May 1, 1928. 1,668,511

M. McLAUGHLIN

CONTAINER

Filed Nov. 11, 1927

Fig. 1.

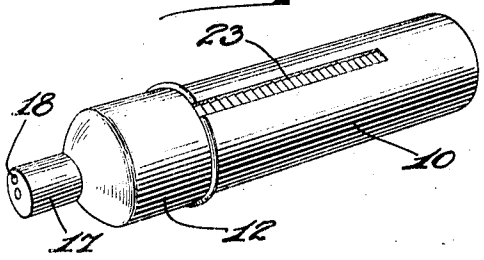


Fig. 3.

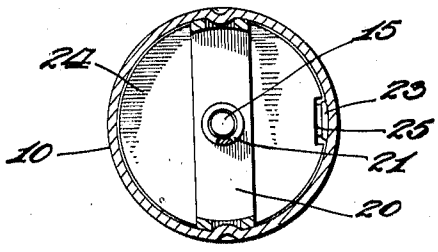


Fig. 2.

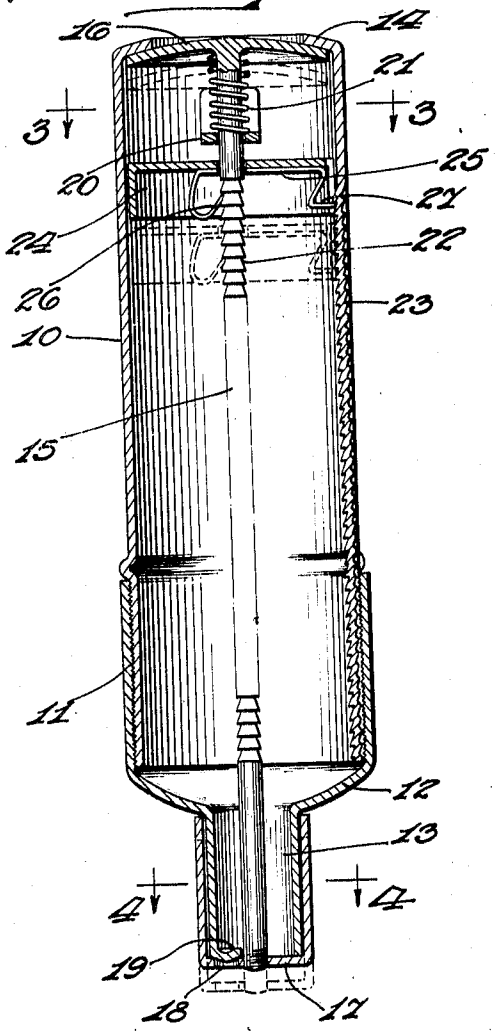


Fig. 4.

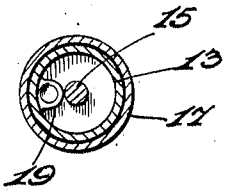


Fig. 5.

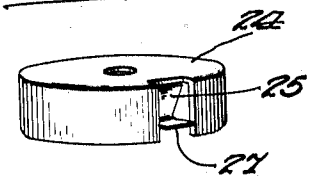
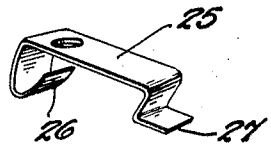


Fig. 6.



MICHAEL McLAUGHLIN.
INVENTOR

BY Victor J. Evans

ATTORNEY

WITNESS: G. Victor Lusby

Patented May 1, 1928. 1,668,511

UNITED STATES PATENT OFFICE.

MICHAEL McLAUGHLIN, OF NEW YORK, N. Y.

CONTAINER.

Application filed November 11, 1927. Serial No. 232,670.

This invention relates to improvements in containers and particularly to dispensing containers.

The primary object of the invention resides in a container in which a predetermined quantity of its contents may be ejected upon each actuation of a manipulating element and which will be found convenient for use in dispensing substances in paste and powdered form such as tooth dentifrice, talcum powder, powdered soap and the like.

Another object is to provide a container which includes a cylinder having a follower movable therein and which is fed toward the outlet end of the cylinder to eject the contents therefrom by the actuation of a push button, the said follower being locked against backward movement as it gradually moves in an opposite direction, whereby it is always disposed against the contents of the cylinder for instant forward movement without any lost motion between the actuating part and the follower.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a perspective view of my improved container.

Figure 2 is a vertical longitudinal sectional view therethrough, showing in dotted lines the position of the parts when in an open position.

Figure 3 is a transverse sectional view on the line 3—3 of Figure 2.

Figure 4 is a similar view on the line 4—4 of Figure 2.

Figure 5 is a detail perspective view of the follower.

Figure 6 is a detail perspective view of the double acting ratchet pawl.

Referring to the drawing by reference characters, the numeral 10 designates a cylindrical casing having one of its ends screw threaded as at 11 for threadedly receiving a cap 12 which is provided with a reduced neck 13. The opposite end of the cylindrical casing is open but has its peripheral edge turned inwardly to provide a stop flange 14 for a purpose to be hereinafter described.

