

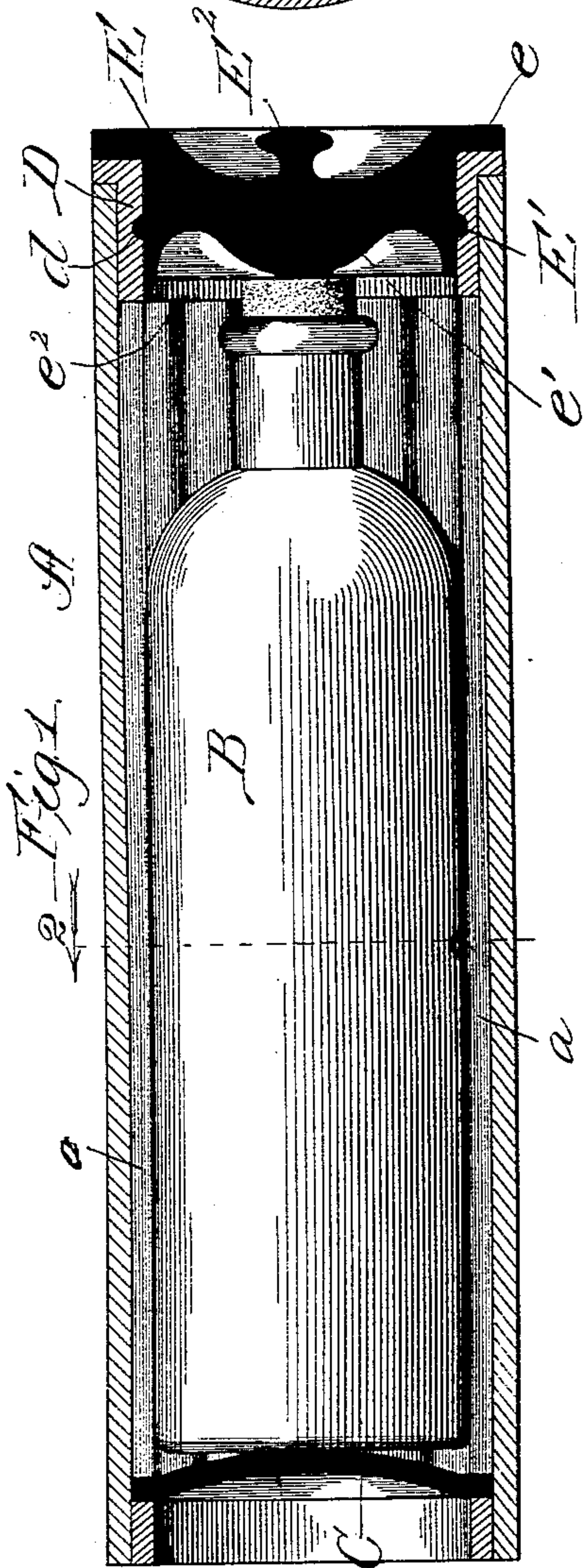
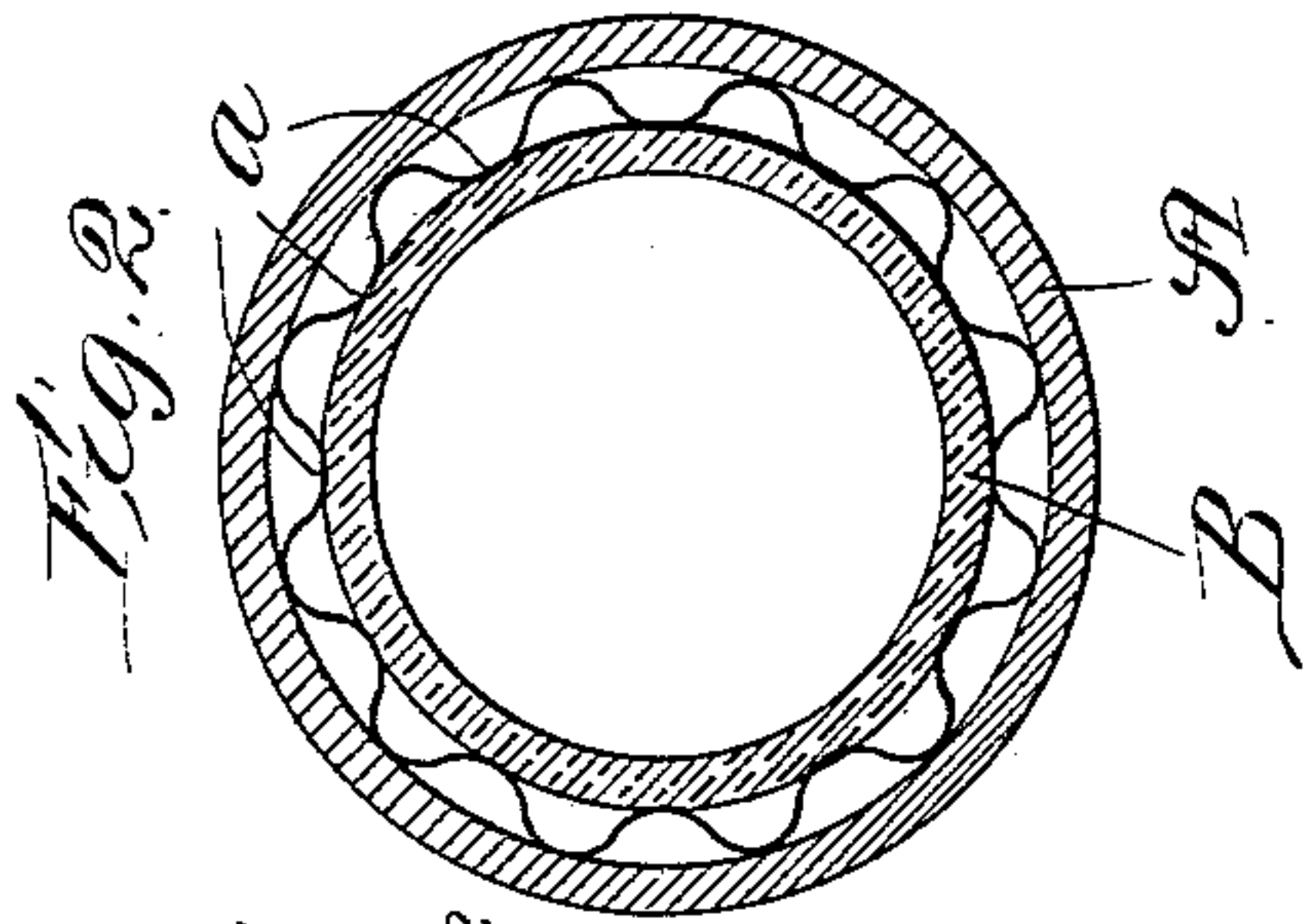
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