April 20, 1926. 1,581,277

F. McLAUGHLIN

DISPENSING DEVICE

Filed Sept. 2, 1922

Fig. 4.

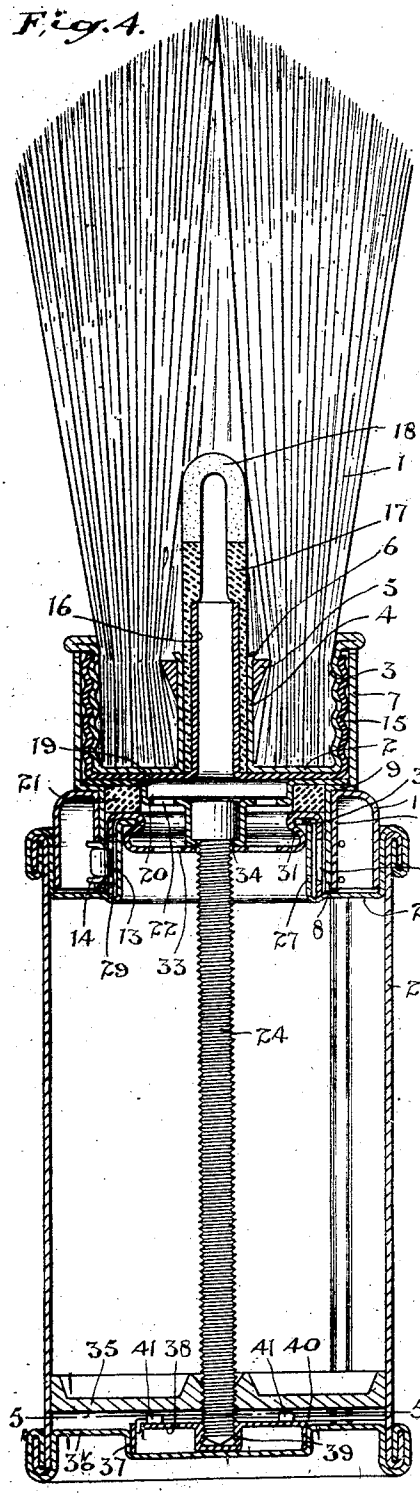
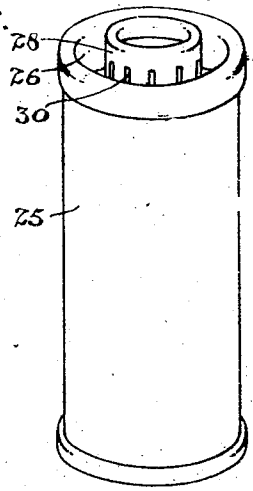


Fig. 2.



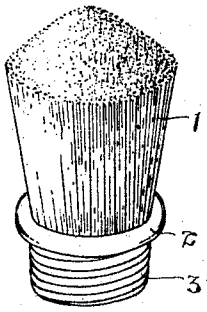
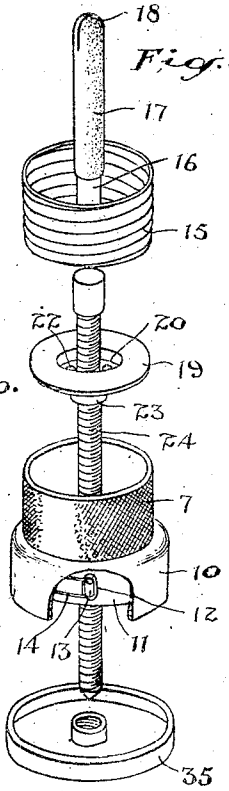


Fig. 3.



