

(No Model.)

C. W. LOVELL.
MAILING BOX.

No. 597,726.

Patented Jan. 25, 1898.

Fig. 1

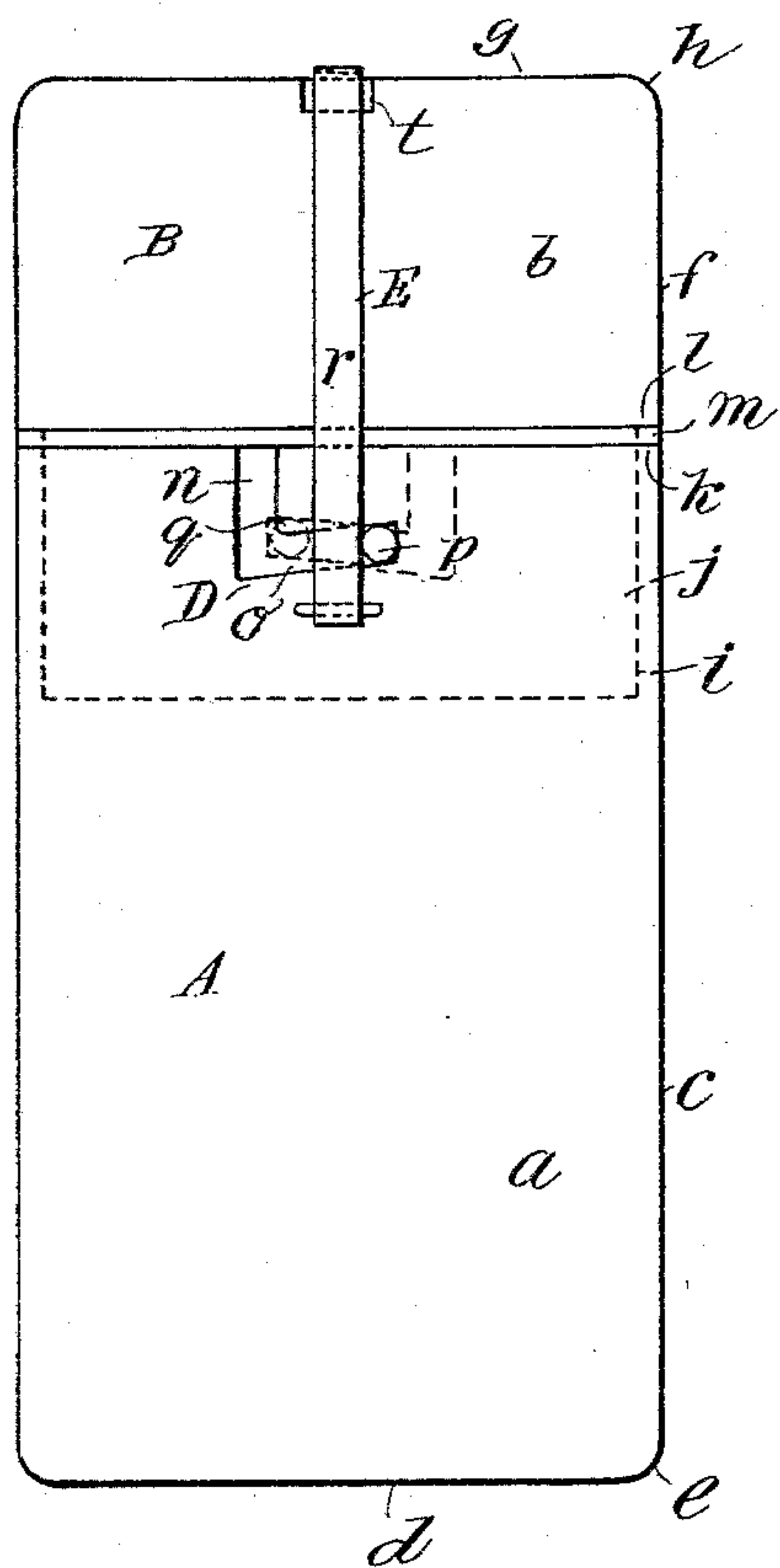
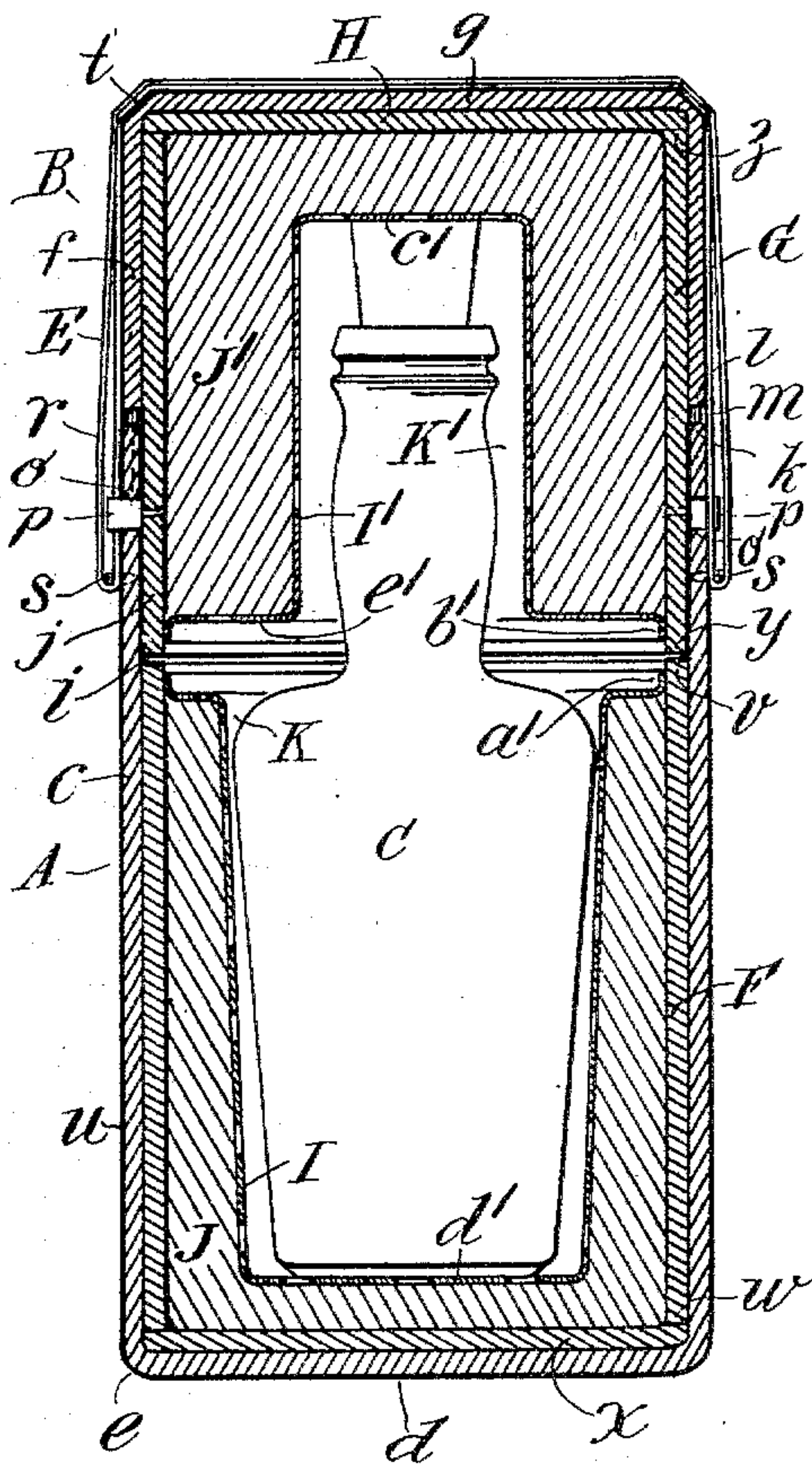