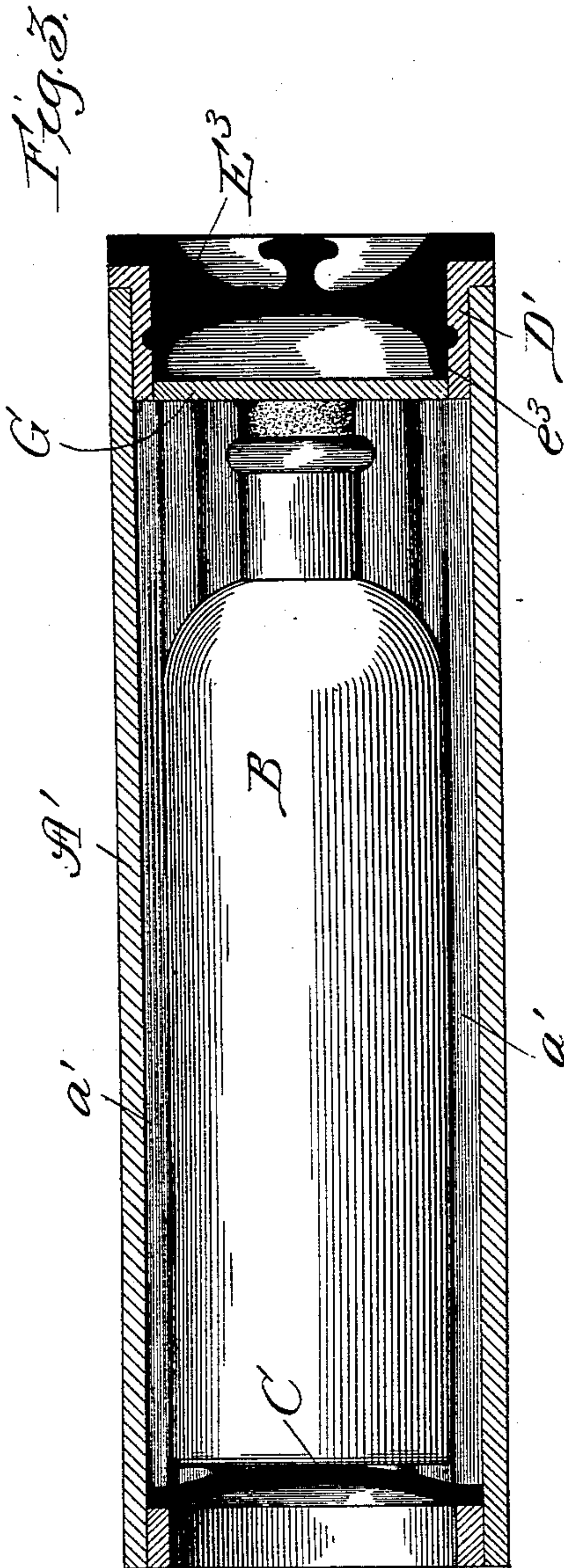
D. J. McKENZIE & W. MARTIN.  
MAILING OR SIMILAR RECEPTACLE.

