March 6, 1945. E. C. KAYE 2,370,796

DISPENSER

Filed March 14, 1942

Fig. 1.

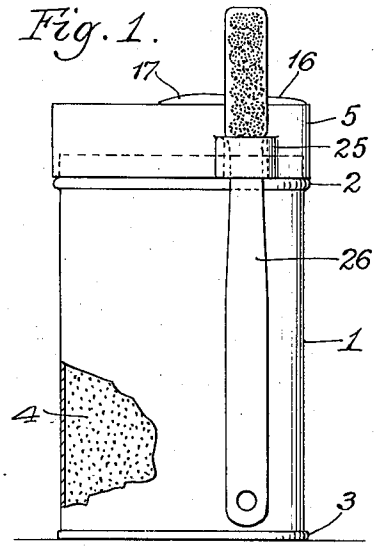


Fig. 2.

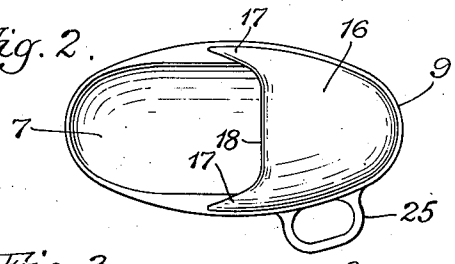


Fig. 3.

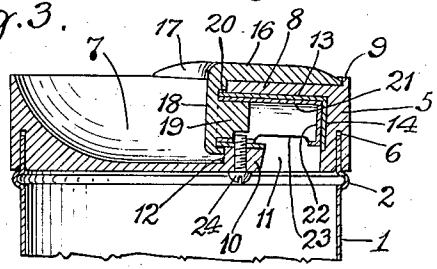


Fig. 4.

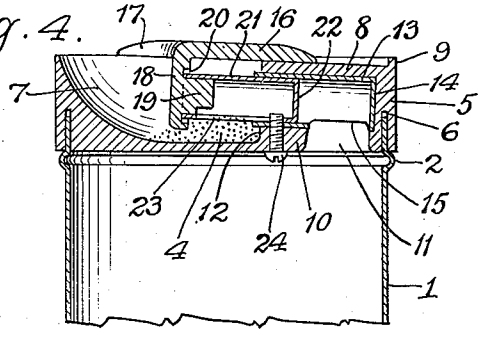


Fig. 5.

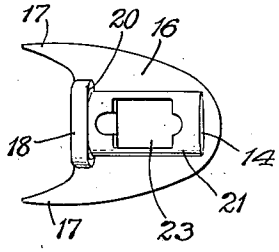


Fig. 6.

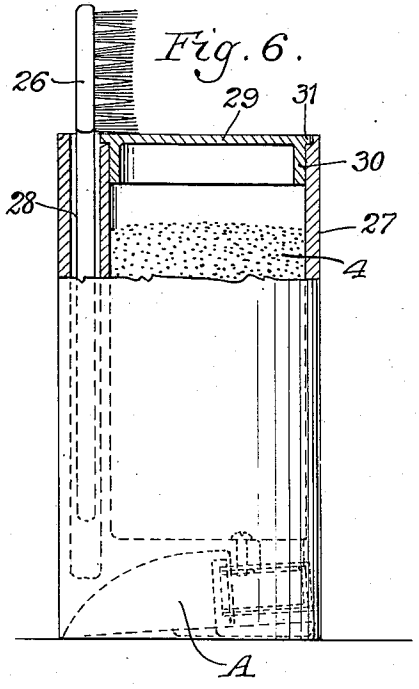
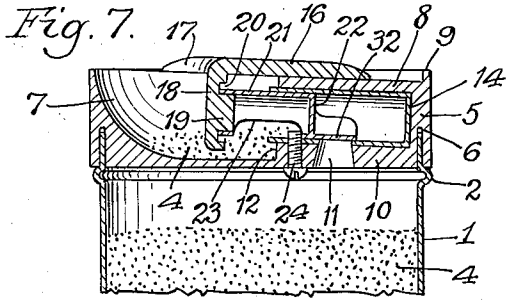


Fig. 7.



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UNITED STATES PATENT OFFICE

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DISPENSER

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Application March 14, 1942, Serial No. 434,637

5 Claims. (Cl. 222—126)

This invention relates to a dispenser, and primarily to a dispenser which includes means for discharging material in measured or approximately measured quantities.

One object is, therefore, to provide in connection with a container for granular material a dispenser by means of which a limited quantity of material may be discharged when desired.

Another object is to provide in connection with such a dispensing means an applying or serving part in which the material so dispensed may be applied to a brush or other suitable means.