Fig. 2



WITNESSES:

Gus. Kermerfelt
Thomas F. Wallace

INVENTOR:

Charles William Lovell

UNITED STATES PATENT OFFICE.

CHARLES WILLIAM LOVELL, OF BROOKLYN, NEW YORK, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO FRED WHITE, OF NEW YORK, N. Y.

MAILING-BOX.

SPECIFICATION forming part of Letters Patent No. 597,726, dated January 25, 1898.

Application filed January 13, 1896. Serial No. 575,206. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILLIAM LOVELL, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Mailing-Boxes and other Receptacles, of which the following is a specification.

This invention relates to boxes and receptacles, and especially to boxes for packing bottled liquids and other articles for safe shipment through the mails and for like purposes.

The invention aims to provide improvements which are especially applicable to boxes for mailing liquids in bottles and aims to provide a box sufficiently strong to protect a fragile bottle against breakage, sufficiently tight to prevent leakage of the contents of the bottle in case of accident, and a box which shall be cheap and light of construction and easy of manipulation.

In carrying out the invention in its preferred form the box is made internally absorbent and externally impervious to moisture, the cover makes a leak-tight joint with the body, an improved separable connection is provided for fastening the cover and body together, and a cushioning and absorbent material is disposed in the spaces between the inner walls of the box and the vessel it carries. Other features of improvement are also provided.

In the accompanying drawings, which show the preferred form of my invention, Figure 1 is a side elevation of a mailing-box embodying my improvements; and Fig. 2 is a vertical axial section thereof, the bottle or other liquid-holding vessel being shown therein in elevation.

Referring to the drawings, let A indicate the body of a box, B the cover thereof, and C the bottle or other vessel packed therein. The exterior *a* of the body is preferably impervious to moisture. The exterior *b* of the cover is likewise impervious, these external surfaces being continuous and uninterrupted around the sides and ends of the body and cover. The body is a cylindrical cup-shaped member having side walls *c* and bottom walls *d*, united by a curve *e*. The cover is also cup-shaped, having cylindrical side walls *f* and

flat top *g*, united by a curve *h* with the side walls. The cover and body fit together, the joint being preferably effected by providing a socket *i* in the body, which receives a cylindrical neck *j* on the cover. The top edge *k* of the body is opposed to the bottom edge *l* of the outer wall of the cover, and between these edges is a thin ring *m*, of rubber or other suitable packing or expansive material, which may be slightly compressed as the cover is seated on the body, so that, if desired, there may be a tendency for slight separation of the body and cover.

A fastening or clasp D for holding the cover on the body is provided, and an additional fastening or catch E for insuring against their separation is also preferably employed. The fastening D is best constructed as a bayonet-joint or L-shaped socket, recess, or groove with a vertical leg *n* and a transverse and slightly outwardly undercut or other suitable portion, as the inclined leg *o*, which groove is formed in, on, or near one of the parts of the box, as the wall *c* of the body, and is reciprocal to a projection or other suitable provision, as the stud *p*, carried on or by the other of the parts of the box, as the neck *j* of the cover. The studs *p* and grooves *n o* are shown as duplicated at diametrically opposite sides of the box, and when the cover is passed into the box with its studs in the vertical grooves and pushed inwardly until its studs are opposite the transverse groove *o*, the packing *m* must be slightly compressed before the studs can pass below the downwardly-projecting corners *q* of the grooves, as these corners are slightly below the remainder of the transverse portion of the grooves. When the studs are below these corners, a slight relative rotation of the box and cover will suffice to bring the studs into the inner ends or holding portions of the grooves, where the expansive tendency of the packing *m* will assist in holding them. The fastening E serves as an elastic catch, holding the clasp D from accidental loosening, and as shown is a band, preferably an elastic endless rubber strap *r*, the bends in which are fixed to the body A in any suitable manner, as by means of the staples *s*, which are driven into the side walls *c* of the box. This strap is stretched up over

the cover, passing across the top of the latter. For holding it the cover has notches or equivalent provisions *t* on its upper corners. The strap is disposed slightly at one side of the studs *p* and of the end of the part *o* of the grooves, so that when the stud is home in the grooves the strap will lie at rear of the stud when it is moved in position, and will thus prevent any loosening movement of the stud in the groove, as shown in Fig. 1.

The joint between the box and cover is made leak-tight also by coating the inner face of the socket *i* and the outer face of the neck *j* with paraffin or other suitable sealing material of sufficient softness to permit the neck to be passed into the body and removed therefrom without too great resistance.