Extending longitudinally through the casing 10 is a push rod 15 having a push button 16 at its inner end while a cap 17 is attached to the opposite end and which cap telescopes the reduced neck 13 for sliding movement thereover. The end of the cap 17 has a discharge opening 18 therein which is normally closed by a lip 19 extending inwardly from the wall of the reduced neck 13.

For the purpose of normally holding the push rod in a retracted position, I provide a bridge piece 20 mounted in the side walls of the casing while an expansion spring 21 is interposed between the bridge and the push button 16. It will be appreciated that the action of the spring is to hold the push rod in a retracted position with the push button 16 abutting the flange 14 on one end of the casing while the cap 17 is in a closed position on the reduced neck 13.

The push rod is provided with a series of ratchet teeth 22 while the side wall of the casing is likewise provided with a series of ratchet teeth 23, the ratchet teeth 23 being pitched in the same direction as the ratchet teeth 22 for a purpose to be presently explained. Slidable on the push rod 15 and longitudinally of the casing, is a follower 24 which snugly fits the inner walls of the casing for the purpose of ejecting the contents thereof toward the discharge end of the container. Disposed against the underside of the follower 24 is a double acting ratchet member 25 having a flexible pawl 26 which engages the ratchet teeth 22 and a flexible pawl 27 for engaging the series of ratchet teeth 23. The ratchet teeth 23 are set inwardly from the inner wall of the casing to receive the pawl 27 and which tends to prevent the accidental rotation of the follower during its longitudinal movement.

In operation, assume that the casing contains a substance such as tooth paste or the like and it is desired to dispense a quantity of the same. The operator presses against the push button 16 causing longitudinal movement of the push rod which movement slides the cap 17 outwardly of the neck 13 whereby the discharge opening 18 is moved away from its closure to permit of the contents of the container to pass therethrough. As the push rod moves upwardly, the follower 24 moves therewith by reason of the fact that the pawl 26 is engaging one of the ratchet teeth 22, while the pawl 27 merely rides over the teeth 23. The push rod is limited in its movement toward the dis-

charge end of the container thus causing the follower to move a certain distance which will in turn dispense a predetermined amount of the contents through the opening 18. Upon release of the push button by the operator, the spring 21 will return the push rod to its original position but the follower 24 remains in the position to which it was previously moved by reason of the pawl 27 engaging one of the ratchet teeth 23, while the teeth 22 merely ride over the pawl 26. It will be seen that as the push rod is repeatedly operated, the follower will be fed toward the discharge end of the container and will always be in a position against the substance to be dispensed.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:—

1. A container comprising a cylinder open at its outer end, a push rod extending the length of said cylinder, a cap carried by the outer end of said rod and telescoping the outer open end of said cylinder, said cap having a discharge opening therein, a tongue extending from the wall of said cylinder in a plane with said discharge opening to close said opening when said push rod is in a retracted position, spring means for normally holding said push rod in a retracted position, a follower slidably mounted within said cylinder, co-acting means between said push rod and said follower for moving said follower toward the discharge end of said cylinder, and co-acting means between said follower and the side wall of said cylinder for preventing rétrograde movement of said follower.

2. A container comprising a cylinder having a reduced open neck at the outer discharge end thereof, a push rod extending the length of said cylinder axially thereon, a cap telescoping said reduced neck, and fixed to the outer end of said push rod, said cap having a discharge opening therein, a series of ratchet teeth provided on said push rod, a series of ratchet teeth provided on the inner side wall of said cylinder, the ratchet teeth on the rod being pitched in the same direction as the ratchet teeth on the wall of said cylinder, a follower slidably mounted on said push rod, flexible pawls carried by said follower and respectively engaging the two series of ratchet teeth, and spring means acting against said push rod to hold the same in a retracted position.

3. A container comprising a cylinder having a reduced open neck at the outer discharge end thereof, a push rod extending the length of said cylinder axially thereon, a cap telescoping said reduced neck and fixed to the outer end of said push rod, said cap having a discharge opening therein, a series of ratchet teeth provided on said push rod, a series of ratchet teeth provided on the inner side wall of said cylinder, the ratchet teeth on the rod being pitched in the same direction as the ratchet teeth on the wall of said cylinder, a follower slidably mounted on said push rod, flexible pawls carried by said follower and respectively engaging the two series of ratchet teeth, and spring means acting against said push rod to hold the same in a retracted position, and a lip extending from the neck of said cylinder in the path of said discharge opening for sealing said opening when said push rod is in a retracted position.

4. A container comprising a cylinder having a reduced open neck at the outer discharge end thereof, a push rod extending the length of said cylinder axially thereon, a cap telescoping said reduced neck and fixed to the outer end of said push rod, said cap having a discharge opening therein, a series of ratchet teeth provided on said push rod, a series of ratchet teeth provided on the inner side wall of said cylinder, the ratchet teeth on the rod being pitched in the same direction as the ratchet teeth on the walls of said cylinder, a follower slidably mounted on said push rod, flexible pawls carried by said follower and respectively engaging the two series of ratchet teeth, and spring means acting against said push rod to hold the same in a retracted position, a manipulating head carried by the free end of said push rod and being exposed at the large open end of said cylinder and engaging the inturned edge of the same for limiting movement of said push rod against the action of said spring.

In testimony whereof I have affixed my signature.

MICHAEL McLAUGHLIN.