Dec. 29, 1931. M. LERUM 1,838,490

COVER, BRUSH HOLDER, AND SQUEEZER FOR LIQUID CONTAINERS

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Fig. 2

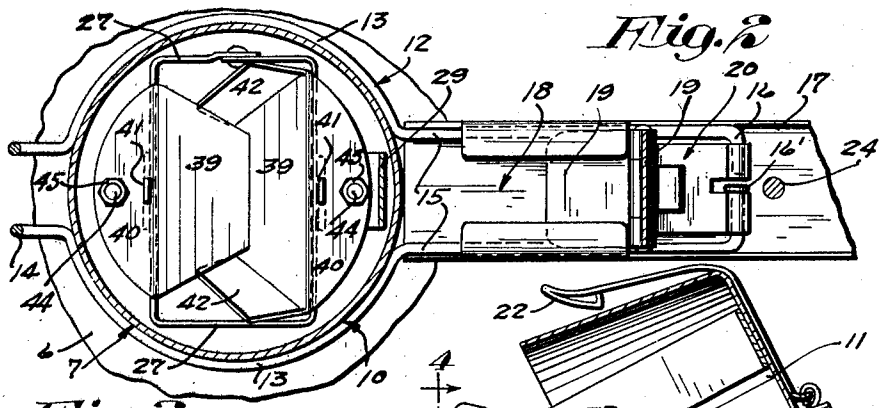


Fig. 3

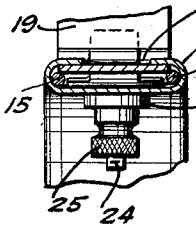
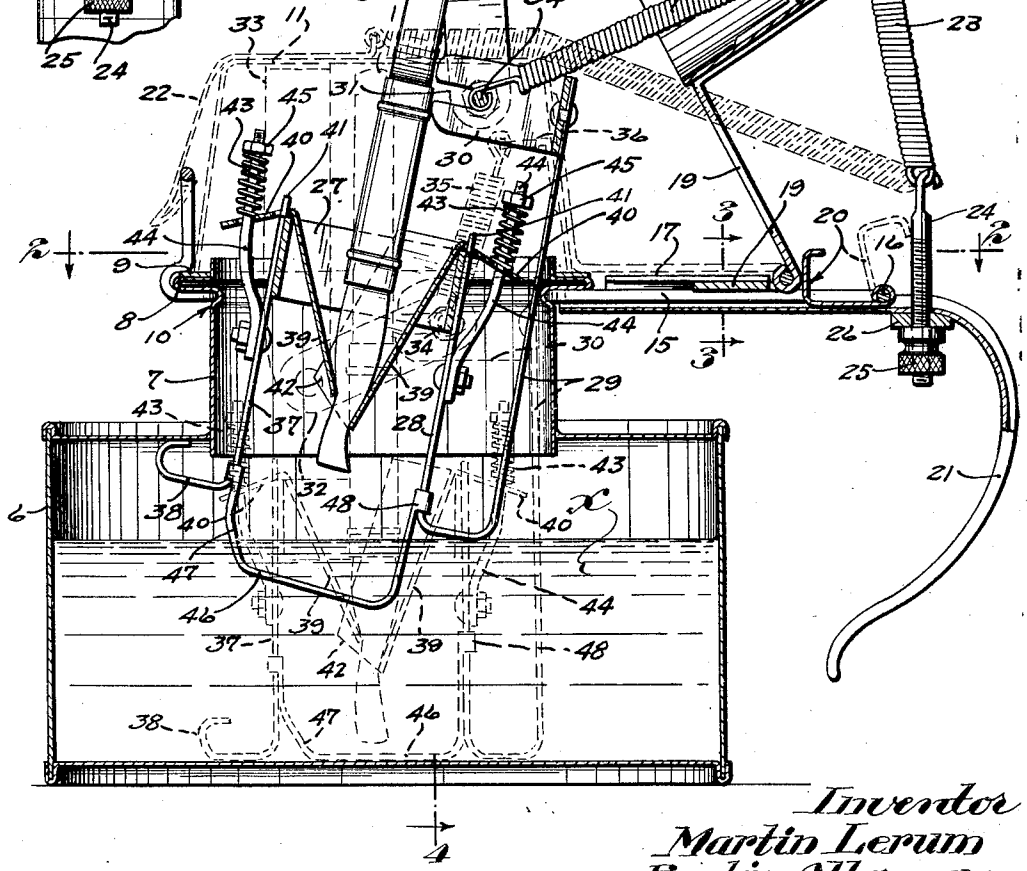