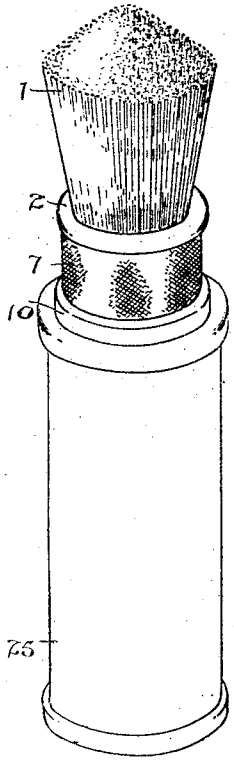


Fig. 1.

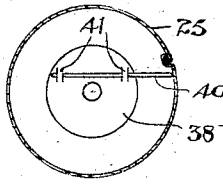


Fig. 5.

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Patented Apr. 20, 1926. 1,581,277

UNITED STATES PATENT OFFICE.

FRANK McLAUGHLIN, OF TORONTO, ONTARIO, CANADA.

DISPENSING DEVICE.

Application filed September 2, 1922. Serial No. 585,987.

To all whom it may concern:

Be it known that I, FRANK McLAUGHLIN, a citizen of the United States of America, and resident of the city of Toronto, county of York, Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Dispensing Devices, described in the following specification and illustrated in the accompanying drawings, that form part of the same.

The principal objects of the invention are, to provide a form of container of simple and cheap construction which may be easily and quickly attached to the brush head so that when empty it may be detached and discarded, and to devise a structure which will enable the user to accurately regulate the amount of soap dispensed from the holder into the brush thereby avoiding waste.

The principal features of the invention consist in the novel construction of the container and brush head whereby said brush head is retained in its operating position upon the soap container through the medium of the plastic soap in the container, and whereby the brush head is held from accidental turning by a spring ratchet contact carried by said brush head and engaging a ratchet surface of the container.

A further important feature consists in the novel manner of indicating the relative turning of the container in respect to the brush head.

In the drawings, Figure 1 is a perspective view of a brush constructed in accordance with this invention.

Figure 2 is a perspective view of the soap container.

Figure 3 is a perspective detail of the brush head and spindle with the associated parts separated and arranged to show their detailed structure.

Figure 4 is an enlarged longitudinal sectional view of the brush.

Figure 5 is a cross sectional view on a reduced scale through the line 5—5 of Figure 4.

Fountain shaving brushes have been devised in various forms but these devices have been subject to many detrimental conditions particularly where cartridges containing the soap are utilized because of the distributing elements becoming clogged with soap and accumulating dirt which cannot be cleaned out. Furthermore, the cost of such devices is prohibitive for general use and it is the primary purpose of this invention to produce a structure which will enable the brush head to be separated from the soap container in such a manner that they may be thoroughly cleansed, the container when empty being entirely discarded the same as an empty can.

A further and very important object in accomplishing the above is in the novelty of utilizing the soap material within the container as the active means for holding the brush head in place thereby greatly simplifying the construction.

In the construction herein shown the bristles 1 are secured within a ferrule 2, preferably formed of sheet metal having a threaded outer wall 3 and an inner tubular stem 4. A locking ring 5 is shown inserted over the inner stem 4 and secured by the stem being flared outwardly at the upper edge 6 and hold the bristles securely.

A cylindrical member 7 preferably formed with a knurled outer face has a reduced portion 8 which forms a shoulder 9. Upon this reduced portion and abutting the shoulder 9 is an inverted cup-shaped ring 10, the inner wall 11 of which fits tightly upon the reduced portion 8. This ring may be pressed into place or may be soldered to the portion 8 if so desired.

A rectangular hole 12 is cut through the inner wall 11 and the portion 8 close to the bottom to receive a ratchet roller 13 which is mounted on a spring wire collar 14 encircling the portion 11. The roller 13 is adapted to extend inwardly through the hole and is free to spring outwardly for a purpose which will hereinafter appear.

