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TUBE PASTE DISPENSER AND VALVE CLOSURE THEREFOR

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Fig. 1.

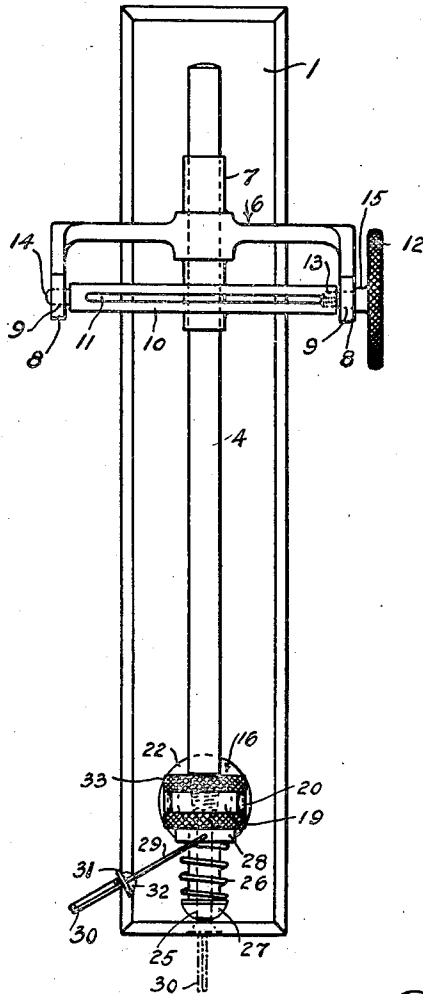


Fig. 2.

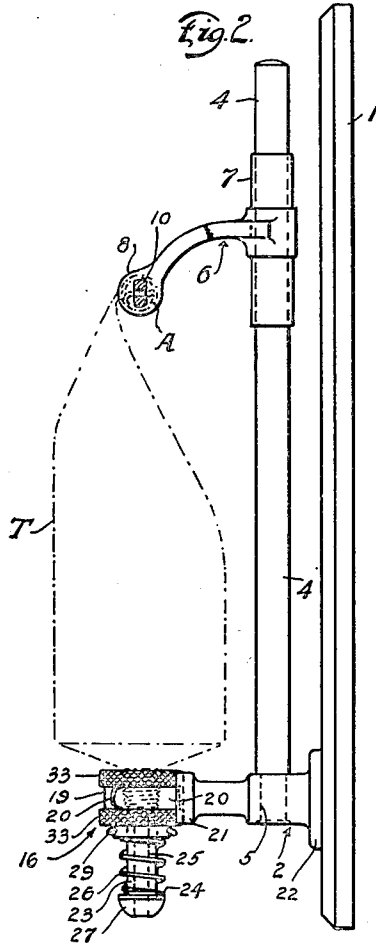


Fig. 3.

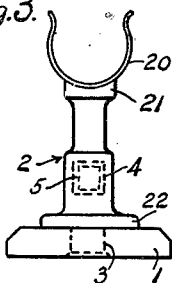


Fig. 4.

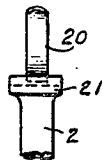
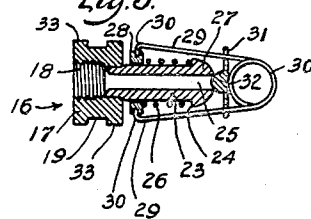


Fig. 5.



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# UNITED STATES PATENT OFFICE

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## TUBE PASTE DISPENSER AND VALVE CLOSURE THEREFOR

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6 Claims. (Cl. 221-60)

The present invention relates to a holder for dispensing tooth or other paste from a supported collapsible tube of the usual type.

5 The present device is intended to be attached to the wall of a room, and to be manually operated to discharge a little of the paste from the discharge end of the tube, as required, and to support the tube until emptied, in operative paste discharge position.

10 Another object is the provision of a quick acting tube sealing valve for the discharge end of the tube, whereby the said end may be provided with a separate, manipulable, quick opening and closing sealing means as a substitute for the usual cap which is discarded, and, thereafter the separate sealing means is left on the tube until it is emptied. Further, the said separate tube sealing means may be used apart from the herein shown tube discharging support, and is provided with means so that the tube, when not in use may be hung on a wall hook, if desired.