Fig. 1



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Fig. 5

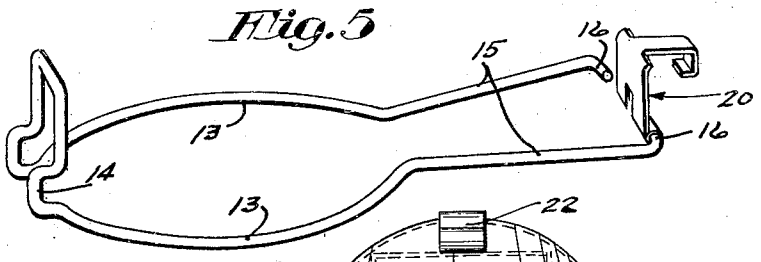
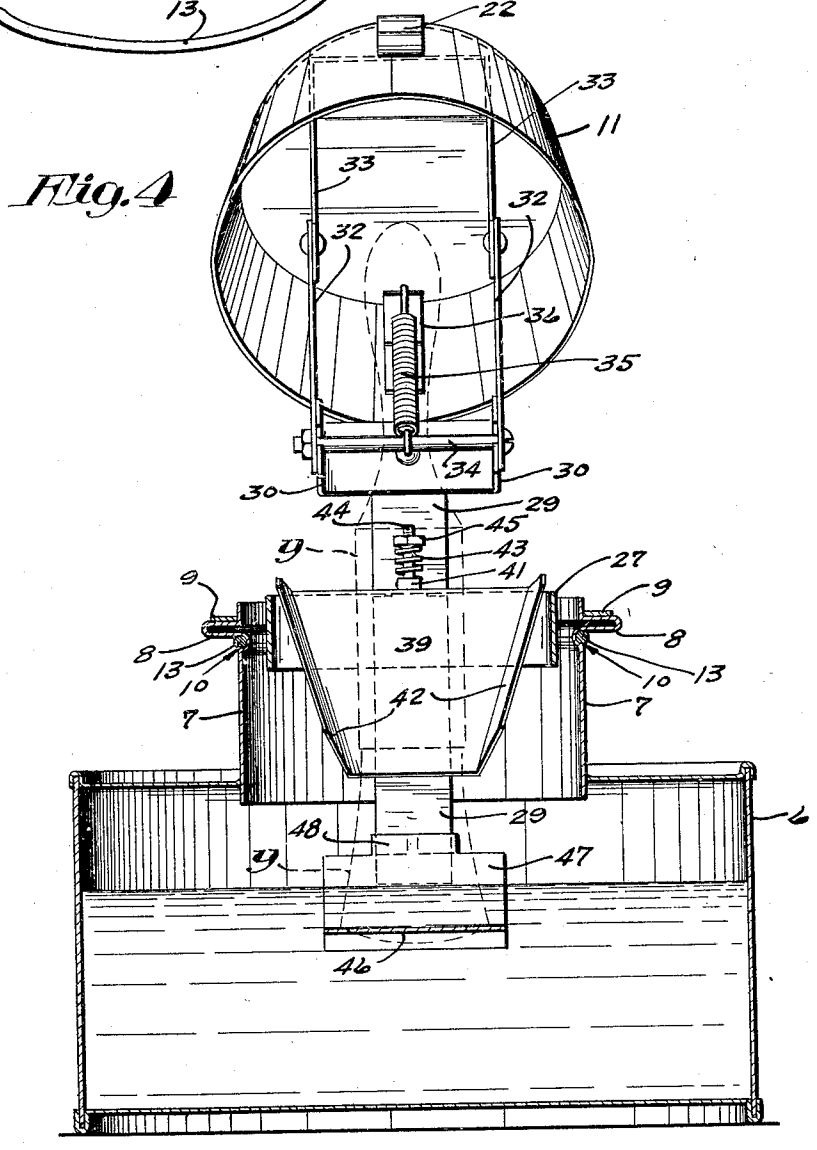


Fig. 4



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UNITED STATES PATENT OFFICE

MARTIN LERUM, OF MINNEAPOLIS, MINNESOTA

COVER, BRUSH HOLDER AND SQUEEZER FOR LIQUID CONTAINERS

Application filed September 2, 1930. Serial No. 479,245.

