrates the combination with one of the squeezers removed from the holder.

Considering first the squeezers 10, 10, they are identical to one another in construction and are or may be substantially identical with the squeezer described in detail in my copending application Serial No. 294,905, entitled "Collapsible Tube Squeezer" and filed July 15, 1963. Reference is made to this latter application for a complete understanding of the construction of a suitable squeezer, but for the present it will be noted that each squeezer includes a body which is substantially rectangular in shape and which is designed to receive and surround a tube to be squeezed. The body is elongated and at the forward or discharge end is apertured to accommodate the nozzle of the tube contained inside the body. As illustrated in the various figures, the nozzles are covered by conventional screw caps 14, 14 which must be removed from the nozzles before any squeezing can take place.

After a cap is removed from a fresh tube it may either be discarded for the remaining life of the tube or replaced on the tube after each squeezing operation. On one side of each squeezer body is a manually operable operating means in the form of a handle 16 which is pivotally secured to the body for movement about a transverse axis and normally biased to the position shown in the figures. The actual squeezing mechanism is located inside of the body and is operated in response to oscillation of the operating handle, as by pressing the rear end of the handle inwardly toward the body and then releasing the pressure, to dispense material from the associated tube.

In FIG. 6, a portion of the squeezing mechanism is shown to include two flexible slabs 15, 15 which are

arranged on opposite sides of the tube 17 contained in the squeezer. Both the slabs and the tube extend through a squeezing block 19 which exerts squeezing pressure on the slabs forcing the same toward one another and against the tube. With each stroke of the operating handle, the squeezing block is moved forwardly a slight distance to effect the desired dispensing action.

As shown best in FIGS. 4 and 5, each squeezer body comprises a main portion 18 and a closure panel 20. The main portion 18 includes a large wall member 21 and two smaller parallel side walls 22, 22. When the squeezer is properly placed on the holder, the wall 21 is located at the upper portion of the body, the side walls 22, 22 extend downwardly from the wall 21, and the operating handle 16 is located above the wall 21. Along its free longitudinal edge, each side wall 22 includes a longitudinally extending and laterally inwardly directed guide flange 24 which cooperates with the closure panel 20 to restrain the latter to longitudinal sliding movement relative to the main body portion 18. The closure panel normally closes the space between the side walls 22, 22, as shown in FIG. 5, and when it is desired to place a fresh tube in the squeezer, the closure panel may be slid to the left in FIG. 5 to open the associated side of the body to permit the removal of the old tube and the insertion of a fresh tube. At its forward end the closure panel 20 includes a thumb piece 26 which aids in sliding the same relative to the main body portion, and at its rear end is a locking boss or plate 28 which is generally square shaped. The thumb piece 26 and the locking boss 28 are both located between the two guide flanges 24, 24 when the closure panel is in its closed position relative to the main body portion and both parts also project outwardly from the outer surface of the closure panel, but not beyond the outer surface of the guide flanges 24, 24 the closure panel 20 being located inwardly of the guide flanges.

As shown best in FIG. 6, the closure panel 20 is releasably retained in its closed position relative to the main body portion by a latch member 30 which is formed from a piece of spring material and which is releasably engageable with the rear end wall 32 of the main body portion. The latch member 30 is located in a notch 33 formed in the rear end of the closure panel 20, and in the illustrated example it is fastened to the locking boss 28 which is an initially separate piece glued to the closure panel 20. Also as shown best in FIGS. 4, 5 and 6, each squeezer body includes a substantially flat rear end surface 34 which enables the squeezer to be stood upright on a horizontal surface, such as shown at 36 in FIG. 4, apart from the holder. To aid in holding the squeezer in such an upright position, the main body portion 18 may also include an additional part 38 at the rear end thereof for enlarging the area of the end surface 34.

Before turning to the description of the holder, it should be noted that in each squeezer the laterally opposing edge surfaces 40, 40 of the two guide flanges 24, 24 together with the forwardly facing edge surface 42 of the associated locking boss 28 define a recess in the body of the squeezer which serves, as hereinafter described, to hold the squeezer in proper position on the holder 12.

