J. B. FESLER.

CONTAINER FOR SOAP PASTE AND OTHER LIQUID AND SEMILIQUID MATERIALS.

APPLICATION FILED APR. 22, 1913.

1,254,667. Patented Jan. 29, 1918.

Fig: 1,

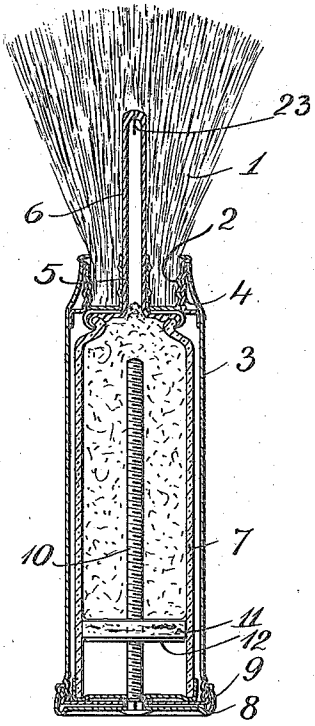


Fig: 2,

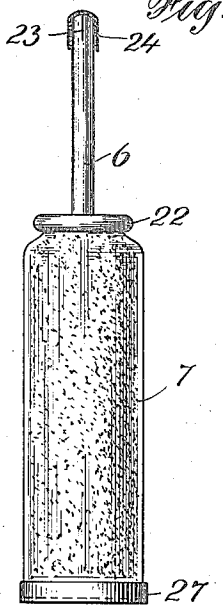


Fig: 3,

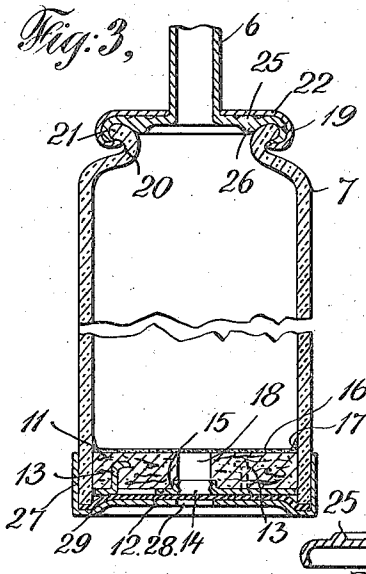


Fig: 4.

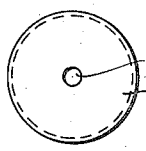


Fig: 5.

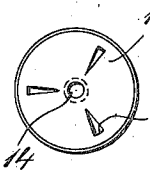


Fig: 6.

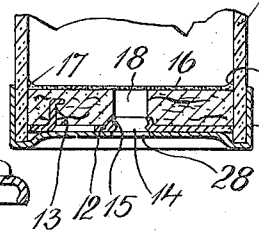
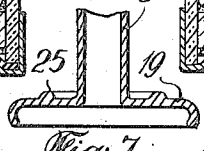


Fig: 7.



Witnesses:
Max B. A. Dering.
Paul L. Franke

Inventor
Jos. B. Fesler
By his Attorneys
Marble & Matty

UNITED STATES PATENT OFFICE.

JOEL B. FESLER, OF NEW YORK, N. Y.

CONTAINER FOR SOAP PASTE AND OTHER LIQUID AND SEMILIQUID MATERIALS.

1,254,667. Specification of Letters Patent. Patented Jan. 29, 1918.

Application filed April 22, 1913. Serial No. 762,847.

To all whom it may concern:

Be it known that I, JOEL B. FESLER, a citizen of the United States of America, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Containers for Soap Paste and other Liquid and Semi-liquid Materials, of which the following is a specification.

My invention relates to containers for soap-paste and other liquid and semi-liquid materials. The container herein illustrated and described is particularly intended as a reservoir for a fountain shaving brush such as set forth in my Patent No. 904,190 dated November 17, 1908, and in my applications for Letters Patent Serial Nos. 555,474 and 629,647, and in my Patent No. 1,006,641 dated October 24, 1911; but my invention is not restricted to reservoirs for fountain shaving brushes, or to reservoirs for use with brushes. My invention consists in the novel construction of the piston of the container, in the novel means provided for insuring a tight joint between said piston and the container; in the novel means provided for holding in place the delivery tube of the container; in the novel means employed for sealing the container against evaporation of its contents, and in other features as hereinafter described and particularly pointed out in the appended claims.

The objects of my invention are to provide an improved and simple container for liquid and semi-liquid materials, which container shall be of such nature that its contents may be forced out gradually by the action of a piston; to improve and simplify the constructions of the pistons of such containers; to so attach the delivery tube to the container that said delivery tube may not be separated from the container readily; to prevent deterioration of the contents of the container by evaporation or by absorption of moisture, or by entrance of air; and to insure a tight joint between the piston and the container.

I will now proceed to describe my invention with reference to the accompanying drawings, and will then point out the novel features in claims.

In the drawings:

Figure 1 shows a central vertical section of a shaving brush such as set forth in my above-mentioned patents and patent applications, which brush is provided with a removable and replaceable soap reservoir constructed in accordance with my invention, this reservoir being also shown in section.