15 The present wall tube holder and separate tube sealer are provided with means whereby they mutually coact to combine, in assembly, a complete tube paste dispenser as will hereinafter be noted.

20 These and other capabilities will be apprehended as the herein description proceeds and it will be noted that modifications may be made in the structure herein without departing from the spirit hereof, or the scope of the appended claims.

In the drawing,

25 Fig. 1 is a front view in elevation of the present device;

Fig. 2 is a side view thereof showing the paste tube in dotted lines, as supported;

Fig. 3 is a bottom view, looking upward, of Fig. 1;

30 Fig. 4 is a side view of the spring clip seat with its support broken away; and

Fig. 5 is a central sectional view of the tube sealing valve.

35 The present device comprises a wall affixing base plate 1, having means, not shown for affixing to a wall in any known manner, and being provided at its lower end with an outstanding support lug 2, this lug having a flange 22 thereon and as in Fig. 3, a lug 3, shown dotted, whereby the flanged lug 2 may be riveted to the base plate.

40 At a thickened portion of the lug 2, is mounted an upright rectangular slide post 4, which is riveted, by a neck portion 5, shown dotted in Figs. 2 and 3 to the lug 2, in an upright position

and parallel to the base plate 1. The outer end of the lug 2 has a thickened clip end 21, arranged to suitably hold and seat therein a semi-circular spring clip 20, Figs. 3 and 4.

45 The slide post 4 mounts thereon a slidable paste tube compressing means, comprising a rectangular bearing tube 7 slidably fitted to upright 4, and upon which tube is mounted a U-shaped yoke 6, which has angled arms having bearings 9-9 thereon, which bearings are parallel to and spaced a distance away from one another.

50 In the bearings 8-8 is rotatably mounted a slotted tube-end compressing means 10, having a long slot 11 therein, and has two bearing ends 9-9 rotatably supported in bearings 8-8. One bearing 9, comprises a threaded shank 13, which is threadedly connected to the compressor 11. The outer extension of this threaded shank bearing 9-13 has an integral extension 15 upon which is located a knurled thumb-nut 12.

55 With the rear flat end or closure A of the paste tube inserted in slot 11, the knurled nut 12 is rotated and this winds the paste tube upon compressor 10, and causes the paste within the tube to be placed under pressure, as indicated by the dotted lines T in Fig. 2.

60 The lower threaded tubular discharge neck or end of the tube, shown in dotted lines, Figs. 1 and 2, is provided with a threaded on sealing valve generally denoted by 16. The cap in this instance is discarded, the valve 16 removed from the support lug 2, and the valve screwed on the discharge end of the tube T.

65 Thereafter the valve 16 is snapped into the clasp of the spring clip 20, the rear flat end of the tube inserted into the slot 11 of compressor 10, and the tube is ready for use, as in Figs. 1 and 2, when the valve head 31 is swung off from its ported seat or head 27.

70 To understand this, reference is had to Fig. 5 in which the tube sealing valve structure is shown in section, and as comprising a body having a port clean through its center, opening at one end 17 into a threaded bore 18, which receives the threaded end of a paste tube, and at its other end opens into a rounded discharge end 27.

75 The valve head end 17 is provided with a circular groove 19 therein, thus forming two opposed flanges 33-33, the peripheral faces of which may be knurled. The groove 19 forms a seat into which the spring clasp 20 may enter, to hold the threaded tube in firm operative position when the assembly is accomplished as in Fig. 2.

The head end 17 of the valve is provided with a circular head 27, having a flange around the tubular portion 23 and resting against the ledge or flange 24 of head 27 is a coiled compression spring 26, the opposite end of which supports a loose, movable collar 28. The collar 28 is thus normally stressed, to be pressed against the lower face of the lower knurled ring 33, when the valve 31 is snapped off of its seat port 25—27 as in Figs. 1 and 2.