A further object is to provide a dispenser assembly so arranged that it may be placed upon a container after the original lid or cover has been removed.

A further object is to provide such a dispenser having means for supporting and retaining a brush.

A still further object is to provide a container itself, into which the dispensing, serving, and brush retaining means are combined in the structure of the container.

Other objects will appear from time to time throughout the specification and claims.

The invention is illustrated more or less diagrammatically in the accompanying drawing, wherein:

Figure 1 is a side elevation, with parts broken away and parts in section, illustrating my dispenser applied to a container.

Figure 2 is a top plan view of Figure 1, taken on an enlarged scale.

Figure 3 is a vertical sectional view taken on a longitudinal center line of Figure 2.

Figure 4 is a view similar to Figure 3 showing the parts in modified position.

Figure 5 is a bottom plan view of the moving or sliding member of the dispenser removed from its associated parts.

Figure 6 is a side elevation of a container with parts in section and parts broken away. The dispensing mechanism of the previous figures is bent into the container of this figure and need not be redescribed.

Figure 7 illustrates a further modified form of the device generally shown in Figures 3 and 4.

Like parts are indicated by like characters throughout the specification and the drawing.

As shown in Figures 1–5, inclusive, the dispenser is applied to a container 1 which has an open top adjacent which a spacing bead may be formed. The bottom is closed as at 3, and granular or powdered material 4 may be readily contained in the container.

A top 5 closes the container and may be grooved as at 6 to receive the upper edge of the container 1. The top member 5 is provided with a depression or cavity 7 in which a brush or other means may be inserted to receive or remove material therefrom. Formed as an integral part of the member 5 is a partial cover portion 8, which has formed around it an upwardly extending flange 9. The member 5 adjacent the inner edge of the depression 7 is thickened as at 10 and is perforated as at 11. The thickened portion 10 provides a shoulder 12 at the inner margin of the chamber or depression 7.

As a means for guiding and controlling the movement of material from within the container into the space 7, a shell 13 may be positioned within the member 5. As shown, the upper portion of the shell contacts the under surfaces of the cover portion 8, and it may be provided with a closed end 14 and with an opening or cut-away portion 15.

A dispensing and measuring slide assembly includes the cover member 16, which is preferably provided with forwardly extending points or ends 17 and is formed preferably integrally with a downwardly depending portion 18 upon which is formed a boss 19. Around the boss 19 there may be formed a groove or depression 20.

Secured to the boss 19 is a carrying and measuring cup-like member 21. As shown, it is closed at one end as at 22 and it has an opening in one side as at 23. A stop member 24, positioned in the portion 10 extends through the opening 23 of the member 21 and limits its movement in the opening direction. A tooth-brush holder 25 may be attached to or formed integrally with a member 5, and as shown particularly in Figures 1 and 2 provides means for receiving the handle of a tooth brush 26. Obviously a different tool or applicator might be inserted in place of the toothbrush.

As shown particularly in Figure 5, the opening 23 may be of generally rectangular shape provided with depressions or notches in its ends, into which the stop member 24 may fit. The particular shape of the opening 23 may be varied, and the invention is not limited to any particular shape or contour for such an opening.

As shown in Figure 6, the invention is embodied in a container which may be considered as a unitary container. It might be made of cast plastic or it might be made of metal or of any desired material, but the dispensing mechanism forms an essential and integral part of the device. As shown the dispensing mechanism is

generally the same as that shown in the preceding figures, and it may take the form of Figures 3 and 4 or the form of Figure 7. The dispensing mechanism is indicated in Figure 6 merely by the letter *a*.

The container is indicated by the Figure 27 and it is provided with a pocket, depression or cavity **28**, into which the handle of the tooth brush **26** may fit. A cover **29** is provided for the open end of the container **27**, and it may have a downward flange **30** and a lateral flange **31** which fits into a corresponding depression or space formed in the open end of the container **27**. Instead of the removable closure **29**, there might be a permanent end piece with a smaller opening, and a removable cover, for example, a threaded opening and a screw cover.

It will be realized that whereas I have described and shown a practical and operative embodiment of my invention and the method for carrying it out, nevertheless many changes may be made in the size, shape, number and disposition of parts and in the details and steps of such method without departing from the spirit of my invention. I therefore wish my description and drawing to be taken as in a broad sense illustrative or diagrammatic, rather than as limiting me to my precise showing.

Obviously, the parts of this device can be made of almost any desirable material. Where such parts as the cup **13** have been shown and the member **21**, these may be made of metal or other material, or they might be integral with the parts upon which they are mounted. For example, instead of using a boss **19** and an added cup-like member **21**, the member **21** might be integral with the box **19**, and similarly the member **13**, **14** might be omitted, or if desired, it might be retained, but its end might be made flush with the surface **12**.

