May 1, 1934. E. A. JOHNSTON 1,956,764

CLOSURE FOR CONTAINERS

Filed July 21, 1933

Fig. 3.

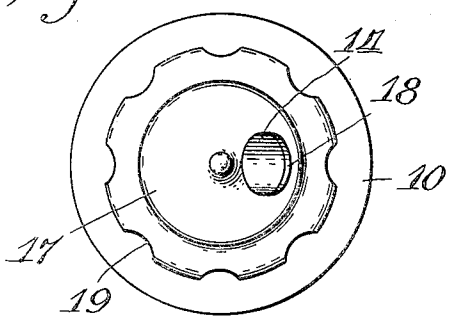

Fig. 4.

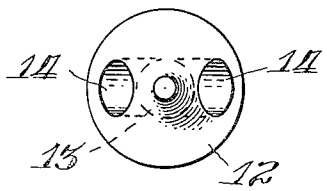

Fig. 1.

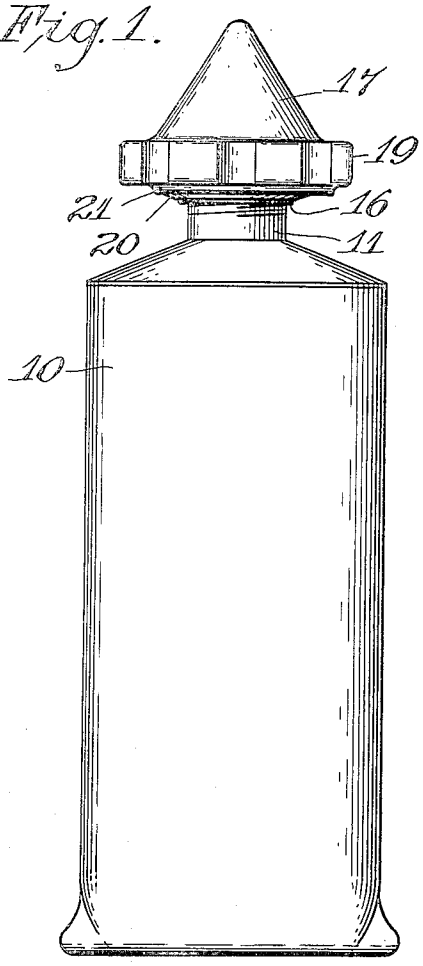

Fig. 2.

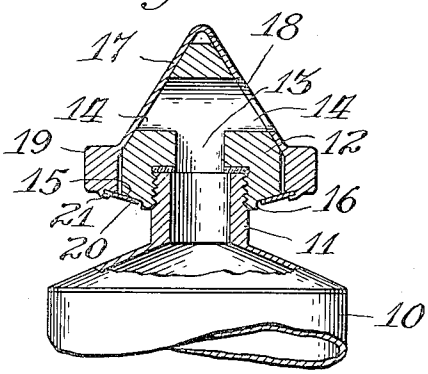

Fig. 5.

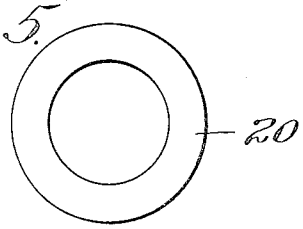

Fig. 6.

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UNITED STATES PATENT OFFICE

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CLOSURE FOR CONTAINERS

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Application July 21, 1933, Serial No. 681,454

5 Claims. (Cl. 221—60)

The present invention relates to stoppers or closures for small containers of paste or powder, and more particularly for the collapsible tubes used as containers for tooth pastes, shaving creams, etc.

The object of the invention is to provide an improved closure of the type which can be used to dispense the contents of a container without removal therefrom and used on successive tubes or containers in lieu of the screw cap ordinarily supplied therewith. The main purpose of the invention is to provide a construction that will afford a substantially air tight closure, except when opened, that will be easy to open and close, will not leak, and is easily kept clean.

These and other advantages, which will be evident from the description to follow, reside in the novel combination of parts and details of construction herein described and illustrated in the accompanying drawing, where:

Figure 1 is a view, on a somewhat enlarged scale, of a paste tube having the novel stopper or closure applied thereto;

Figure 2 is a vertical section through the closure seen in Figure 1;

Figure 3 is a top view of the complete stopper or closure;

Figure 4 is a top view of the head portion of the closure; and,

Figures 5 and 6 are plan and edge views, respectively, of the resilient member or annulus holding the two parts of the closure in position.

