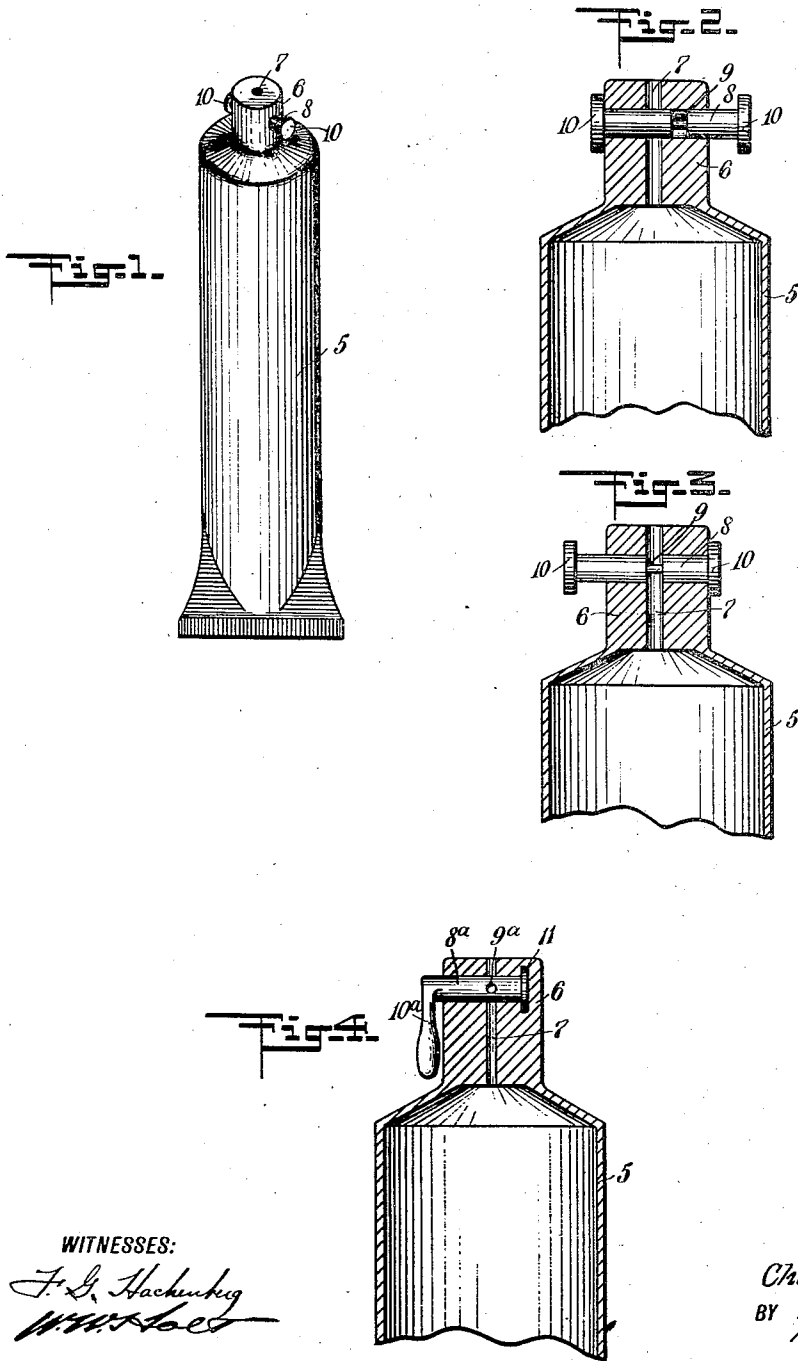


C. H. STUART.
COLLAPSIBLE TUBE.
APPLICATION FILED JAN. 7, 1910.

1,005,668.

Patented Oct. 10, 1911.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES HENRY STUART, OF NEWARK, NEW YORK.

COLLAPSIBLE TUBE.

1,005,668.

Specification of Letters Patent.

Patented Oct. 10, 1911.

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To all whom it may concern:

Be it known that I, CHARLES H. STUART, a citizen of the United States, and a resident of Newark, in the county of Wayne and State of New York, have invented a new and Improved Collapsible Tube, of which the following is a full, clear, and exact description.