My invention has for its object to provide a highly efficient cover, brush holder and squeezer for receptacles holding glue, paste or other liquids to be applied by a brush.

To the above end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is a view principally in central vertical section of a container having the invention applied thereto with some parts shown in different positions by means of broken lines;

Fig. 2 is a fragmentary view partly in plan and partly in horizontal section taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary detail view with some parts sectioned on the line 3—3 of Fig. 1;

Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 1, with the brush indicated by broken lines; and

Fig. 5 is a perspective view of the frame clamp member.

The numeral 6 indicates a receptacle for holding paste, glue or other liquid X to be applied by a brush Y. Said receptacle 6, as shown, has a neck 7 of a relative large diameter which projects materially above the top of the body of said receptacle and has, just below its upper end, a cover seat 8 in the form of an external annular flange having on its upper face a loose rubber packing ring 9. Pressed in the neck 7, just below the cover seat 8, is an annular clamp seat 10.

The numeral 11 indicates a cover for the receptacle 6 which, as shown, is in the form of a deep inverted cup that loosely fits over the neck 7, when closed, with its rim seated on the packing ring 9 to form a tight joint between the neck 7 and cover 11. Said cover 11 is detachably secured to the neck 7 by a clamp 12 which includes a horizontally disposed frame made from a single stiff wire and shaped to form a pair of diametrically opposite segmental jaws 13 connected at their front ends by an upstanding yoke 14 and having at their rear ends laterally spaced parallel body members 15, the outer end portions of which are bent laterally toward each other in longitudinal alignment to form a pair of pivot members 16. The clamp 12 further includes a sleeve-like slide 17 having in its top member a relatively wide passageway 18 which extends the full length thereof. This slide 17 is detachably applied to the clamp body member 15 by an endwise sliding movement and holds the jaws 13 pressed into the seat 10 which detachably and rigidly secures the clamp 12 to the neck 7. The yoke 14 materially adds to the resiliency of the clamp 12 during its application to the neck 7 in its removal therefrom.

A hinge 19 detachably secures the cover 11 to the clamp 12 for opening and closing movements in a vertical plane and the members of which, when the cover 11 is closed, extend parallel to each other and to the slide 17. The upper member of the hinge 19 is rigidly secured to the cover 11 and the lower member thereof extends endwise into the slide 17 from the rear end thereof above and onto the clamp frame members 15 and detachably secures the hinge 19 and hence the cover 11 to the clamp 12. A movable stop 20 is hingedy connected to the pivot members 16 for vertical swinging movement, normally rests on the bottom of the slide member 17 back of the hinge 19 and normally holds said hinge against removal from the slide 17. By turning the stop 20 into the dotted line position, as shown in Fig. 1, the hinge 19 is released thereby and may be detached from the slide 17 by a rearward endwise sliding movement in respect thereto.

By reference to Fig. 2, it will be noted that the hinged end of the stop 20 forms a sleeve-like coupling for the pivot members 16 and which coupling is bifurcated and the outer end of one of the pivot members 16 upset, as indicated at 21, to hold said coupling thereon. The other pivot member 16 is free for endwise separation from the coupling 20′ to permit the jaws 13 of the clamp 12 to be separated and released from the seat 10 for removal from the neck 7.

The slide 17, rearward of the clamp 12, is

extended to form a handle 21, by which the receptacle 6 may be carried. A spring catch 22, on the cover 11, is arranged to engage the yoke 14 and hold the cover 11 closed.

The cover 11, when the catch 22 is released from the yoke 14, is opened and yieldingly held open by a coil spring 23, one end of which is attached to the cover 11 by the catch 22 and the other end of which is anchored to the slide 17, at the junction of the handle 21 therewith, by a long screw 24 which loosely extends through a hole in said slide. This screw 24 has in its upper end an eye through which the respective end of the spring 23 is detachably hooked and a thumb nut 25 is applied to the screw 24 below the slide 17, which acts as a base of resistance therefor. A washer 26, on the screw 24, is interposed between the slide 17 and nut 25. Obviously, by adjusting the nut 25 on the screw 24, the tension of the spring 23 may be varied, at will.

