J. H. BOYE.

DISPENSING DEVICE.

APPLICATION FILED APR. 10, 1919.

1,352,425. **Patented Sept. 14, 1920.**

Fig. 1.

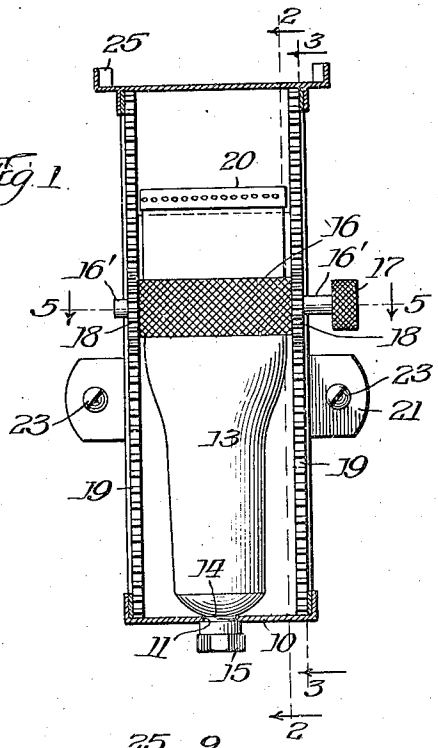


Fig. 2.

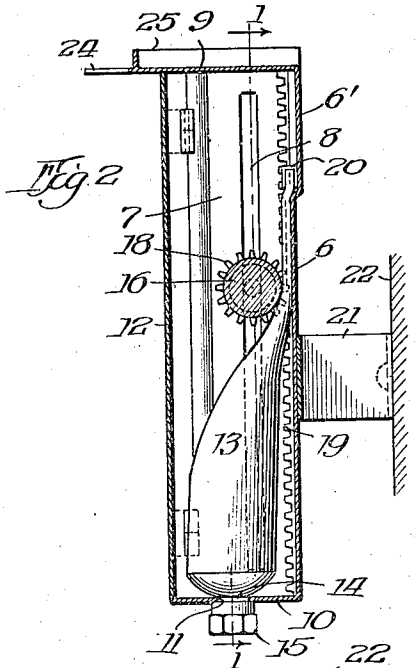


Fig. 3.

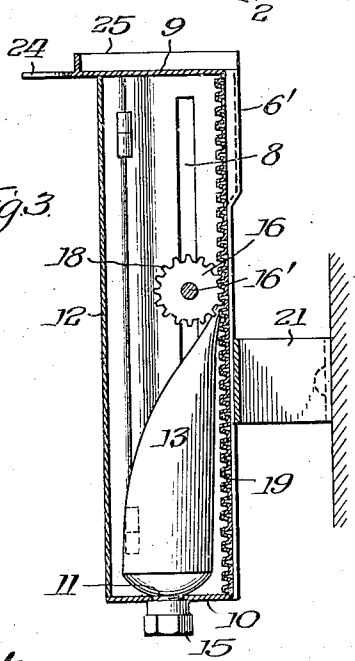


Fig. 4.

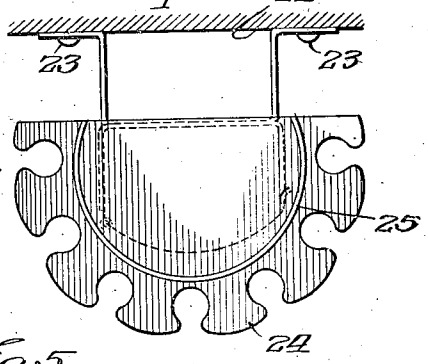
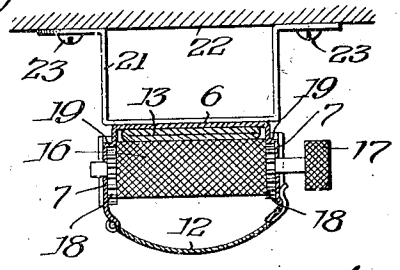


Fig. 5.



Witness:

Inventor:
James H. Boye,
By Pond & Wilson,
Attys.

UNITED STATES PATENT OFFICE.

JAMES H. BOYE, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES H. BOYE MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DISPENSING DEVICE.

1,352,425. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed April 10, 1919. Serial No. 288,929.

To all whom it may concern:

Be it known that I, JAMES H. BOYE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dispensing Devices, of which the following is a specification.

This invention relates to the general art of dispensing devices, and has reference more particularly to a novel device for dispensing such toilet articles as tooth pastes, shaving creams, and the like, which are commonly packaged for the trade in compressible tubes having threaded discharge nozzles closed by caps. In the common use of such tubes, the paste or cream is discharged by removing the cap, and squeezing the tube progressively from its closed end to its discharge end, the emptied portion of the tube being frequently rolled up on itself. But however the tube may be manipulated to get at the contents, the present manual method is crude, unsanitary and unsatisfactory for a number of reasons. In the first place, the sides of the tube frequently crack, permitting the paste to exude and waste and smear the fingers of the user. A further source of waste arises from the fact that it is practically impossible to manually squeeze out the entire contents of the tube. Frequently, also, the user forces out of the tube more of the paste or cream than is desired or necessary, and since it cannot be replaced, this means still further waste. And again, the partly used tubes are easily mislaid or lost, unless always kept in a particular place.

