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F. L. DYER

MEASURING DEVICE FOR COLLAPSIBLE TUBES

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Fig. 1.

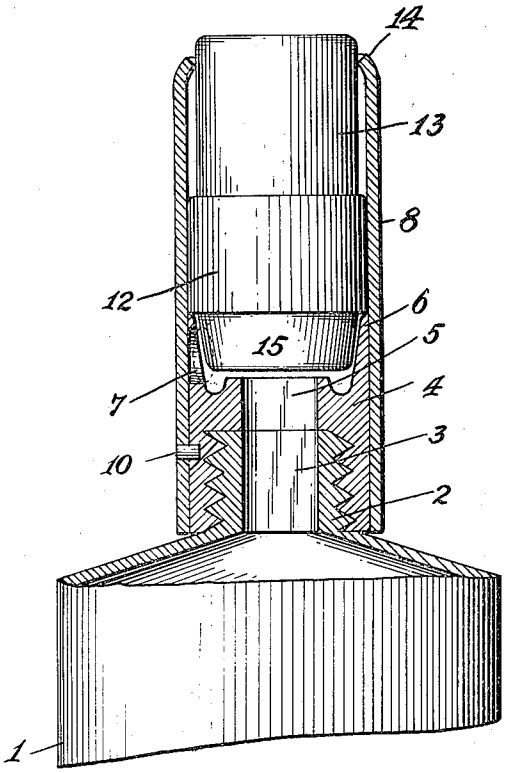
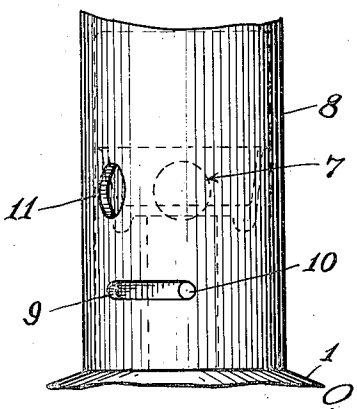


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK L. DYER, OF MONTCLAIR, NEW JERSEY.

MEASURING DEVICE FOR COLLAPSIBLE TUBES.

Application filed January 8, 1921. Serial No. 435,972.

To all whom it may concern:

Be it known that I, FRANK L. DYER, a citizen of the United States, and residing at Montclair, county of Essex, State of New Jersey, have invented a new and Improved Measuring Device for Collapsible Tubes, of which the following is a full, clear, and exact description.

My invention relates to an improved measuring device for collapsible tubes intended principally for containing pastes such as tooth-paste, shaving-cream, etc., and my object is to provide an improved attachment adapted to be temporarily secured to the collapsible tube and by which the contents of the tube may be ejected therefrom in measured quantities. In this way waste of such contents may be reduced since in the operation of these collapsible tubes a greater quantity of the paste is usually ejected than is really necessary or desirable.

In order that the invention may be better understood, attention is called to the accompanying drawing forming a part of this specification, and in which:

Fig. 1 is a sectional view of the upper portion of a collapsible tube on an enlarged scale showing my improved measuring device in its preferred form applied thereto; and

Fig. 2 is a side elevation of the same showing the upper part of the measuring device broken away, and suggesting the interior construction by dotted lines.

The collapsible tube 1 is of ordinary construction, being provided with a threaded neck 2 having a passage 3 therein through which the contents of the tube are ejected by compressing the body of the same as will be understood.

Secured onto the neck 2 is a tubular body 4 having a passage 5 in line with and as a continuation of the passage 3. The tubular body 4 is formed with a flange 6 as shown, in which is a hole 7. Mounted on the tubular body 4 is a tube 8, which snugly fits the tubular body with a little friction whereby the tube may be turned with respect to the tubular body, but will normally remain in the position to which it is moved in operation. The tube is formed with a slot 9 in which a pin 10 engages, said pin being carried by the tubular body 4, so as to limit the turning movement of the tube on the tubular body. The tube is formed with a hole 11 adapted to be brought into line with the hole 7 when the tube is turned to one of its extreme positions and thus open communication with the interior of the measuring device. When the tube is moved to its other extreme position these holes will be out of line, thus closing communication with the interior of the measuring device.

Mounted within the tube 8 is a plunger 12 fitting the tube quite snugly and movable longitudinally therein. The plunger is formed with an extension 13 projecting above the end of the tube 8 and that end of the tube is crimped inwardly, as at 14, to limit the outward movement of the plunger. On its other end the plunger is formed with a projection 15, entering more or less snugly the space enclosed by the flange 6, so as to eject substantially all the contents of the measuring device, as will be understood.

In operation, the parts are in the position shown in Figs. 1 and 2, the two holes 7 and 11 being out of line. The tube is squeezed to eject the paste through the passages 3 and 5, and will force the plunger outwards to the limit of its movement, and thus secure a measured quantity of the paste within the device. The tube 8 is now turned until the holes 7 and 11 are in line, whereupon the plunger is pressed inwards forcing the measured quantity of the paste out through the holes 7 and 11. When the contents of the tube are exhausted, the measuring device may be applied to a new tube.

Having now described my invention, what I claim as new therein and desire to secure by Letters Patent, is:

1. A measuring device for attachment to a collapsible tube comprising a tubular body which screws upon the neck of the tube, a tube rotatably mounted on said tubular body and having a discharge opening, and a plunger in the rotatable tube, substantially as set forth.

2. A measuring device for attachment to a collapsible tube comprising a tubular body which screws upon the neck of the tube and having a discharge opening, a tube rotatably mounted on said tubular body and having a discharge opening adapted to be brought into and out of line with the discharge opening in the tubular body, and a plunger in the rotatable tube, substantially as set forth.

3. A measuring device for use in connection with a collapsible tube containing a paste-like material and consisting of a tubu-

lar body having a discharge opening therein, means for opening and closing the discharge opening and a plunger movable longitudinally with respect to the tubular body whereby when said opening is closed the paste-like material from the collapsible tube may be forced into the tubular body to move the plunger outwardly, and when said opening is opened the reverse movement of said plunger will discharge a prescribed amount of material through said opening, substantially as set forth.

4. The combination with a collapsible tube, of a tubular body cooperating with the neck of the tube, a plunger in said tubular body and moved longitudinally therein by the ejection of the contents of the tube into the tubular body, a discharge opening from the tubular body and means for opening said discharge opening, whereby the reverse movement of said plunger will eject the measured amount from the tubular body, substantially as set forth.

5. The combination with a collapsible tube, of a flanged tubular body cooperating with the neck of the tube, a tube rotatably mounted on said tubular body, discharge openings in the flange and rotatable tube, and a plunger in the rotatable tube, substantially as set forth.

This specification signed and witnessed this 6th day of January, 1921.

FRANK L. DYER.

Witness:
CHARLES C. MARSHALL.