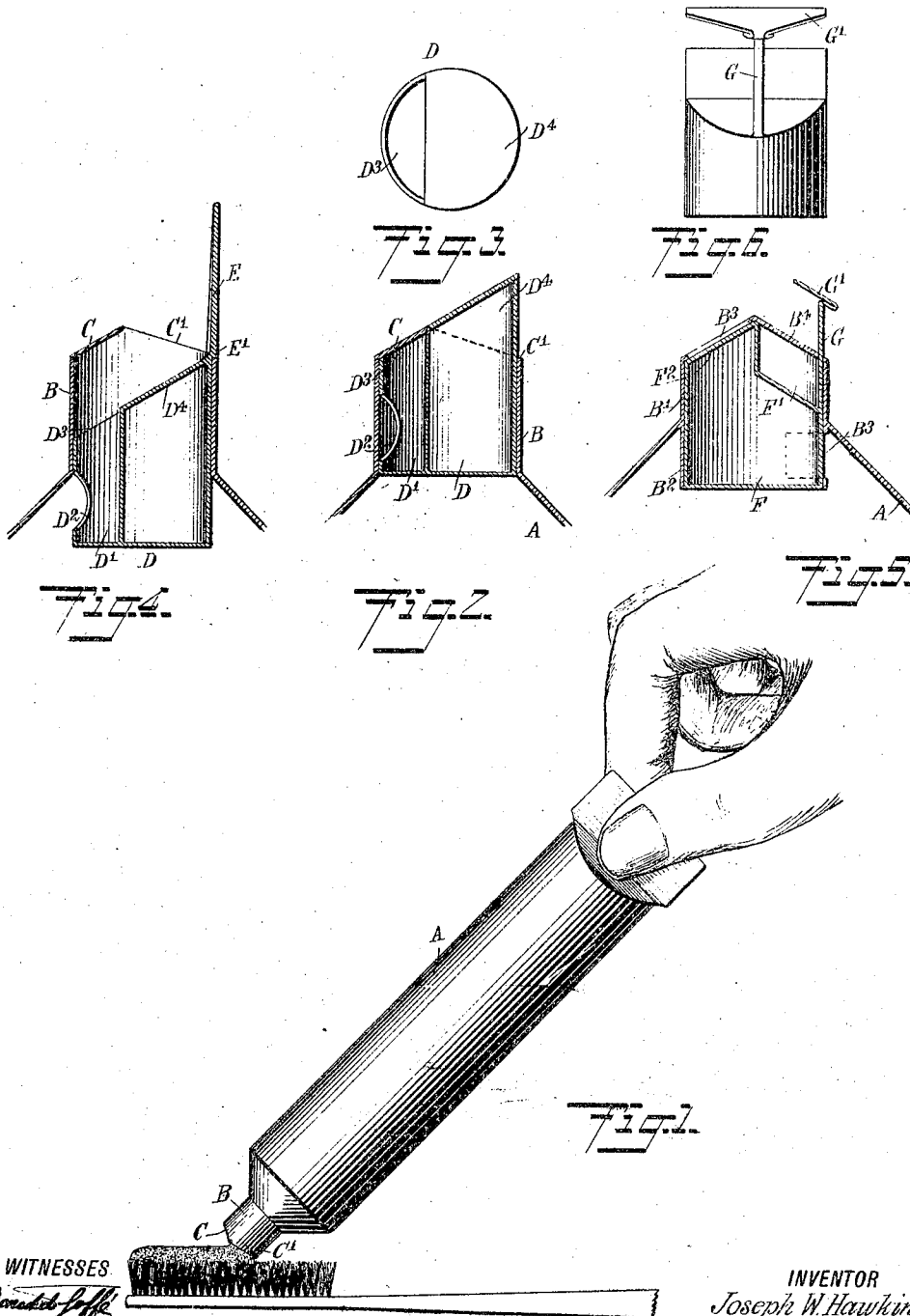


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TUBE.

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1,031,790.

Patented July 9, 1912.



WITNESSES

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TUBE.

1,031,790.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH W. HAWKINS, a citizen of the United States, and a resident of Passaic, in the county of Passaic and State of New Jersey, have invented a new and Improved Tube, of which the following is a full, clear, and exact description.

The invention relates to dispensing cans, and its object is to provide a new and improved tube, commonly known as a paint tube, made of tin foil or a similar material, for containing paint, tooth paste and other semi-fluid substances, the tube being arranged to open by pressure from the outside with a view to govern the outflow of the tube contents onto a palette, tooth brush, spoon or a like article, and to close the tube by pressure of the contents from the inside on release of the outside pressure.

For the purpose mentioned use is made of a valve, controlling the outlet in the neck of the tube, the valve having means exterior of the neck for pushing the plunger inward, and the valve having interior means subject to outward pressure by the contents of the tube.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the tube as applied; Fig. 2 is an enlarged sectional side elevation of the upper end of the tube and showing the valve in a closed position; Fig. 3 is a plan view of the valve; Fig. 4 is a sectional side elevation of a modified form of the valve in open position; Fig. 5 is a similar view of another modified form of valve in closed position; and Fig. 6 is a side elevation of the valve shown in Fig. 5.