The general object of the present invention is to remedy the faults above enumerated, and this is accompanied by the provision of a neat, sanitary and attractive toilet fixture in the nature of a holder or container for the loaded tube, which holder is provided with means for supporting the tube at its nozzle in an upright position, and a manually operable device for effecting a progressive squeezing action on the tube from its closed end to its discharge end. Preferably there is combined with this holder a convenient tooth brush rack and also a receptacle to support a drinking cup or glass, although these latter features may, of course, be omitted without impairing the primary function of the invention as a convenient and sanitary dispenser of tooth paste and the like from the tube in which it is commonly packaged.

My invention, its mode of use, and the advantages inhering therein will all be readily understood and appreciated by users of toilet articles of the class mentioned from the following detailed description, taken in connection with the accompanying drawing in which I have illustrated a practical and approved embodiment of the invention, and in which—

Figure 1 is a vertical section of the device on the line 1—1 of Fig. 2;

Fig. 2 is a vertical section on the line 2—2 of Fig. 1;

Fig. 3 is a vertical section on the line 3—3 of Fig. 1;

Fig. 4 is a top plan view; and

Fig. 5 is a vertical section on the line 5—5 of Fig. 1.

Referring to the drawings, the holder or container consists of a rectangular box-like structure comprising a rear wall 6, parallel side walls 7 having vertical slots 8, a flat top wall 9, a flat bottom wall 10 having a substantially central aperture 11, and a hinged front door 12. The bottom wall 10 forms the immediate support of the compressible tube 13 containing the material to be dispensed, the delivery end of the tube resting on the bottom wall 10 with the nozzle 14 projecting through the aperture 11 and normally covered by the usual screw-threaded cap 15 which, when applied, locks the tube within the holder.

Within the holder and extending transversely thereof is a roller 16 preferably formed with a roughened or corrugated cylindrical surface. The spindle 16′ of the roller extends through the guide-slots 8 of the holder, and on one end of the spindle is a knob 17 for manually turning the same. Fast on the spindle at opposite ends respectively of the roller 16 are pinions 18 which mesh with vertical racks 19 on the back wall 6 of the holder. These racks may be separate strips soldered or otherwise secured to the rear wall of the holder; or, in their simplest and most economical form they may be struck up from the metal of the rear wall.

It will be observed that the upper portion of the rear wall, designated by 6′, is slightly countersunk. The purpose of this is to provide space between the roller and the rear

wall for the folded metal clamping strip 20 that is commonly employed to bind the sides of the tube at the closed end of the latter.

To the rear wall of the holder is soldered or otherwise secured a U-shaped fastening bracket 21 by which the holder may be secured to the wall 22 through fastening screws 23.

The mode of use will be readily understood from the foregoing description of the structure. The door 12 is opened, the roller 16 run to the upper end of the box, the loaded tube inserted with its nozzle 14 resting in the aperture 11, and the roller then brought down over the clamping strip 20 of the tube. When some of the tooth paste is required for use, the cap 15 is unscrewed, the tooth brush held beneath the nozzle 14, and the roller 16 turned down sufficiently to force out the required amount of paste, after which the cap 15 is re-applied and the door 12 shut.

The distance between the surface of the roller and the back wall of the holder is just equal to the combined thickness of the two sides of the tube, so that by the use of this device practically all of the paste is squeezed out of the tube by the time the roller has reached the lower or nozzle end of the latter, and hence all waste is avoided. The sides of the tube do not crack and break, because the ironing action of the roller is uniform and does not involve repeated bending in the same point which is the principal cause of the cracking of the tubes when squeezed by the hand. The tube is always in place and cannot become lost or mislaid, and it is largely protected by the holder or casing from dust or dirt.

Preferably, and in order to adapt the device as completely as possible to all the operations involved in the cleaning of the teeth, I form on the holder and preferably integral with the top wall 9, an arcuate tooth brush rack 24, and also on the top wall 9 an upstanding flange 25 which forms a receptacle for a drinking cup or glass.

From the foregoing the structure, functions, mode of operation and sanitary character of the device of my present invention will be readily understood. Manifestly modifications and variations in the structure may be made without involving any change in the essential character of the device or sacrificing any of the advantages thereof. Hence I reserve all such variations and modifications as fall within the spirit and purview of the appended claims.

I claim:—

1. In a dispensing device of the character described, the combination of a holder for a loaded tube, said holder having vertically slotted side walls and an aperture support to receive the nozzle of the tube, a roller within said holder having its spindle extending through the slots of said side walls, a knob on said spindle, and rack and pinion mechanism for causing said roller to travel over and squeeze the tube as it rotates.

2. In a dispensing device of the character described, the combination of a holder for a loaded tube, said holder having vertically slotted side walls and an apertured support to receive the nozzle of the tube, a rack on the rear wall of said holder, a roller within said holder having its spindle extending through the slots of said side walls, a pinion on said spindle meshing with said rack, and a knob on the projecting end of said spindle.

3. In a dispensing device of the character described, the combination of a holder for a loaded tube, said holder having vertically slotted side walls, an apertured support to receive the nozzle of the tube, and also having the upper portion of its rear wall countersunk, a pair of racks on the rear wall of said holder, a roller within said holder having its spindle extending through the slots of said side walls, pinions on said spindle meshing with said racks, and a knob on the projecting end of said spindle.

JAMES H. BOYE.