A threaded sheet metal cup 15 fits snugly within the cylindrical member 7 and is adapted to receive the threaded ferrule 2. This cup is provided with a central tubular stem 16 which is spaced from the inner wall of the stem 4 of the ferrule 2 and upon this stem 16 is mounted a rubber tube 17 which fits between the two stems. The upper end of the rubber tube is thicker than the lower portion and is moulded with a closed outer end 18. This outer end is slit longitudinally for a portion of its length. The thick wall of rubber holds the edges of the slit closely in contact except when pressure is applied from the inside to force the

soap out through it, but when the pressure is released the slit end of the tube closes together tightly to protect the soap from the air so that it will not harden.

The cup 15 may be soldered into the member 7 if desired.

Between the bottom of the cup 15 and the shoulder 9 is firmly secured a sheet metal member 19 and this member is provided with a depressed portion 20 spaced from the shoulder 9 to receive a rubber or leather gasket 21. The depressed portion 20 is provided with a plurality of holes 22 through which the soap is adapted to pass. A small depression 23 is formed in the centre of the member 19 and in this is fixedly secured the head of the threaded spindle 24 thus operatively connecting the spindle with the member 7. This composite structure forms the complete brush head.

It will be readily seen that this structure can be easily cleansed whenever desired.

The container herein shown consists of a cam structure 25 of cylindrical form which is provided with a rim 26 lock seamed in place. This rim is depressed within the can and is formed with an upturned flange 27 spaced from the outer wall. A cap 28 is placed over the flange 27, the bottom edge thereof resting in an annular recess 29 in the rim.

The side wall of the cap is formed with a plurality of vertical slots 30 which form a ratchet surface engaged by the ratchet roller 13 extending through the hole 12 in the ring 10 and member 8 which engages the outer wall of the cap 28 in a turning fit.

The top of the cap 28 is depressed inwardly and swaged outwardly at 31 to engage in locking contact with an edge flange 32 at the top of the flange 27 of the rim 26.

Holes 33 are formed in the cap 28 to allow the passage of soap therethrough, and a central hole 34 is provided to allow the insertion of the spindle of the brush head.

Within the can is slidably and non-rotatively arranged a piston 35 which is threaded to receive the spindle 24. The container is filled between the piston and the cap with the plastic soap and the holes in the cap are covered with a suitable removable disc. The container thus provided is a unit which may be sold independent of the brush head.

The bottom 36 of the container is lock seamed to the side wall and is formed with a central depression 37. Within this central depression is rotatably arranged an inverted sheet metal cup 38 which has a central depression 39 threaded to receive the end of the spindle of the brush head. A spring wire 40 is secured to the top of the cup 38 by clips 41 pressed from the cup and extends outwardly into contact with the inner side wall of the container.

The container is formed with a vertical seam which holds the piston from rotation and the spring wire 40 engages this seam when the spindle is turned to rotate the cup 38. The spring slips over the seam with a resonant click when the spindle is turned to the right to cause the piston to press against the soap, so that the person using the brush will have a clear audible indication of each revolution of the brush head in respect to the container.

In the use of this brush, the brush head and spindle are separate from the container which is sealed in the manner described and upon the removal of the sealing disc from the swaged depression 31 in the annular recess 29, the spindle is inserted through the central hole 34 and pushed down through the soap until it enters the threaded hole in the piston. The brush head is then turned to thread the spindle into the piston and continuing therethrough the spindle enters the threaded recess in the inverted cup 38, turning into said recess two or three threads and then locking so that the cup 38 turns with the spindle and brush head.

The brush head is then turned so that the spindle forces the piston upwardly until the soap is forced up through the holes 33 in the container cap and through the holes 22 in the member 19 and up into the central tube and rubber tube until the pressure spreads the split end of the rubber tube apart. When the pressure is discontinued, the soap ceases to flow and the elasticity of the split rubber tube is sufficient to close it off. The brush is then ready for shaving.