To remove the clamp 12 from the neck 7, the spring 23 is unhooked from the screw 24, the stop 20 raised, as indicated by broken lines in Fig. 1, and the hinge 19 detached from the slide 17 by an endwise sliding movement. The stop 20 is then returned to normal position and the slide 17 drawn rearward onto the clamp frame members 15 and detached therefrom. During the removal of the slide 17 from the frame members 15, the stop 20 moves through the passageway 18. After the slide 17 is removed from the body members 15, said body members may be sprung apart to remove the jaws 13 from the seat 10 and for removal from the neck 7 over the flange 8.

A combined brush holder and squeezer for holding the brush Y, when not in use and for removing surplus liquid therefrom, when removed from the holder, is carried by the cover 11 for common movement therewith and for independent movement in respect thereto. The combined brush holder and squeezer includes a substantially rectangular horizontal frame 27, carried by the front arm 28 of a U-shaped hanger 29. The arm 28 is rigidly secured, at its upper end, to the rear member of the frame 27 intermediate of its ends and the rear arm of said hanger, which is considerably longer than the front arm thereof, projects materially above the frame 27. A U-shaped bracket 30 is rigidly secured at its transverse portion to the upper end of the rear arms of the hanger 29 and its arms extend forward over the frame 27 and are bifurcated to form a pair of open seats 31.

A pair of upright links 32 pivotally connect the hanger 29 to the cover 11 for forward and rearward movements in respect thereto. The upper ends of the links 32 are pivoted to the outer ends of the U-shaped bearing 33 and the lower ends thereof are pivoted to a pin 34 removably mounted in the open seats 31. Said bearing 33, at its transverse portion, is rigidly secured to the inside of the cover 11, at the top thereof, and its arms extend outward beyond the rim of said cover. A coil spring 35, anchored at 36 to the inside of the cover 11 at the back thereof and attached to the pivot pin 34 intermediate of its ends, yieldingly holds the brush holder and squeezer tilted rearward with the rear arm of the hanger 29 against the inside of the neck 7, at the back and top thereof. Extending substantially parallel to the arm 28 is a similar arm 37 rigidly secured at its upper end to the front member of the frame 27 and has on its lower end a stop finger 38 arranged to engage the underside of the top of the receptacle 6 and limit the lifting movement of the combined brush holder and squeezer by the cover 11 under the action of the spring 23 and the rearward tilting movement thereof by the spring 35.

Within the frame 27 is a pair of cooperating brush squeezing jaws 39, in the form of a pair of downwardly converging flat plates, having on their upper longitudinal edges laterally and outwardly projecting relatively fixed segmental hinge plates 40 provided with apertures through which hinge lugs 41, on the upper ends of the arms 28 and 37, project. These hinge plates 40 loosely rest on the upper longitudinal edges of the frame 27 and support the jaws 39 with freedom for swinging movements toward and from each other.

On the vertical edges of the rear jaw 39 are laterally and forwardly projecting guide flanges 42, between which the front jaw 39 is free to swing and which flanges are in downwardly converging relation. The front jaw 39 is shorter than the rear jaw 39 and its lower edge normally engages the rear jaw 39 above its lower edge. The jaws 39 are yieldingly and independently pressed toward each other by coil springs 43, which encircle the upper end portions of a pair of upright rods 44 secured at their lower ends one to each of the jaws 39 at the outer face thereof. These rods 44 loosely project upward through holes in the hinge plates 40 and the springs 43 are compressed between said plates and nuts 45 on the upper ends of the rods 44. The tension of the springs 43 may be varied, at will, by adjusting the nuts 45 on the rods 44.

Extending transversely under the jaws 39 is a wide flat presser plate 46 having on its ends short upright arms 47 provided at their upper ends with loops 48 slidably mounted on the arms 28 and 37 and support the presser plate for movement toward or from the jaws 39. Normally the loops 48 engage the transverse portions of the hanger 29 and the stop 38 which limits the movement of the presser plate 46 away from the jaws 39. The purpose of movably mounting the presser plate 46 in respect to the jaws 39 is to mount the combined brush holder and squeezer, which

is relatively high, in a relatively shallow receptacle.

When the brush Y is not in use, it is held by the jaws 39, as shown by full lines in Fig. 1. During the closing of the cover 1, the links 33 move the brush holder and squeezer downward into the receptacle 6 and the brush Y, which is held by the jaws 39, into the body of the liquid X. At the completion of the closing of the cover 11 its spring catch 22 snaps into interlocking engagement with the yoke 14 and holds the cover 11 closed against the tension of the spring 23.

