May 23, 1939. E. ISLER 2,159,161

CLOSURE FOR COLLAPSIBLE TUBES

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Fig. 1

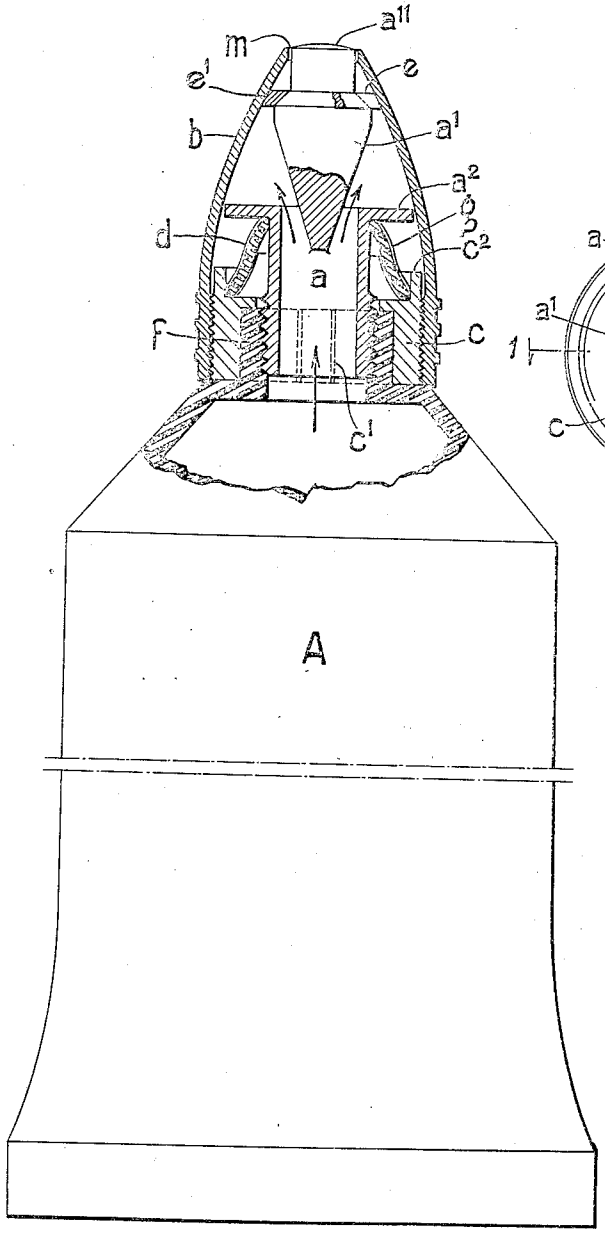
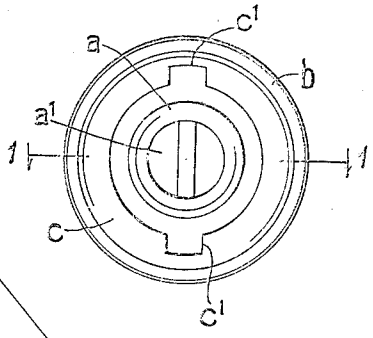


Fig. 2



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CLOSURE FOR COLLAPSIBLE TUBES

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2 Claims. (Cl. 221—60)

The present invention relates to closures for collapsible tubes, and more particularly to closures of the type in which a closure member is secured to the neck of the tube, and a closure cap placed over the closure member, a valve being further provided and arranged to be influenced by an elastic member, the movable valve member of this valve being arranged to be lifted from its seat on the closure member by displacement of the contents of the tube, when pressure is exerted upon the latter, in order to permit the desired amount of the contents to pass out through the cleared opening.

According to the invention the movable valve member is formed by the closure cap placed over the closure member, the latter being arranged to be firmly pressed, under the influence of the said elastic member, upon a seat provided at a fixed position on the closure member.

A constructional example of the invention is illustrated in the accompanying drawing in which

Figure 1 is an enlarged elevational view, partly in section, of a collapsible tube with the closure device, and

Figure 2 is a plan view from below of the closure.

Referring now to the drawing, A is the body of a tube, which is provided with an internally threaded neck *f*. The closure comprises an externally threaded carrier tube *a* adapted to be screwed into the neck *f* and provided with a head a^1 tapered in the form of a wedge at its lower end, and rigidly connected with this carrier tube, and a cap *b* placed over the head a^1 and screwed on to a sleeve *c* slidably mounted on the outer side of the neck *f*. In order to prevent rotation of this sleeve, it is provided with two oppositely disposed axial grooves c^1, (Figure 2) cooperating with corresponding projections of the outer surface of the neck *f*. The carrier tube *a* is provided with a flange a^2 at its upper end, and the sleeve *c* is provided with an internal shoulder c^2 near its upper end, a conical rubber buffer sleeve being arranged to be supported between the flange a^2 and the shoulder c^2, so as to press the sleeve *c* and the cap *b* screwed thereon in a downward direction. A piece *g* of tinfoil or the like is preferably wrapped round the buffer *d* for reliably preventing the content of the tube from getting into contact with the rubber. It will be evident that e. g. a coiled spring could also be provided instead of the rubber buffer *d*.

The head a^1 is formed with a flange-like disc projection *e* forming on its outer surface a conical valve seat e^1 co-operating with the inner surface of the cap *b*, and has a reduced upper portion a^{11} projecting into an end opening *m* of the cap *b* for the outlet of the contents of the tube A. When pressure is exerted upon the tube, the contents will pass through the threaded sleeve *a* and along the sides of the wedge shaped portion of the head a^1 until, upon reaching the sealing ring *e*, it will lift the cap *b* with the sleeve *c*, against the spring action of the sleeve *d*, from its valve seat on the disc *e*, thus permitting the contents to pass along the reduced portion a^{11} of the head a^1 towards the final outlet *m*.

When after discharging the desired amount, pressure upon the tube is released, the cap *b* will be returned by the action of the rubber buffer *d* so as to be applied again under light pressure on the ring seat *e*.

What I claim is:

1. A tube closure comprising a closure head, means for securing said closure head in a fixed position on the neck of a collapsible tube, a valve seat formed in connection with the outer surface of said closure head, a cap placed over said closure head and adapted to cooperate with said valve seat in forming a valve, a retaining sleeve slidably mounted on said neck, means for rigidly connecting said cap with said slidable sleeve, an abutment surface in rigid connection with said closure head, and an elastic member in form of a rubber sleeve arranged between said abutment surface and said retaining sleeve so as to bias the latter downwardly.

2. A tube closure as claimed in claim 1, further comprising means in the cap retaining sleeve for preventing rotation thereof relative to said neck.

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