In inserting the brush head in place, the ring 10 fits into the depressed rim of the can in an easy turning fit, the reduced portion 8 of the member 7 fitting closely around the slotted cap 28 and as the brush head and container are turned in relation to each other, the ratchet roller drops into the slots and holds the brush head from turning backwards while the brush is being used in lathering. The spring ratchet will of course easily yield to the turning action of the hands as also does the spring wire click member 40.

The proportion of the parts is so arranged that one turn of the container will force enough soap out of the feed tube for one shave.

When the piston has been tightened into contact with the soap it forms the active means for holding the brush head in the container and no definite mechanical means is required as the piston is positively connected to the brush head by means of the spindle and the soap engages the rim 26 of the can. When the piston reaches the top of the can the brush head may be turned backwardly and in two or three turns the spindle releases itself from the member 38 which can-

not turn backwards as the spring 40 acts as a positive ratchet. The brush head may then be spun out from the piston and the container may be thrown away. The spindle and brush head may be washed off if desired before insertion in another container.

It will be readily understood from this description that the actual construction of the brush head may be varied to a very considerable extent as also may the construction of the container without departing from the spirit of the invention.

What I claim as my invention is:—

1. In a dispenser, a container having an inwardly projecting rim at the open end, a perforate head mounted on the open end of the container, and rotatably engaging said rim and means within the container cooperating with the head to dispense the contents of the container through the head and with the contents holding the head in operative engagement with the rim of the container.

2. In a dispenser, a container having an inwardly projecting rim at its open end, a movable piston arranged at the closed end of the container, a perforate head rotatably mounted on the rim of the container and having a rigid threaded spindle adapted to be inserted into the container and to pass through the contents and engage the piston to hold the head in operative engagement with the container.

3. In a dispenser, a container having a rim concentrically recessed, notches formed in the outer wall of the recess, a member rotatably mounted in said recess, a spring ratchet member carried by the said rotatable member adapted to engage the notches in the container rim, a threaded spindle secured to the rotatable member extending into the container, and a threaded piston non-rotatively and slidably arranged in the container.

4. In a dispenser, a container having a recessed rim provided with a central opening and a plurality of openings adjacent to the center, a rotatable member having openings therethrough, a spindle rigidly secured to the rotatable member, a non-rotatable piston slidably arranged in the container, and means separated from the plastic contents of the container adapted to rotate with the spindle and to audibly indicate the relative turning of the spindle in respect to the container.

5. In a dispenser, a container, a member rotatably mounted in the open end of said container, a spindle rigidly mounted in the member and extending into the container, a non-rotatable piston arranged in the container, a concentric recess in the bottom of the container, a member rotatably mounted in the recess in said bottom and adapted to non-rotatably engage the end of the spindle projecting through the piston, and a spring arm secured to said rotatable member extending into spring contact with the inner wall of the container.

6. In a dispenser, a container having a rim formed with an annular recess and an upwardly projecting concentric flange, a cap rigidly secured to said concentric flange and having a plurality of openings therethrough and a central opening, a cylindrical member having a depending annular flange extending into the annular recess in the container head, a gasket arranged within the depending flange of the cylindrical member and adapted to engage the container flange, a threaded spindle secured to the cylindrical member, and a threaded piston slidably arranged within the container and engaging said spindle.

7. In a dispenser, a container having a rim formed with an annular recess and an upwardly projecting concentric flange, a cap rigidly secured to said concentric flange and having a plurality of openings therethrough and a central opening, a cylindrical member formed with depending concentric flanges, the inner one of which engages the outer wall of the container cap and the outer one engages the side wall of the container, a spring ring encircling the inner flange of the cylindrical member and having a roller at one end, an opening through the flange to receive said roller, a plurality of recesses in the flange of the container cap adapted to be engaged by said roller, a spindle secured to the cylindrical member and extending into the container, a piston threaded on said spindle and slidably arranged in the container, and passages through the central portion of the container cap to permit the discharge of the contents of the container.

FRANK McLAUGHLIN.