As illustrating one preferred embodiment of the invention, the novel stopper has been shown as applied to a collapsible tube 10 having a threaded outlet neck 11. The stopper or closure consists of a head portion 12 which is preferably cone-shaped, as shown, and formed with a screw-threaded opening in its base adapted to fit the threaded neck 11. The head 12 is formed with an axial discharge bore or opening 13 communicating with a transverse bore which provides two discharge openings 14 at opposite sides of the cone-shaped head and in eccentric relation to its axis. On its base or under side, the head 12 is formed with a circular shoulder 15 extending around the base of the head and having an angularly related wall or ledge 16 at its inner side formed by a slight downward extension of the screw-threaded portion of the base. The head 12 has rotatably mounted on it, a cone-shaped cap or cover 17 snugly fitted to the inclined portion of the head and formed with an outlet opening 18 positioned to register with either opening 14 in the head. The cap 15 is preferably thickened at its lower edge to provide a comparatively wide knurled flange 19 affording ample means for turning the cap on the head despite the close frictional contact between the cap and head.

In order to maintain a constant pressure of the cap and the head, such as will afford a practically air tight seat, and at the same time close the base of the stopper against leakage, a resilient ring or washer 20 is positioned between the lower edge of the cap 17 and the circular shoulder 15. The outer edge of this ring is preferably secured to the lower edge of the cap by crimping an integral lip 21 on the lower edge of the cap over the periphery of the ring. The upper surface of the inner portion of the resilient ring 20 bears frictionally on the shoulder 15 adjacent the ledge 16 and thus tends to hold the cap firmly on the head 12 at all times, while permitting rotation of the cap.

With the construction described, there is provided a stopper or closure which can be easily substituted for the common screw cap, or supplied as a permanent part of the tube. When once attached, it can remain until the contents of the tube are exhausted, as the two openings 14 in the head are alternately opened and closed by successive quarter turns of the cap in a clockwise direction. As the cap material is preferably thin, the opening 18 can be easily wiped free of material after rotation to closed position, and the manner of uniting the head and cap obviates bottom leakage and assures close contact of the cap and head. Repeated turns of the cap serve to screw the stopper all the more firmly on the tube.

The specific structure disclosed by way of illustration of the invention is capable of modification without departure from the scope of the invention as defined in the following claims.

What is claimed is:

1. A closure for paste or powder containers or the like, comprising a head having an eccentric discharge opening, a cap frictionally engaging the head and having an opening for registration with the opening in the head, and a resilient washer rotatably connecting the base portions of the cap and head and maintaining frictional engagement therebetween.

2. A closure for paste or powder containers or the like, comprising a head formed with a circular shoulder on its under side and having an eccentric discharge opening, a cap rotatably mounted on the head in frictional engagement therewith and having an opening for registration with

the opening in the head, the lower edge of the cap lying adjacent the circular shoulder, and a resilient washer having its periphery connected to said edge and its inner portion bearing on said shoulder.

3. A closure for paste or powder containers or the like, comprising a head formed with a circular shoulder on its under side and having an eccentric discharge opening, a cap rotatably mounted on the head in frictional engagement therewith and having an opening for registration with the opening in the head, the lower edge of the cap lying adjacent the circular shoulder, and a flat, resilient ring having its upper surface adjacent its inner edge bearing frictionally on said shoulder and having its outer edge secured to the lower edge of the cap.

4. A closure for paste or powder containers or the like, comprising a substantially cone-shaped head formed with a circular shoulder under its base and having a discharge opening in its side, a cone-shaped cap rotatably mounted on the head and having an opening adapted to register with the opening in the head, and a flattened metallic ring bearing resiliently against the circular shoulder and having its periphery secured to the lower edge of the cap.

5. A closure for paste or powder containers or the like, comprising a substantially cone-shaped head formed with a circular shoulder under its base and having a discharge opening in its side, a cone-shaped cap rotatably mounted on the head and having an opening adapted to register with the opening in the head, said cap having a knurled portion around its lower edge the under side of which lies adjacent the shoulder on the head, and a flattened metallic ring bearing resiliently against the circular shoulder and having its periphery secured to the under side of the knurled portion of the cap.

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