The invention is an improvement in collapsible tubes, and has in view a valve in the neck of the tube by which the discharge of the paste or liquid from the tube is readily controlled, the valve embodying a piston or shaft extending crosswise of the neck of the tube and having a discharge passage in its length movable into register with the discharge passage of the neck, the valve having enlargements at each end, one of which is exteriorly arranged and constitutes an operating member by which the valve is revolved, and the other preventing the valve from being drawn from the neck.

Reference is to be had to 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 perspective view of a flexible tube having my improvements applied thereto; Fig. 2 is a central vertical section through the neck of the tube in the plane of the valve, on an enlarged scale, the valve being shown in closed position; Fig. 3 is a similar section, showing the valve in open position; and Fig. 4 is a like section, showing a modification of the invention.

My invention is designed to be applied to any ordinary form of collapsible tube 5, such as is used as a receptacle for paste, plastics, and liquids and semi-liquids of various characters, the tube having the usual reduced neck 6 provided with a longitudinal discharge passage or aperture 7. Ordinarily, the neck of the tube is provided with a screw-threaded cap which is inconvenient to remove and replace each time a portion of the paste is discharged, and, further, does not effectively close the discharge passage, and is often clogged up by a quantity of the paste which has been discharged therein and hardened. To overcome this and permit the discharge of the contents of the tube to be readily and effectively controlled, I have, as shown in Figs. 1, 2 and 3, provided the neck of the tube with a valve 8, the valve being in the nature of a piston

or shaft slidable crosswise of the neck and revoluble therein and having a circumferential groove, providing a discharge passage 9. At each end of the valve piston or shaft is an enlargement or other operating member 10, one of which is arranged to contact with the side of the neck of the tube when the discharge passage 9 is moved into register with the discharge passage 7 of the neck, as shown in Fig. 3, allowing the contents of the tube to escape when the tube is subjected to pressure, and the other to contact with the opposite side of the tube when the discharge passage is moved to one side of the neck and the flow of the contents of the tube through the passage 7 cut off, as shown in Fig. 2. It is obvious that this construction permits of the flow from the tube being instantly and effectively controlled.

In Fig. 4 I have shown a modification of my improvement, in which the piston or shaft of the valve 8^a, corresponding to the valve 8, instead of being both slidable and revoluble within the neck of the tube transversely thereof is rotatable only, the piston or shaft having a discharge passage 9^a in its length, movable into and out of register with the discharge passage 7 of the neck of the tube. The valve is held against endwise movement by a flange or other enlargement 11 received in a groove in the neck, and is provided with a handle or operating member 10^a, by which it is turned to carry the discharge passage 9^a into and out of register with the passage 7, the handle being preferably arranged relatively to the discharge passage 9^a to extend downwardly along the side of the tube, as shown, when the flow from the tube is cut off, so that the handle will ordinarily be in a position where it will not be accidentally turned. By making the valve revoluble, the paste or semi-fluid which the tube contains is broken up at the neck of the tube and the flow thus started.

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

1. The combination of a collapsible tubular receptacle having a neck provided with a discharge passage, a piston valve slidable crosswise of the neck and revoluble therein and having a discharge passage in its length movable into and out of register with the discharge passage of the neck, and a finger-piece at one end of the piston valve exte-

riorly of the neck of the receptacle, by which the valve can be slid and revolved.

2. The combination of a collapsible tubular receptacle having a discharge neck provided with a discharge passage, and a piston valve slidable in the neck and intersecting the said passage, said valve having enlargements at the ends constituting operating members by which the valve can be slid and revolved and adapted to contact with the opposite sides of the neck, and the valve being further provided with a circumferential groove in its length forming a discharge passage, with the passage arranged

to register with the discharge passage of the neck when one of said enlargements contacts with one side of the neck, and movable out of register with said discharge passage of the neck when the other of said enlargements contacts with the opposite side of the neck.

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

CHARLES HENRY STUART.

Witnesses:

CHAS. R. CLARK,
H. G. SANFORD.