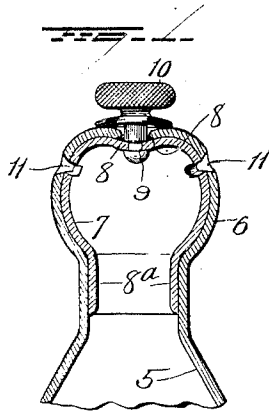
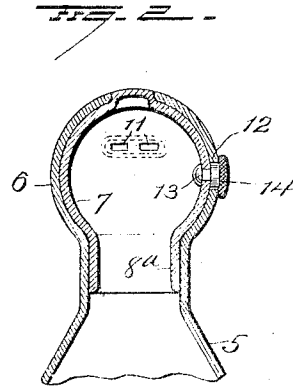
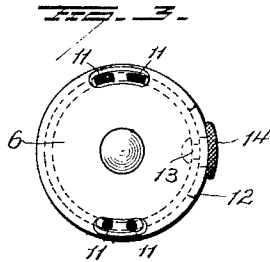
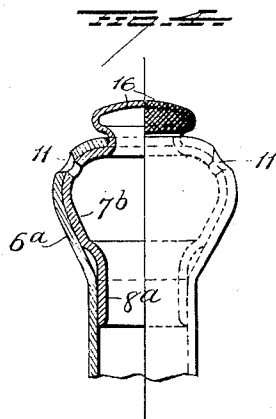


B. E. D. STAFFORD.
DISPENSING TUBE OR BOX.
APPLICATION FILED SEPT. 25, 1919.

1,382,138.

Patented June 21, 1921.



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UNITED STATES PATENT OFFICE.

BENJAMIN E. D. STAFFORD, OF PITTSBURGH, PENNSYLVANIA.

DISPENSING TUBE OR BOX.

1,382,138.

Specification of Letters Patent.

Patented June 21, 1921.

Application filed September 25, 1919. Serial No. 326,257.

To all whom it may concern:

Be it known that I, BENJAMIN E. D. STAFFORD, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Dispensing Tubes or Boxes; and I do hereby 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.

This invention relates to improvements in dispensing tubes or boxes and particularly to the nozzle and closure for the same.

The object of the invention is to provide a specially designed nozzle and closure for the latter, adapted for use with collapsible tubes for dispensing paste, paint, etc., and also for powder and other boxes, in which the closure is permanently secured within the nozzle and may be turned to cause a discharge opening in it to align with a discharge opening in the head of the nozzle and it consists in the features of construction which will be more fully described and pointed out in the claims.

In the accompanying drawings; Figure 1 is a view in section of a portion of the nozzle and closure; Fig. 2 is a similar view of a modification; Fig. 3 is an end view of the construction shown in Fig. 2 and Fig. 4 is a view in section partly in elevation of another modification.

5 represents the head or upper end of a collapsible tube for dispensing paste, paint, etc., or the head of a box for dispensing powder, and 6 is the nozzle, integral with the head. The nozzle consists of the neck and a head, the neck being cylindrical as shown and the head rounded or curved and of greater diameter than the neck. In constructing and assembling the parts the outer end of the nozzle is open, and the spun sheet metal closure 7 is passed through the opening after which the open end of the nozzle is spun or otherwise closed down over the closure as at 8, leaving a small opening at the center. The head of the nozzle thus conforms to the shape of the closure and embraces the same snugly, the closure however being sufficiently loose within the head and neck so that it may be readily turned therein. The closure 7 has a cylindrical end 8 which fits within and conforms to the neck of the

nozzle, and the part thereof adjacent the end opening in the nozzle is slightly depressed to carry it away from the wall of said opening so as to prevent the closure from binding against said wall. Secured to the closure by riveting or otherwise is the stem 9 which passes through the end opening in the nozzle and carries at its outer end the finger knob 10 preferably milled on its periphery so that it may be readily turned. This knob closes the end opening in the nozzle and imparts an ornamental and finished appearance to the nozzle.

The nozzle is provided with one or more side openings 11 arranged side by side as shown in Fig. 3, through which the paste or other substance is discharged, and these openings may be flat and elongated as shown at one side of Fig. 3 or circular as shown at the opposite side of said figure, and the closure 7 is provided with similarly shaped and placed slots adapted to align with the openings in the head of the nozzle for the passage of the contents of the tube or box, or be turned out of alinement so as to close the said slots or holes in the head.

In the construction shown in Fig. 2, the closure is expanded at the outer open end of the nozzle to approximately fill the end opening therein, and the nozzle is slotted at one side as at 12 for the passage of the stem 13 of the finger piece 14, the said stem being riveted or otherwise secured to the closure 7^a. The slot 12 in the nozzle for the sleeve of the finger piece is of sufficient length to permit the closure to be moved to open and close the discharge slot or slots 11 in the nozzle.

It will of course be understood that in the construction shown in Fig. 1 and also Fig. 4, means may be provided for limiting the rotary movement of the closure within the nozzle.

In the construction shown in Fig. 4 the head of the nozzle 6^a and its closure 7^b are pear or ovoid in shape and the outer end of the closure is spun outwardly to form the knob 16 and when the open end of the nozzle is turned down over the closure, this knob projects through the central opening in the head where it can be grasped by the fingers for turning the closure.

While I have shown oppositely disposed side or discharge openings in each of the constructions illustrated, one or two discharge openings may be used at one

side only, hence I intend that my invention shall comprehend one or more.

In all forms the closure conforms in shape to the head of the nozzle and avoids all space
5 where the paste, paint or other contents of the tube or box could be forced by pressure, and as the closure is confined within the nozzle it cannot be lost or misplaced.

It is evident that many slight changes
10 might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself
15 to the exact construction and arrangement of parts shown and described, but

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

20 1. A dispensing vessel having a nozzle provided with a discharge opening, a hollow closure mounted within the nozzle and of greater diameter than the neck of the nozzle whereby the closure will be retained within
25 the nozzle, the said closure having an opening adapted to be turned into alinement with the opening in the nozzle and with a cylindrical end projecting into the neck of the nozzle, and means secured to the closure and
30 projecting through the nozzle whereby the

closure may be turned to open or close the discharge opening in the nozzle.

2. A dispensing vessel having a nozzle provided with a discharge opening, a hollow closure mounted within the nozzle and secured therein by upsetting the outer end of the nozzle over the outer end of the closure, the closure being in open communication with the vessel and provided with an opening adapted to be turned into alinement with
40 the opening in the nozzle and having a centrally located knob projecting through the upset end of the nozzle.

3. A nozzle having a plurality of discharge openings located side by side, a closure mounted within the nozzle and secured therein by upsetting the open end of the nozzle over the closure, and means secured to the closure and projecting through the nozzle whereby the closure may be turned
50 to open or close the discharge openings in the nozzle.

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

BENJAMIN E. D. STAFFORD.

Witnesses:

MARTIN W. LANE,
P. C. COSIER.