Turning now to the constructin of the holder and referring more particularly to FIGS. 1, 2, 3 and 6, the holder comprises a flat horizontal bottom member 44, two vertical side members 46, 46, and a vertical rear wall member 48. These members are preferably made from sheets of plastic and may be joined in the relationship shown by means of glue or other fastening means. Parallel with and spaced above the bottom member 44 is a horizontal support member 50. Between the support member 50 and the bottom member 44 is a laterally extending vertical wall member 51 which is spaced some distance rearwardly from the forward edges of the bottom member 44 and the support member 50. The support member 50 is of substantially the same size and shape as the area covered by the three tube squeezers 10, 10 when the latter are placed in coengaging side-by-side relationship. The two side walls 46, 46 and the rear wall 48 extend above the support member 50 and thereby aid in holding the squeezers in their desired positions on the holder. The upper surface 52 of the support member 50 serves to vertically support the tube squeezers 10, 10, and fixed relative to the surface 52 are three locking bosses or plates 54, 54 arranged generally as shown in FIG. 3. As shown in phantom in FIG. 5 and as will be understood from FIG. 6, the locking bosses 54, 54 are of such size and shape and are so arranged on the support member 50 as to fit between and coengage the opposing guide flange surfaces 40, 40 of an associated squeezer to restrain the squeezer against lateral movement relative to the holder and are also of such size and shape as to engage the surface 42 on the locking boss 28 of the squeezer to restrain the squeezer against forward movement relative to the support surface. At the same time, the rear surface 34 of the squeezer engages the rear wall 48 of the holder to restrain the squeezer against rearward movement relative to the holder. Thus by engagement of the surfaces 40, 40 and 42 with the locking boss 54 and by engagement of the rear surface 34 with the rear holder wall 48 each squeezer is firmly locked in place relative to the holder by its own weight and is prevented from moving in any except an upward direction relative to the holder.

As shown in FIGS. 1 and 6, the right side of the holder is cut away to receive a drawer which is slidable laterally of the holder into and out of said right side thereof. The drawer is of such size as to extend between the rear wall 48 and the vertical wall 52 and between the bottom member 44 and the support member 50. In FIG. 1 the solid lines show the drawer in its closed position relative to the holder and the broken lines show it in its open position. From this it will be obvious that the drawer provides a convenient storage place for extra tubes and other small articles.

As shown in FIGS. 1 and 3, the vertical rear wall member has countersunk holes of appropriate size to receive screws, in the event that the user desires to fasten the holder to a vertical wall surface.

From the firegoing it will be understood that with the squeezers 10, 10 arranged on the holder 12 as shown in FIG. 1, the operating handles 12, 12 thereof may be operated conveniently by one hand of the user by pressing down thereon and that the holder 12 will hold the squeezers against undesired movement. At the same time, the spacing of the vertical wall 51 rearwardly from the front edge of the support member 52 provides for a space between the support member 50 and the bottom member 44 allowing the insertion of the user's other hand, or other object, below the nozzle of the active tube to enable the user to catch the tube contents as the latter are dispensed. When one of the tubes becomes exhausted, the associated squeezer is readily lifted vertically from the holder 12, as by picking up its operating handle, to give access to the closure panel 20 and to allow the latter to be removed from the main portion of the squeezer body to remove the old tube and to insert a fresh tube.

FIGS. 7 and 8 show a modified form of the invention wherein the holder 12 has associated therewith a cover 58 which converts the holder into a convenient carrying case for a number of tube squeezers. As shown in these figures, the cover 58 is hinged relative to the rear wall 48 of the holder by two hinges 63, 63 for movement about a horizontal axis. The cover includes a rear wall 66, a front wall 67, a top wall 68, and two side walls 69, 69. As shown best in FIG. 8, these walls are of such size and shape as to enclose the top portion of the holder 12 when the cover is in its closed position, and to thereby also enclose the tube squeezers 10, 10 supported on the holder. Another wall member 70 is connected with the front wall 67 by means of two hinges 64, 64 and has at-

tached thereto the male part 60 of a conventional suitcase type latch.

From FIG. 8 it will be noted that the cover 58, when in its closed position, extends forwardly beyond the forward edges of the holder 12 in order to accommodate the forward ends of the squeezers 10, 10 and the nozzle portions of the tubes associated with the squeezers. When the cover is in this position the wall 70 serves to close the gap between the forward end of the cover and the forward end of the holder 12, and the male part 60 of the latch releasably engages the female portion 65 of the latch which is attached to the undersurface of the support member 50. It will also be obvious from FIG. 8 that when the latch parts 60 and 65 are released from one another, the hinges 64, 64 permit the wall member 70 to move relative to the main body of the cover so as to prevent the same from interfering with the tube nozzles or caps 14, 14 as the cover is raised or lowered relative to the holder.

The front wall 67 of the cover is fitted with a conventional suitcase type handle 59 to provide a convenient means for carrying the unit when the cover is closed. Also, top surface 68 of the cover on its interior side is fitted with a transversely extending retaining bar or flange 61 having a layer 62 of felt, rubber or other cushioning material on its outer surface. As shown in FIG. 8 the retaining bar 62 is of such size as to lightly engage the squeezer when the cover 58 is in its closed position so as to prevent the squeezers from moving about inside the enclosed area when the unit is picked up by the handle 59. Also, as shown in FIG. 8, the drawer 56 preferably has associated therewith a catch for holding the same in its closed position. This catch may take various different forms but in the illustrated case it comprises a hook part 80 fixed to the drawer and an arm 81 pivotally mounted to the side wall 46 for movement into and out of holding engagement with the hook member 80.

