L. FISENNE.

DISPENSING DEVICE.

APPLICATION FILED JULY 18, 1913.

1,139,758. Patented May 18, 1915.

Fig. 1.

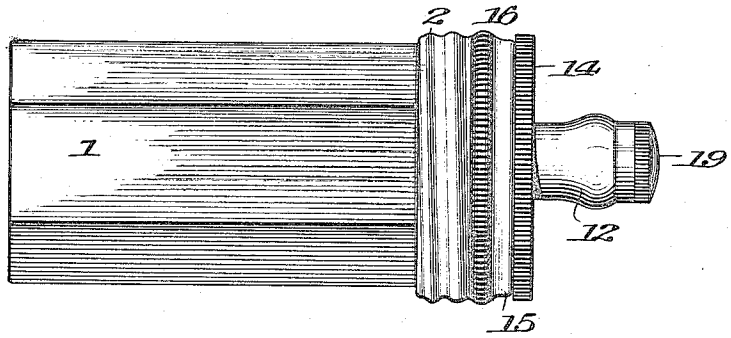


Fig. 2.

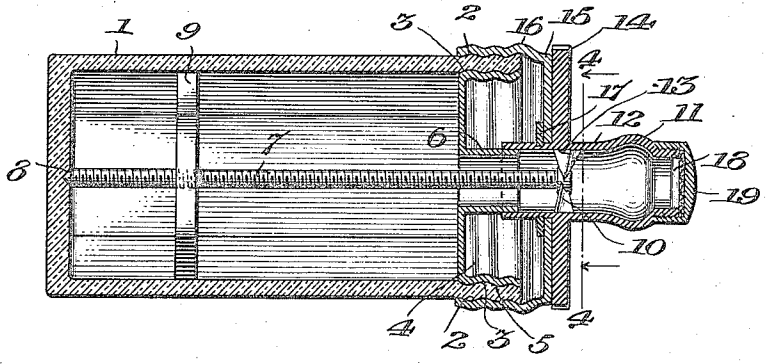


Fig. 3.

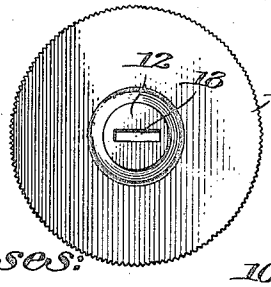


Fig. 4.

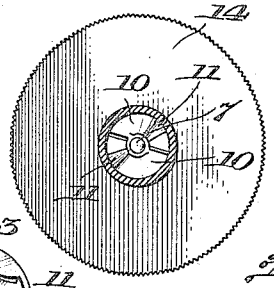
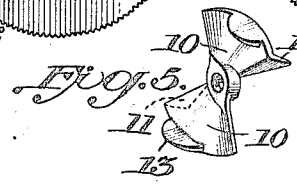


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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DISPENSING DEVICE.

1,139,758. Specification of Letters Patent. Patented May 18, 1915.

Application filed July 18, 1913. Serial No. 779,726.

To all whom it may concern:

Be it known that I, LOUIS FISENNE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Dispensing Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to dispensing tubes or receptacles particularly adapted for dispensing dental or toilet paste or cream in ribbon-form although not restricted to that use.

It has for its object to provide improved features of construction and arrangement of parts whereby there is combined with the ejection-plunger a closure-cap having a centrally disposed nipple in alinement with the discharge nozzle so that as the plunger is moved toward the discharge end of the tube or receptacle the plastic substance will be forced through the centrally disposed nipple into the discharge nozzle, and the compression of the plastic or paste between the faces of the plunger and closure-cap will cause the plastic to follow the plane of said faces and find its exit into the centrally disposed nipple and thus practically the entire contents of the tube or receptacle are ejected instead of finding lodgment between the closure-cap and plunger.

It also has for its object to combine with the plunger which moves the body of the plastic toward the discharge end of the tube, a winged propeller disposed in the discharge nozzle and connected thereto and to the plunger reed screw so that as the plunger forces the paste or plastic into the nozzle the winged propeller divides the paste or plastic and propels it forward to the elongated discharge orifice in the end of the nozzle so that it is ejected in a tape or ribbon form. The propeller serves to control the volume of the plastic passing through the nozzle, and gives momentum to the portion acted on by the propeller so that it is ejected at such speed as will project it in a relatively compact ribbon and thus prevent it from folding over the mouth of the nozzle as it otherwise would do.