The body A of the tube terminates in a neck B, preferably made cylindrical, and having a peak-shaped top, one side C of which is closed while the other side C' is open to form an outlet for the contents of the tube A. In the neck B is mounted a valve for closing the neck B and for governing the outflow of the contents of the tube, the said valve being preferably in the form of a sliding valve D fitted in the neck B. The valve D is closed at its inner end so that the pressure of the contents of the tube exerted against the said inner end of the valve forces the latter outward and holds the same normally in a closed position, as

indicated in Fig. 2. The valve D is provided at one side with a chamber D', having in its outer side an inlet opening D² for the entrance of the contents of the tube, and which contents are adapted to pass through the chamber D' at the time the valve D is in an open position as shown in Fig. 4, the contents passing through the open top D³ of the chamber D', into the upper end of the neck B and out through the outlet opening C' in the top of the neck B.

As indicated in Figs. 2 and 4, the top D³ of the chamber D' is opposite the closed side C of the peak-shaped top of the neck B, so that when the valve D is in a closed position the opening D³ is closed by the side C. The valve D, adjacent the chamber D', is provided with an extension D⁴ projecting through the opening C' at the time the valve D is in a closed position, as shown in Fig. 2, and the top of the extension D⁴ is preferably beveled and flush with the side C of the neck B, as will be readily understood by reference to Fig. 2. Now when the tube A is used it is only necessary for the operator to press the projection D⁴ against a fixed part, such as a tooth brush or the like (see Fig. 1), to force the valve D inward, whereby the contents of the tube A can pass through the inlet D², the chamber D' and the openings D³, and C', onto the bristles of the tooth brush, the contents in flowing over the inclined top of the projection D⁴ being guided onto the bristles, as will be readily understood by reference to Fig. 1.

It is understood that the user exerts the usual pressure on the end of the body of the tube so as to force the contents outward onto the tooth brush, palette or other article, and when a sufficient quantity of paste has passed out of the tube and the user disengages the projection D⁴ from the article, then the valve D immediately closes by the pressure of the contents of the tube against the inner closed end of the valve D. Thus from the foregoing it will be seen that on pushing the valve D inward the neck B is opened to allow the outflow of the contents of the tube, and as soon as the pressure on the projection D⁴ is released then the valve D is forced outward into a closed position by pressure of the contents from within the tube A.

As shown in Fig. 4, the valve D may be provided at the terminal of the projection D⁴, with a spoonlike extension M, preferably

graduated, so as to gage the amount of contents of the tube passing onto the said extension E when using the tube as above described, and illustrated in Fig. 1, it being understood that in this case the contents of the tube instead of flowing on, say, a tooth brush, palette or the like, flow onto the extension E. The inner end of the extension E is provided with a shoulder E' adapted to abut against the neck B so as to limit the inward or opening movement of the valve D.

As illustrated in Figs. 5 and 6, the valve F is mounted to slide in a neck B', having an inward extension B² provided with an outlet B³ normally closed by the valve F. The outer end of the valve F is provided with a recess F' adapted to register with the outlet B³ at the time the valve F is pushed inward into an open position, so that the contents of the tube A can pass by way of the outlet B³ and the recess F' into the outer end of the neck B' through the outlet B³ thereof, to a palette, tooth brush or other article. The recess F' of the valve F is opposite the closed portion B⁴ of the peak-shaped top of the neck B', while the outlet opening B³ is on the other side opposite the inclined top F² of the valve F, so that when the latter is closed it closes the outlet opening B³. An arm G extends from the valve F through an opening in the portion B⁴, and the arm G terminates at its outer end in a foot-piece G' extending parallel to the top portion B⁴, and adapted to be pressed against a tooth brush, palette or other article, so as to force the valve F inward into an open position for the contents of the tube A to pass out by way of the outlet B³. It will be noticed that by having the foot G' the inward sliding movement of the valve F is limited, and it is understood that the outward movement of the valve F is controlled by the pressure of the contents of the tube.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A tube of the class described, provided with a neck having a peaked top, one side of which is open and the other closed, and a cylindrical valve mounted to slide in the neck, said valve having a closed inner end, a passage at one side and an inclined top portion on the side opposite the passage, the said inclined top portion of the valve

when the valve is closed, being in alinement with the closed side of the neck of the tube.

2. A tube of the class described provided with a neck having a peaked top, one side of which is open and the other closed, and a cylindrical valve mounted to slide in the neck and having a closed inner end, said valve being provided at one side with a chamber having an inlet opening in its outer side, and with an inclined top portion on the side opposite the chamber, said inclined top portion being in alinement with the closed side of the neck when the valve is closed.

3. A tube of the class described, provided with a neck having a peaked top, one side of which is open and the other side closed, a cylindrical valve mounted to slide in the neck and having a closed inner end, said valve being provided at one side with a chamber having an inlet opening, and with an inclined top portion on the side opposite the chamber, said inclined top portion being in alinement with the closed side of the neck when the valve is closed, and means on the valve and projecting beyond the neck of the tube for pressing the valve inward, said means also serving as a stop to limit the inward movement of the valve.

4. A tube of the class described, provided with a neck having a peak-shaped top, one side of which is open and the other closed, and a cylindrical valve mounted to slide in the said neck and having a discharge compartment provided at the side with an inlet and at the top with an outlet opposite the closed side of the top, the valve having a beveled top of the neck of the tube portion projecting through the open side of the top.

5. A tube of the class described provided with a neck having a peak-shaped top, one side of which is open, and a cylindrical valve mounted to slide in the neck of the tube and having a closed inner end and provided with a passage and an inclined top portion on the side opposite the passage, said valve being provided with an extension for pressing it inward into the tube.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH W. HAWKINS.

Witnesses:

THEO. G. HOSTER,
PHILIP D. ROLLHAUS.