No. 560,227.

Patented May 19, 1896.



Witnesses:  
E. S. Gaylord,  
S. L. J. Allen.



Inventors  
Dougal J. McKenzie,  
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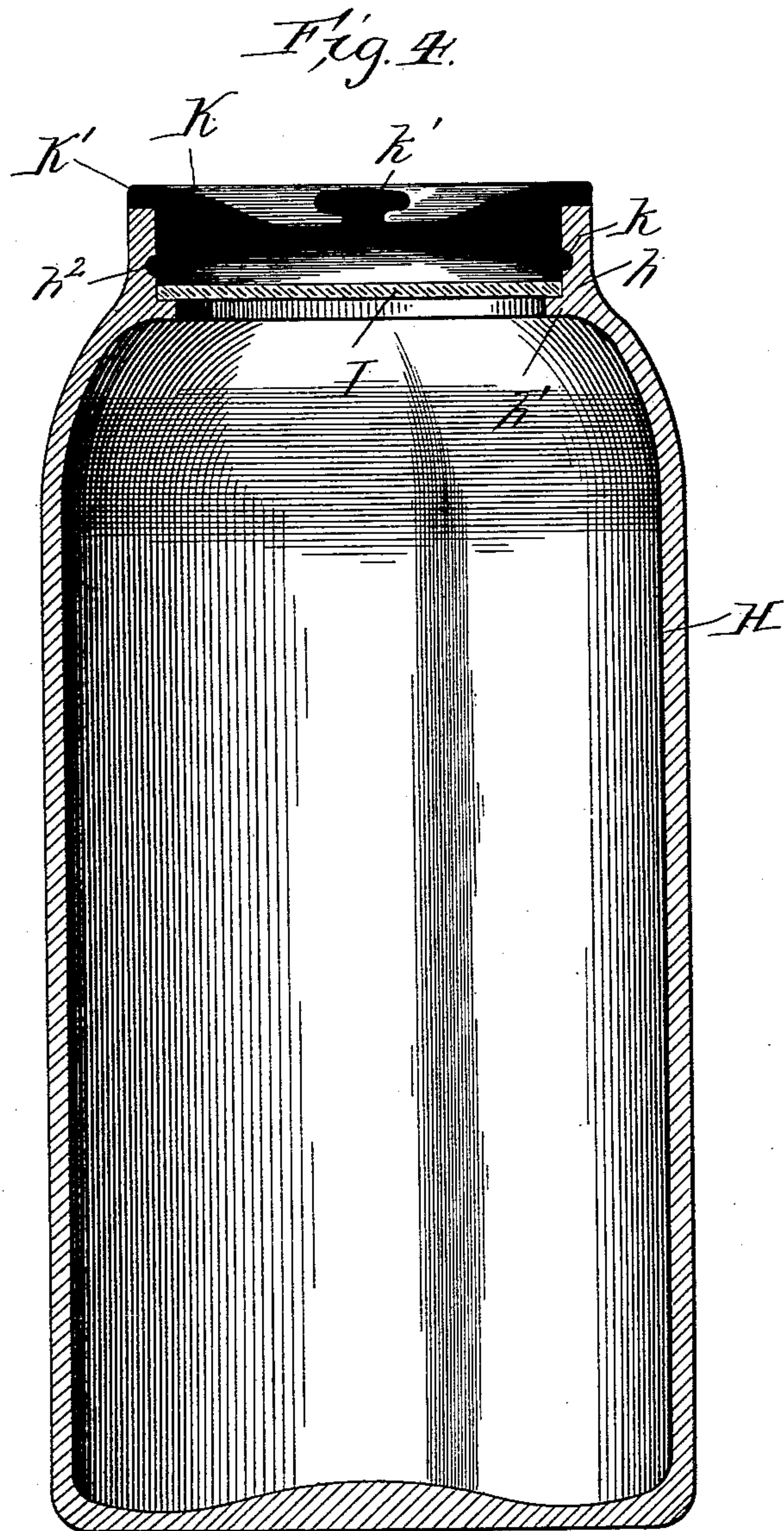
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# UNITED STATES PATENT OFFICE.