Fig. 2 shows a side elevation of the reservoir itself.

Fig. 3 shows a central vertical section of the reservoir and the piston thereof.

Fig. 4 shows a top view of the piston and Fig. 5 a bottom view of the piston.

Fig. 6 is a view similar to the lower portion of Fig. 3, but illustrating an alternative construction; and

Fig. 7 shows a longitudinal section of the lower portion of the delivery tube as it exists before it is applied to the reservoir.

In the drawings 1 designates the bristle tuft of the brush, 2 a screw-threaded ferrule constituting the bristle holder, 3 designates the handle of the brush and 4 designates a screw-threaded ferrule forming a portion of the handle and into which the bristle holder 2 is screwed. 5 designates a center tube secured to, and in effect forming a part of, the bristle holder 2, through which tube the flexible feed tube 6 of the reservoir passes into the bristle tuft. 7 designates a removable reservoir within the handle and connected to the feed tube 6 (which feed tube forms in effect a portion of said reservoir) as hereinafter described; 8 designates an end cap for the handle, screw connected to the main portion 3 of the handle, and serving to hold the reservoir 7 in place, and 9 designates a hand piece rotatably mounted upon this end cap 8, and to which is connected the feed screw 10, extending up into the interior of the reservoir 7 and having mounted upon it a piston 11 adapted to force the plastic contents of the reservoir into the feed tube 6.

I have found that cork is a particularly suitable material from which to form these pistons, as cork is not injuriously affected by moisture or by soap or other plastic materials such as may be contained within the reservoir. As cork is soft and brittle it requires to be reinforced by a suitable bottom plate, and the screw threads provided for engagement with the screw threads of the feed screw 10 are formed in this bottom plate. In Figs. 1, 3, 5 and 6 12 designates the said reinforcing plate, secured to the cork disk 11 by means of points or prongs 13 cut out of the material of said bottom plate 12 and pressed into the cork disk 11 and there clenched. The bottom plate 12

is provided with a central hole 14 to receive the feed screw 10, this central portion of the disk 12 being provided with a rib 15 surrounding the hole 14, which rib serves to thicken the plate 12 at this point, providing sufficient thickness for enough screw-threads to insure suitable engagement with the screw threads of the feed screw 10. In practice the rib naturally formed on the plate 12 in punching the hole 14 is a sufficient rib.

The reservoirs 7 are customarily formed of glass. It is practically impossible, except at prohibitive expense, to obtain glass tubes or the like of uniform internal diameter and which are perfectly cylindrical. To obtain a tight joint between the piston 11 (these pistons are commonly made of one uniform diameter) and the reservoir 7 (the diameters of different reservoirs varying somewhat as previously explained) I apply a layer 16 of some suitable plastic material (glue, gelatin, paraffin or the like constitutes suitable material for the purpose) to the upper side of the piston, and then after the piston has been inserted in the reservoir and before the delivery tube 6 has been applied to the reservoir, I insert a hot metal tool through the upper end of the reservoir, then open, and press this metal tool against the layer 16 on the piston. The heat of this tool softens the layer 16 and by the tool a portion of the material 16 is pressed up at the edges of the piston, forming a raised rib 17 which makes a tight joint with the sides of the reservoir. The material of the layer 16 hardens very quickly after the withdrawal of the said hot tool, so that the rib 17 becomes quite rigid. This rib, when rigid, forms an excellent guide for the piston, preventing the latter from "cocking", *i. e.*, from occupying an angular position, in the reservoir. The said sealing material, so pressed against the sides of the reservoir, adheres tightly to the reservoir when it solidifies, and thus serves to hold the piston stationary when the screw 10 is first inserted through the sealing layer 16 and is turned up through said piston until the end cap 8 is screwed on to the handle. Thereafter, this sealing layer prevents rotation of the piston, when the screw is turned, forcing the piston to travel longitudinally through the reservoir as the screw is turned; whereas, but for the friction of this sealing layer against the sides of the reservoir, the otherwise loosely fitting piston might itself turn with the screw, in which case the piston would not travel through the reservoir.

The layer of material 16 also closes the central hole 18 in the piston 11, so preventing air, moisture, etc., from entering the reservoir through such hole, and preventing water and other volatile constituents of the plastic material contained within the reservoir from evaporating and escaping through such opening 18. After the reservoir is inserted in the brush handle the feed screw 10, when inserted into the piston, readily pierces this sealing layer 16.

The piston having been placed in the reservoir 7, and the sealing layer 16 having been pressed against the sides of the reservoir, as previously explained, the reservoir is filled with soap or other material to be contained within that reservoir, and then the base of the feed tube 6 is applied to the upper end of the reservoir. This feed tube is customarily of elastic rubber, and so is its base portion 19. The reservoir being provided with a neck portion 20 and having beyond such neck portion an outwardly turned flange 21, the base 19 of the reservoir is readily fitted over such flange 21, as shown particularly in Fig. 3, and then a metal disk 22, perforated centrally for the passage of the feed tube 6, is applied above the base 19 of the feed tube and its edge is also pressed or spun over the edge of flange 21, as indicated in Fig. 3, so holding the feed tube firmly in place on the reservoir, and making it practically impossible to remove said feed tube from the reservoir except by mutilation of the said metal cap 22.