While no packing or sealing means are shown, where the dispensing member **5** contacts the container **1**, it is to be understood that such packing as rubber, cork, and other means may be used to assure a tight fit, and likewise, cork, rubber, or other packing material may be used in connection with the slide member **21** and the boss **19** to assure a tight fit. The apparatus of this invention may be used to dispense a liquid or a moist material, and where it is used for that purpose, the presence of packing would be essential, and packing would be used. Thus any form of packing would be used in any of the parts to prevent leakage, whether the packing be between fixed parts or movable parts, such as the slide or the assembly as a whole. If the packing is positioned around the boss **19** and around the member **21**, it might be partly within the slot or groove **20**, or if the groove were omitted, it would of course lie merely about the parts to be sealed, but the device if made sufficiently accurately may be liquid tight and dust tight even without packing.

The use and operation of the invention are as follows:

In any of the forms of the invention the container is tipped so that the dispenser is at the bottom. Material will then flow into the space defined by the cup **21**, passing inwardly through the opening **23**. The cup is then moved to the position of Figure 4 and the container is then righted. In that position the contents can be discharged through the opening **23** into the chamber **7**, and the cup is then moved to the position of Figure 3, and a toothbrush may be inserted to pick up the contents of the chamber **7**, which may be tooth powder. This means a measured quantity of tooth powder is discharged into a place where a brush can readily pick it up, and the annoyance of putting tooth powder into the hand and then thereafter trying to get it on the brush is obviate.

The operation of the dispensing mechanism in the form of Figure 6 is the same as that above described.

The operation of the device in the form of Figure 7 is the same as that above described, except that the cup-like member **21** is provided with a plate or other member **32** which overlies the opening **11** when the cup has been moved into the discharging position. In this connection it will be seen that Figure 7 differs from the forms of Figures 3 and 4 only by the fact that the hole or opening **11**, instead of being at one end of the dispensing assembly, is positioned away from the side or end of the dispensing assembly.

If the device is held in the reversed position, for example as shown in Figure 6, material will move into the slide **21** and will remain there even after the container has been reversed, so that it occupies the position of Figure 1, and therefore the slide when operated will carry the material into the bowl **7**. The use of the device is therefore not limited to any particular sequence of operations. Sometimes the slide will be operated when the device is reversed, and sometimes it will be operated when the device is not reversed.

It is to be noticed that the upper surface of the member **8** is inclined upwardly away from the flange **9**, so that the slide as it moves from the position of Figure 3 to that of Figure 4 moves on an upwardly inclined path.

I claim:

1. A dispensing container having a body portion provided with a discharge opening, a closure member for said discharge opening, means for movably mounting the closure member operatively with respect to said discharge opening, said closure member including a trap chamber having an opening registrable in one position of the closure member with said discharge opening for gravitationally filling the trap chamber, and a material-receiving basin into which said trap chamber is movable in another position of said closure member for discharge of material therefrom through said trap chamber opening when the container is inverted.

2. A dispensing container including a body portion having a discharge opening, a closure member for the discharge opening slidably mounted with respect thereto, said closure member including a trap chamber having an opening registrable with said discharge opening in one position of the closure member for gravitationally filling said trap chamber, a receiving basin fixed in relation to said container and having a floor disposed in spaced relation to the path of movement of said closure member, said closure member being movable into a position in which the trap chamber is in communication with said basin for discharge of material from the trap chamber through said trap chamber opening into the basin when the container is inverted.

3. A dispensing container including a body portion having a discharge opening, a closure member for the discharge opening slidably mounted with respect thereto, said closure member including a trap chamber having a common filling and discharge opening registrable with

said discharge opening in one position of the closure member for gravitationally filling said trap chamber, a material-receiving basin having an open top facing in the opposite direction to said common filling and discharge opening of the trap chamber, said closure member being movable to a position in which said common filling and discharge opening is disposed within the confines of said basin for the gravitational discharge of the material from said trap chamber into said basin when the container is inverted.

4. A dispensing container having a discharge opening, a guide casing surrounding said discharge opening, a slidable closure member for the discharge opening mounted in said guide casing and having a trap chamber provided with an opening registrable with said discharge opening for gravitationally filling the trap chamber in one position of the closure member, said closure member being slidable to a second position in which the opening thereof is disposed outside said guide casing, and a receiving basin into which the closure member is moved in said second position for the gravitational discharge of material from said trap chamber when the container is inverted.

5. The dispensing container described in claim 4 wherein said guide casing is provided with a substantially flat upper surface, a manual operator member for said closure member slidably mounted on said flat surface, and means operatively connecting the operator member and said slidable closure member.

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