DOUGAL J. MCKENZIE AND WILLIAM MARTIN, OF CHICAGO, ILLINOIS.

## MAILING OR SIMILAR RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 560,227, dated May 19, 1896.

Application filed August 8, 1895. Serial No. 558,644. (No model.)

*To all whom it may concern:*

Be it known that we, DOUGAL J. MCKENZIE and WILLIAM MARTIN, citizens of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Mailing and Similar Receptacles, of which the following is a specification.

The principal object of our invention is to produce a simple, economical, and efficient tube for carrying bottles, frangible articles, &c., through the mails without injury to such articles and at the same time to permit an easy inspection of the contents of the package.

A further object of our invention is to provide a simple and efficient self-locking stopper adapted for use in various styles of packages, bottles, fruit-jars, and the like.

The invention therefore consists, principally, in providing a mailing-tube with an interior cushioned surface, an annular locking-groove, and combined therewith an elastic or pliable stopper which is provided with a circumferential ledge, lug, bead, or projections adapted to fit the locking-recess of the tube and prevent the easy withdrawal of the stopper.

The invention further consists in providing a tube, bottle, fruit-jar, or similar article with an interior annular locking recess or groove in the neck or opening of the package and combining therewith a stopper having a circumferential bead, lug, ledge, or projections adapted to fit the locking-recess of the package, the parts being so arranged that the stopper is easily inserted, but its withdrawal is more difficult, and especially designed to resist opening by internal pressure.

The invention finally consists of features and combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical section of one form of mailing-tube fitted with our improvements. Fig. 2 is a transverse sectional view taken on line 2 of Fig. 1. Fig. 3 is a mailing-tube fitted with a modified form of our improvements, and Fig. 4 is a fruit jar or can fitted with our improved automatic or self-locking stopper.

In constructing a mailing-tube fitted with our improvements a tube A is provided, which may be made of any suitable material, though paper is preferable for this purpose. The in-

terior of the tube is lined with a piece *a* of corrugated paper or strawboard, so that the bottle B may be readily inserted and held in place and at the same time kept from contact with the rigid walls of the tube. Instead of corrugated paper pieces of cork or similar cushioned substances may be provided and glued or otherwise affixed to the inner walls of the tube, so as to prevent the bottle or article from contacting with the rigid walls and protect it from injury during transmission or storage.

To permanently close one end of the tube, we provide a bottom piece C, preferably formed of rubber or similar substance and made in the form of an arch, so as to form a yielding end for the tube upon which the package may rest. This "bottom" portion, as we prefer to term it, is inset a short distance in the end of the tube, so as to be kept free from rigid contact with any adjoining article or package. The rubber may be rigidly secured to the end of the tube in any convenient manner well known to manufacturers and persons skilled in this particular art. To close the other end of the tube so as to permit an easy and ready inspection of the interior, we provide what we term the "upper" portion of the tube with a vulcanized hard-rubber end piece D, rigidly affixed to the tube proper. This end piece is provided with an annular locking-groove *d* for the purpose of removably locking or holding the cork or stopper in place. A stopper E, formed of elastic or pliable material, preferably rubber, is provided, which has a flanged head portion *e* and its circumference provided with a circumferential lug, bead, or ledge *E'*, adapted to fit the locking-recess in the interior of the tube.

The form of the stopper shown in Fig. 1 is provided with an inverted-dome-shaped interior portion *e'*, against which one end of the bottle may impinge, so that during the shipping or transmission of the entire package should the bottle strike hard against the dome-shaped portion it would act to more securely lock the stopper in place. Examining the stopper E carefully it will be seen that it is what might be called an "annular" groove *e''*, opposite the beaded portion. This is for the purpose of giving more flexibility to the stopper, so that during the insertion of such



stopper it will yield readily or become pliable, so that it may readily slip into locking position. The inner dome being inverted, if internal pressure be exerted against it it tends to straighten out into a flat plane and force the bead, lug, or "locking-ledge," as it might be termed, more securely into locking engagement with the groove in the neck of package. The stopper is further provided with a button  $E^2$  for the purpose of enabling a person to grasp the same and assist in the withdrawal of the stopper from the package. This self-locking of the stopper and the making of it in such manner that internal pressure more securely locks it in position is a very important advantage for the reason that there is less liability for disturbance of package and leakage of the contents due to shocks which are apt to occur during transmission or shipment.