To open the cover 11, it is only necessary to release the spring catch 22 from the yoke 14 and control the opening movement of said cover under the action of the spring 23, which is tensioned by the closing of the cover 11. This opening of the cover 11 lifts the brush holder and squeezer from its dotted line position to its full line position, as shown in Fig. 1. During the lifting of the brush holder and squeezer, the spring 35 tilts the same rearward so that the brush Y is held by the jaws 39 in a convenient position for removal from the brush holder and squeezer.

To dip the bristles of the brush Y into the liquid X said brush is pressed downward between the jaws 39 and into said liquid and at which time the tension of the spring 23 is sufficient to prevent the brush holder and squeezer from moving with the brush. As the level of the liquid X is lowered to a point just above the abutment 46 or below the same, the brush Y is pressed downward between the jaws 39 until it engages the presser plate 46 and thereby causes the brush holder and squeezer to move downward with the brush Y against the tension of the spring 23 until the bristles of said brush have entered the liquid to the desired depth. When the downward pressure on the brush Y is released, at the completion of the dipping thereof in the liquid X, the spring 23, acting through the cover 11 will return the brush holder and squeezer to its normally raised position and the brush Y is thereafter withdrawn from between the cooperating jaws 39 which, acting on opposite sides thereof, remove all surplus liquid X therefrom so that there is just the right amount of liquid on the brush Y.

When inserting the brush Y into the brush holder and squeezer, the converging flanges 42 direct the bristles of the brush between the lower edges of the jaws 39 and in withdrawing the brush from the brush holder and squeezer said jaws and the flanges 42 press the bristles of the brush into shape so that there are no projecting bristles from the body thereof. The flanges 42 also remove surplus liquid from the longitudinal edges of the brush.

By the use of this device the contents of a receptacle to which it is applied is kept covered, when not in use, so that it will not dry up or evaporate and the brush will be held in the body of the liquid so that it will remain soft and ready for use. When the brush holder and squeezer is in use, the brush held therein may be moved therethrough and dipped in the liquid and when removing the brush from said holder and squeezer surplus liquid is removed from the bristles thereof so that there is just the right amount of liquid held in the brush. As the level of the liquid in the receptacle is lowered, the dipping movement of the brush will cause the brush holder and squeezer to move therewith so that the movement of the brush therein is always substantially the same.

During the dipping of the brush Y in the receptacle 6 and the removal of the same therefrom more or less of the liquid X will be deposited on the brush holder and wiper and harden when the cover 11 is kept open for a considerable length of time and if allowed to accumulate, would materially interfere with the operation of the device. When the cover 11 is closed the brush holder and wiper is submerged in the liquid X and the accumulation of the liquid thereon will be dissolved, thus keeping the device clean and free for operative movements.

What I claim is:

1. A device of the class described comprising a receptacle for holding a body of liquid and having a hinged cover, and a brush holder and squeezer held suspended from the cover for bodily movement into the liquid when the cover is closed and for bodily movement out of the liquid when the cover is opened and held in a position by the open cover to drain into the receptacle.

2. The structure defined in claim 1 in which the cover is arranged to completely close the receptacle and cover a brush in the brush holder and squeezer.

3. A device of the class described comprising a receptacle for holding a body of liquid and having a hinged cover, a brush holder and squeezer, and a connection holding the brush holder and squeezer suspended from the cover for bodily movement into the liquid when the cover is closed and for bodily movement out of the liquid when the cover is opened, said brush holder and squeezer being adapted to yield and permit the bristles of a brush to be inserted therethrough and into the liquid when the cover is open.

4. The structure defined in claim 3 in which the connection is provided with a joint to permit lateral movement of the brush holder and squeezer in the receptacle.

5. The structure defined in claim 3 in which the connection is provided with a joint to permit lateral movement of the brush holder and squeezer in the receptacle, said joint being separable to permit the brush

holder and squeezer to be detached from the cover and removed from the receptacle.

6. The structure defined in claim 3 in which the cover is detachable from the receptacle to permit the removal of the brush holder and squeezer from the receptacle.

7. The structure defined in claim 3 in which the connection is provided with a joint to permit lateral movement of the brush holder and squeezer in the receptacle, said brush holder and squeezer having a guide, and a spring in the connection for holding the brush holder and squeezer with its guide in contact with the receptacle for guiding the brush holder and squeezer during its raising and lowering movements in the receptacle by the cover.

In testimony whereof I affix my signature.

MARTIN LERUM.