The collar 28, has two holes bored in its perimeter, at opposite sides thereof as in Fig. 5, and into these holes are inserted the two bent, angled ends of a U-shaped bail or wire clip, the outer end of which clip is formed by giving the wire a double coil 30. Mounted on the opposing legs of the wire clip is a valve seat member, comprising a flanged portion 31, through which the wire legs 29—29 pass to support said valve, and a semi-spherical seat 32 is carried by said flange, so that when the valve seat 32 is in operative position on the paste tube port 25, said valve is firmly held to said seat to close the port 25, and is easily snapped aside, as in Fig. 1, to uncover said port, to permit paste to issue therefrom. Thereafter the valve may be snapped back on its seat as in Fig. 5.

In use, the valve 32 is pushed aside and the knurled nut 12 is turned, thus causing the desired amount of paste to be discharged from port 25; the delivered paste is then removed and the valve 32 replaced, as previously described.

When the tube is completely collapsed and empty, the valve 16 is released from its spring seat 20; the tube compressor 6 is slid off of post 4, upwardly; the collapsed tube removed, a new one replaced; and the assembled compressor tube and valve reconnected to the wall plate, and is again ready for use.

In some instances it may be desirable to use the valve 16 alone, as while traveling, without the wall plate, and in this instance, the paste tube cap is discarded, the valve 16 substituted as before, and thus the tube is provided with a non-losable cap, quickly opened or closed, but not easily accidentally opened.

The loop 30 of the wire clip or bail may be used to suspend the tube upon a convenient wall hook, if desired.

What I claim is:

1. A paste discharge valve for threaded collapsible paste tubes having one open end, comprising a body having a discharge port therein, one end being adapted to fit the open end of said tube, the opposite end of said body having a flanged end; a slidable collar on said body, a spring mounted between said flange and collar, a bail pivoted to said collar and a port-closing valve carried by said bail.

2. A paste discharge valve for threaded collapsible paste tubes having one threaded open end; comprising a body having a discharge port therein, one end being threaded to fit the threaded end of said tube, the opposite end of said body having a flanged end; a slidable collar

on said body, a spring mounted between said flange and collar, a looped bail pivoted to said collar and a port-closing valve carried by said bail, as and for the purpose described.

3. A dispensing device for a collapsible tube of the class described comprising an end closure, and a discharge neck; said device comprising in combination a support including a base lug having a clip end; a slide post rising from said lug; means slidably mounted on said post and embracing said closure for collapsing the tube; a discharge valve having a head mounted on said neck, said head having an annular groove therein, and a spring clip carried by said clip end for releasably engaging in said groove.

4. A dispensing device for a collapsible tube of the class described comprising an end closure, and a threaded dispensing neck; said device comprising in combination a support including a base lug having a clip end; a slide post rising from said lug; means slidably mounted on said post and embracing said closure for collapsing the tube; a discharge valve having a head threadedly mounted on said neck, said head having a peripheral annular groove therein, and a semi-circular spring clip carried by said clip end, said spring clip having its ends turned outwardly, so that the groove of said head may be releasably engaged therein.

5. A dispensing device for a collapsible tube of the class described comprising an end closure, and a dispensing neck; said device comprising in combination an attaching plate, a support carried by said plate and including a base lug having a clip end; a slide post rising from said lug; means slidably mounted on said post and embracing said closure for collapsing the tube; a discharge valve having a head mounted on said neck, said head having an annular groove therein, and a spring clip carried by said clip end for releasably engaging in said groove.

6. A dispensing device for a collapsible tube of the class described comprising an end closure and a dispensing neck; said device comprising in combination an attaching plate, and a support carried by said plate and including a base lug having a clip end; a slide post rising from said lug; means slidably mounted on said post for collapsing said tube, said means including a yoke which embraces said closure; a discharge valve having a head mounted on said neck, a spring clip carried by said clip end and releasably embracing said head, said head having a tubular portion extending therefrom, a flange on the outer end of said portion, a collar slidably mounted on the inner end of said portion; a coil spring disposed between said collar and said flange; a removable seal for the outer end of said tubular portion, and a wire clip carrying said seal and having its inner ends pivoted on said collar, whereby said coil spring may urge said seal against the passage of said tube.

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