By the use of a hard-rubber interior end piece and a comparatively soft rubber or flexible stopper a hermetical seal is also provided, so that should the package, through accident or otherwise, become broken the contents would not spill or leak into the mail-pouch to destroy other articles during shipment. This is an important advantage, in that it complies with the postal regulations governing the transmission of frangible articles or deleterious liquid and compounds through the mail.

In Fig. 3 we have shown a modification of our improvements, in which the tube  $A'$  is made substantially the same as in Fig. 1 and lined, as in such previous figure, with a cushioned lining  $a'$ . The end piece  $D'$  is also similar in construction to the end piece shown in Fig. 1. For the purpose of preventing the easy removal of the stopper  $E^3$  by internal pressure a rigid disk  $G$  is inserted beneath the stopper and above the article stored therein, so that during transmission or shipment of the package the shocks that are consequent thereto are imparted to the extreme edges  $e^3$  of the stopper and tend to tighten the same rather than to remove it. The transmission of force being practically in a straight line the bead or locking-lug would practically have to be destroyed before the stopper could be removed. In this figure the stopper is made almost identical with the stopper shown in Fig. 1, with the exception that the inverted dome is left off and the inner side curved upward to provide flexible lower ends.

In Fig. 4 we have shown our improved stopper as applied to an ordinary fruit-can for the purpose of sealing the same during the storage or transmission of the can. In constructing a fruit-can with our improvement we make the body portion  $H$  of the can proper of any desired shape or size provided with a neck portion  $h$ . The neck portion is provided with an opening for the purpose of filling the can or removing the contents, in the interior of which is a circumferential ledge  $h'$  and a locking-recess  $h^2$ . Resting upon

this ledge is a rigid disk  $I$ , preferably made of glass or similar substance, so that the interior contents will not be affected or injured by contact therewith. A stopper  $K$  is provided of substantially the same shape as the one illustrated in Fig. 3. The circumference of the stopper is provided with a circumferential locking lug or bead  $k$ , adapted to fit the locking-recess of the neck and hold the stopper in place. The stopper is also provided with a flanged head portion  $K'$  to limit the insertion of the stopper and protect the frangible edges of the can, and with a button  $k'$  for the purpose of assisting in the insertion and withdrawal of the stopper.

In use the can is filled with fruits or such other substance as may be desired, the rigid disk put in place, and the stopper inserted. Fermentation of the material or interior pressure of gas or shocks are all imparted directly to the rigid disk and thence to the extreme edges of the stopper and act to lock the same or make the removal of the stopper difficult. The stopper, however, can be readily removed from the outside by either grasping the button with the thumb and finger or passing a string around the same, as during such removal from the outside the lower edges of the stopper tend to come together and permit the easy unlocking of the lug or bead.

While we have described our improvement more or less minutely as regards details, as being embodied in more or less precise forms and as adapted to certain uses, we do not desire to be limited thereby unduly any more than is pointed out in our claims. On the contrary we contemplate all proper uses, changes in form, construction, and arrangement, the omission of immaterial parts and substitution of equivalents as circumstances may suggest or necessity render expedient.

We claim—

1. In combination with a tube or similar article provided with an interior cushioned surface, an annular locking-groove and a closed end, and an elastic or pliable stopper provided with a flanged head portion extending over the end of the package, a circumferential lug, bead or projection adapted to fit the inner locking-recess of the tube and prevent the easy withdrawal of stopper, substantially as described.

2. In combination with a package having a filling-opening and provided with a ledge and interior annular locking groove or recess, a rigid disk adapted to rest on the ledge portion to communicate the force of internal pressure to the circumference of the stopper, an elastic or pliable stopper provided with a flanged head and circumferential bead or lug adapted to fit the annular locking-recess of the package and prevent the easy withdrawal of the stopper, substantially as described.

3. In combination with a package containing a filling-opening and provided with an interior annular locking-recess, and an elastic or pliable stopper provided with a flanged



head portion extending over the end of the  
package a circumferential lug or bead adapt-  
ed to fit the annular locking-recess of pack-  
age and an inverted-dome-shaped portion to  
5 prevent easy withdrawal of the stopper by  
internal pressure, substantially as described.

4. In a mailing-tube or similar article, the  
combination of a body portion provided with  
interior cushioned surface, an annular lock-  
10 ing recess or groove, flexible bottom portion  
substantially dome-shaped, and an elastic or

pliable stopper provided with a flanged head  
portion extending over the end of the package  
and a circumferential lug or bead adapted to  
fit the annular locking-groove of the body to 15  
prevent the easy withdrawal of stopper, sub-  
stantially as described.

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