It has further for its object to facilitate the easy assembling of the coöperative parts and their attachment to the tube or receptacle as well as detachment when necessary and also to provide for their easy operation.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in the features hereinafter described and then sought to be clearly defined by the claims, reference being had to the accompanying drawing forming a part hereof, and in which

Figure 1 is a side elevation of a receptacle having the invention applied thereto; Fig. 2 is a longitudinal section through the same; Fig. 3 is an end view looking at the discharge end with the nozzle-cap removed; Fig. 4 is a sectional view on the line 4—4 of Fig. 2, looking in the direction of the arrow; and Fig. 5 is a perspective of the propeller.

In the drawing the numeral 1 designates a tube or receptacle made of any suitable material and of any approved polygonal shape in cross-section although the form selected for illustration is shown as hexagonal and having at one end external threads 2 and internal threads 3. Within one end of the receptacle there is fitted a closure-cap 4 the rim of which is threaded or formed with spiral grooves 5 so that the cap may be screwed into the receptacle in engagement with the screw 3. The closure-cap is formed centrally with a nipple 6 through which passes a screw rod 7 which at its lower end may be stepped in a suitable seat 8 formed in the end of the receptacle. The screw-rod carries a plunger 9 which is of suitable polygonal shape in outline corresponding to the polygonal shape of the receptacle so as to have non-rotatable but slidable contact or engagement with the walls of the receptacle in order that by turning the screw-rod the plunger may be moved longitudinally of the receptacle, the direction depending on the right or left turning of the rod. The outer end of the screw-rod has rigidly attached thereto a propeller-blade 10 formed with wings 11 and rigidly attached to a discharge-nozzle 12 within which it lies, and to the walls of which it may have its lips 13 brazed. The inner end of the nozzle fits over the end of the nipple

6, in the manner of a sleeve, and the nozzle is provided externally with a disk 14 the periphery of which may be milled for ease in turning the disk and nozzle. The disk is carried by a cap 15 the rim of which is formed with spiral grooves or threads 16 for threaded engagement with the external threads 2 of the receptacle by which means the nozzle and disk are rotatably attached to the receptacle.

The nozzle 12 passes freely through the cap 15 and it and the disk are rotatable relatively thereto, and a ring or collar 17 is applied as illustrated to effect the swivel connection between them and the cap 15 although they may be otherwise swivelly connected thereto. The outer end of the nozzle is formed with an elongated discharge orifice 18, and a screw-cap 19 may be provided to cover the same.

With the parts formed and assembled as described, and assuming that the receptacle or container between the plunger and the closure-cap contains a pasty or plastic substance, such as dental paste, now if the disk 14 is rotated, the nozzle 12, propeller 10 and screw-rod 7 will be rotated so that the plunger 9 will be moved toward the discharge end of the receptacle thereby forcing the plastic into and through the nipple 6 into range of the propeller 10 which will engage the plastic and carry it to the front and propel it forward to the discharge orifice of the nozzle through which it will be projected in a compact tape or ribbon. The propeller will give density or compactness to the paste or plastic as well as regulate its volume passing beyond the propeller and at the same time feed it as specified through the nozzle; and the wings to the propeller will hug to the walls of the nozzle and keep the plastic from adhering or caking next to the walls.

I have illustrated and described with particularity the preferred details of construction but they can be varied without departing from the essentials of the invention.

Having described my invention and set forth its merits, what I claim is

1. A dispensing device comprising a container, a screw-rod carrying a plunger and having at its outer end a propeller and a rotatable nozzle to which the propeller is attached to rotate therewith, substantially as described.

2. A dispensing device comprising a container, a plunger within the said container, a screw-rod for moving the plunger, a nozzle attached to the screw-rod, a propeller within and rotatable with the nozzle, and a disk connected with the nozzle to rotate the latter, substantially as described.

3. A dispensing device comprising a container, a closure-cap fitting within one end of the container and having a centrally disposed nipple, a discharge nozzle sleeved to the nipple of the closure-cap, a plunger within the container, a screw-rod for moving the plunger and fitting within the nipple and nozzle, and a propeller in the nozzle and connected with it and the screw-rod, substantially as described.

4. A dispensing device comprising a container, a plunger, a screw-rod for moving the plunger, an internal closure-cap fitting within one end of the container and having a centrally disposed nipple, an external cap secured to the end of the container, a rotatable discharge nozzle provided with an operating disk and having a swiveled connection with said cap, said screw-rod and rotatable nozzle being operatively connected with each other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS FISENNE.

Witnesses:
W. C. O'HARE,
A. E. LOEFFLER.