The feed tube is provided at its upper end with a narrow slit 23, for the escape of the contents of the reservoir, as the piston is forced up into that reservoir. This slit in practice closes so tightly, because of the elasticity of the material of the feed tube 6, that little or no escape of volatile ingredients of the soap or the like can take place through such slit. The two lips of the feed tube, formed by the slit 23, therefore constitute an automatically closing mouth for the feed tube. But to guard against even such slight escape, I customarily provide the upper end of the feed tube with a protecting covering 24. This covering is usually applied by dipping the end of the feed tube into melted paraffin, gelatin, glue or the like. When the end of the tube is dipped into said material and then withdrawn a thin film of paraffin or the like adheres to the tube and, quickly solidifying, seals the slit 23 perfectly. In Fig. 2, for clearness of illustration, the thickness of this closure 24 is greatly exaggerated. The sealing layer 24 is readily broken by the semi-liquid or liquid material within the reservoir, when the latter is forced up through the feed tube by means of the piston 11.

To insure a tight joint between the base of the feed tube and the mouth of the reservoir, said feed tube is provided on its upper side with a raised rib 25. When this feed tube has been applied to the reservoir, and the metal cap 22 is applied and pressed down firmly upon the base of the feed tube, this rib 25 is displaced inward, by reason of the

elasticity of the material of which the base of that feed tube is formed, forming, on the interior surface of the base of the feed tube, an inwardly projecting rib 26 which presses firmly against the flaring portion of the mouth of the reservoir, forming a tight joint.

To prevent the piston from being drawn out of the reservoir, after the latter has been filled, I fit to the lower end of the reservoir, a cap, customarily a metal cap, 27, having a central perforation 28, for the passage of the feed screw 10. In practice this cap 27 is cemented firmly to the reservoir 7.

The reservoir described is in effect a non-refillable reservoir since, with the opening 18 in the piston sealed by the sealing layer 16, and with the feed tube held in place by the metal cap 22, and with the orifice at the upper end of the feed tube closed by the sealing layer 24, it is practically impossible to refill the reservoir, when empty, without giving indication of such refilling.

In some cases, to further seal the reservoir, and to provide visual indication of tampering therewith, I provide between the bottom of the reservoir and this cap 27, a layer 29 of frangible material, (paper for example) which is readily pierced by the feed screw 10 when the latter is inserted into the reservoir, and which, when unpierced, is readily visible through the opening 28 in the cap 27. But in general this additional sealing strip 29 is unnecessary, since the sealing layer 16 closes the hole 18 in the piston, and this sealing layer 16, when unpierced, is itself visible through the opening 28 in the bottom of the cap 27. In Fig. 6 I have shown the lower portion of the container 7 as closed by the cap 27, without the sealing strip 29.

What I claim is:—

1. A dispensing container for liquid and semi-liquid materials, comprising a rigid receptacle having at one end an outlet, a piston within said receptacle, said piston perforated to receive a feed screw, and a thin layer of sealing material covering said piston and initially closing such perforation of the piston and having a thickened edge portion pressing tightly against the sides of the said receptacle and thereby forming a guide for the piston and a tight joint between said piston and receptacle.

2. A dispensing container for liquid and semi-liquid materials comprising a receptacle having at one end an outlet, and having an outwardly turned flange surrounding such outlet, a discharge tube having a base of compressible elastic material extending across such outlet and over said flange, and a retaining cap fitting over the said base and having its edge turned over into engagement with the under side of said projecting flange of the container, whereby said discharge tube is held in place with reference to said container, the said cap pressing the base portion of said discharge tube tightly against said flange whereby a joint is formed between said base of said discharge tube and the said flange of said container, the said base of said discharge tube having initially an outwardly projecting rib which is displaced inwardly by the pressure exerted by said retaining cap on said rib, thereby forming on the base of the discharge tube an inwardly projecting rib pressing against the mouth portion of the receptacle.

3. A dispensing container such as described comprising a receptacle having at one end a discharge opening and having within it a piston, centrally perforated to receive a feed screw, a cap secured to and covering the other end of said receptacle and arranged to prevent withdrawal of the piston, said cap being centrally perforated to receive a feed screw and to guide the same while being inserted through the piston, and said piston being provided with a thin frangible layer initially closing its perforation.

4. A dispensing container such as described comprising a receptacle having at one end a discharge opening and having within it a piston, centrally perforated to receive a feed screw, and a cap covering the other end of said receptacle and itself centrally perforated to receive a feed screw, and a layer of frangible material interposed between said closing cap and the end of said receptacle and, when unbroken, closing the perforation in said cap and the corresponding perforation in the piston.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOEL B. FESLER.

Witnesses:
H. M. MARBLE,
PAUL H. FRANKE.