The invention claimed is:

1. The combination comprising a plurality of individual tube squeezers each including a generally elongated body adapted to receive a tube to be squeezed and having a discharge end from which end the contents of the associated tubes are dispensed, each of said tube squeezers also including a squeezing mechanism having a manually operable operating means located exteriorally of and adjacent one side of the associated body, a holder adapted to be placed on a horizontal surface and having an upwardly facing support surface for vertically supporting said squeezers, means fixed relative to said support surface and engageable with said squeezers for releasably holding said squeezers in side-by-side relation on said support with said discharge ends facing forwardly and with said operating means facing upwardly, said squeezers being separate from one another and from said holder so that each squeezer may be used either while resting on said holder or may be removed from said holder for use away from said holder, and means on said holder extending a substantial distance downwardly from said support surface to support said support surface above and in spaced relationship to said horizontal surface to provide space for inserting a hand or implement between the discharge end of any one of said individual squeezers and said horizontal surface.

2. The combination defined in claim 1 further characterized by said holding means including parts which are engageable with said squeezers to prevent movement of a squeezer in a horizontal plane after the same is placed in proper position on said support surface while nevertheless permitting movement of a squeezer upwardly relative to said holder to free the squeezer from the latter.

3. The combination as defined in claim 1 further characterized by said holder including a storage drawer located below said support surface.

4. The combination defined in claim 1 further characterized by a cover hingedly connected with said holder for movement between open and closed positions relative to said holder, said cover and holder being so constructed that when said cover is in its closed position it, in combination with said holder, encloses said squeezers including said discharge ends and said manually operable operating means thereof and that when said cover is in its open position said squeezers are exposed and accessible for use.

5. The combination comprising a plurality of tube squeezers each including a generally elongated body adapted to receive a tube to be squeezed and having a forward discharge end from which the contents of the associated tube are dispensed and also having a rear end, each of said tube squeezers also including a squeezer mechanism having a manually operable operating means located exteriorally of and adjacent one side of the associated body, a holder having an upwardly facing support surface for vertically supporting said squeezers, and means for holding said squeezers in side-by-side relation on said support with said discharge ends facing forwardly and with said operating means facing upwardly, said latter means including a vertical wall fixed relative to said support surface at the rear thereof and adapted to engage said rear ends of said squeezers to limit rearward movement of said squeezers relative to said holder, a plurality of locking bosses each projecting above said support surface in forwardly spaced relation to said vertical wall, and means on each of said squeezer bodies defining a recess for receiving a respective one of said locking bosses, each of said locking bosses having a forwardly facing vertical surface and said recess defining means of each of said squeezer bodies including a rearwardly facing vertical surface which latter vertical surfaces are coengageable to limit forward movement of said squeezers relative to said holder.

6. The combination defined in claim 5 further characterized by each of said squeezer bodies including a main portion having an open side on the side opposite from the associated operating means and having two laterally inwardly extending guide flanges extending along the longitudinal edges of said open side, each of said squeezer bodies further including a closure panel engageable with said guide flanges and restrained thereby to longitudinal sliding movement relative to said main body portion to open and close said open side, the outer surface of said closure panel when the latter is closed relative to said main body portion being located inwardly of said flanges so that the opposing edge surfaces of said guide flanges define laterally spaced walls of said recess, each of said locking bosses having two surfaces arranged to engage said opposing edge surfaces of said guide flanges to restrain movement of said squeezers in either direction laterally of said support surface.

7. The combination defined in claim 5 further characterized by said holder including a drawer located below said support surface and arranged to move into and out of one lateral side of said holder, and a vertical wall located below and extending transversely of said support surface and forming a guide for said drawer, said vertical wall being located inwardly of the front edge said support surface to provide a space for the insertion of a hand or similar article under said support surface and below the discharge ends of the squeezers supported thereon.

8. The combination defined in claim 5 further characterized by a cover hingeably connected to said vertical wall for movement between open and closed positions relative to said holder and so constructed that in its closed position it, in combination with said holder, encloses said squeezers.

9. The combination defined in claim 8 further characterized by a carrying handle on said cover, and a latch for releasably holding said cover in its closed position relative to said holder.

10. The combination defined in claim 9 further characterized by a retaining bar in said cover adapted to engage

said squeezer bodies when said cover is in its closed position to prevent movement of said squeezer bodies in a direction away from said support surface.

References Cited by the Examiner

UNITED STATES PATENTS

1,741,991	12/29	King	222—94
2,411,196	11/46	Dolan	222—105 X

2,605,932	8/52	Locke	222—102
2,613,853	10/52	Halvorsen.	

FOREIGN PATENTS

602,639	5/48	Great Britain.

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