The outer portion of the body and of the cover may be made of any suitable material, but I prefer to mold these parts of papier-mâché or other light fibrous material of sufficient strength, which may be rendered impervious to moisture in any suitable manner, as by applying a coating *u* of impervious material to its outer walls.

I prefer to provide immediately within the body a cylinder *F*, of strawboard, paper, or other sufficiently stiff material, which cylinder, if made of strawboard, will have the advantage of being highly absorbent of moisture and of swelling when moistened. This cylinder is a close fit with the inner sides of the walls *c* of the box, and is preferably shorter than these walls, having its upper edge *v* at the bottom of the socket or mouth *i* of the box and its lower edge *w* near the bottom wall *d* of the box. Between this edge and the bottom wall I prefer to locate a flat disk *x*, of strawboard or other suitable absorbent or strengthening material, which reinforces the sides of the body against diametric strains, strengthens the bottom wall *d*, and acts as an end absorbent for moisture. The interior of the cover is similarly constructed, having a like cylinder *G*, which, however, is longer than the side walls of the cover and has its lower end *y* projecting a considerable distance beyond the face *l* of the cover. From this face outwardly the cylinder *G* serves as the neck for the cover. When in position on the body, the neck lies with its end *y* in close proximity to the end *v* of the cylinder *F*, and when the cylinders are swollen by moisture these end faces immediately are forced together and make a tight joint. The upper end of the cylinder *G* terminates at *z*, slightly below the top *g* of the cover, and between this end and top there is inserted a strawboard or other disk *H*, which serves the same purpose for the cover as does the disk *x* for the body.

The box is preferably somewhat larger internally than the vessel to be packed in it, and its internal space is utilized for the reception of absorbent and cushioning material. This material may be of any suitable or desired character and is disposed within

the box as desired. I prefer to use cotton fiber of the greatest absorbent quality, and to arrange this so that it will be held in position to leave a socket for the bottle or other vessel substantially conforming to the shape of the latter. This socket is formed partially in the box and partially in the cover and the space between it and the walls is filled with absorbent material.

Preferably a perforated bibulous paper *I* is fastened within the box in the shape desired for the socket in the body portion, and cotton *J* is filled in to the desired quantity between this paper and the walls of the body. This paper is pasted at its upper edge *a'* to the cylinder *F*, near the end *v* thereof. In the cover a similar bibulous paper *I'* is employed pasted at its lower edge at *B'* to the lower edge of the cylinder *G*, and between this paper and the walls the desired quantity of cotton *J'* is inserted. Preferably the division between the body and cover is made at some prominent or large part of the vessel to be packed. In the example shown the division is at the junction of the neck and body of the bottle *C*, so that the bottle-body is carried in the body of the box and the neck in the cover of the box. The socket *K* in the body is accordingly shaped to substantially fit the bottle-body, while the socket *K'* in the cover is contracted to substantially fit the neck. The upper face *c'* of the wall *I'* will bear on the cork of the bottle, the lower face *d'* of the wall *I* will receive the bottom of the bottle, and the face *e'* of the wall *I'* will be over the neck or shoulder of the body of the bottle, so that the latter will be firmly embraced by the interior of the box, but will be held by the yielding inner lining thereof, so that the shocks to which the box is subjected will be cushioned before reaching the bottle. If a bottle should break or leak, the fluid flowing from it will be immediately drawn by capillary action into the absorbent cotton, which of itself will best be proportioned in quantity to an amount sufficient to entirely absorb the contents of liquid held by the vessel to be packed in the box. From this cotton the moisture will be communicated in part to the absorbent cylinders *F* and *G* and the top *H* and bottom *x*, and these will be immediately expanded against each other and against the inner walls of the body and cover with sufficient force to make leak-tight joints at their junctions. Should any moisture permeate through the cylinders, the impermeable outer walls will prevent external dampness. The paraffin between the socket *i* and neck *j* and the packing-ring *m* will prevent any leakage prior to complete absorption of the liquid escaping from the bottle.

In use the bottle will be first placed in the body, whereupon the cover *B* will be applied to the latter, pressed home, and then fastened in position. In the construction shown the rubber band *r* will be turned down to the side until the cover has been passed inwardly and

turned until its studs are home in the grooves. Then the rubber band will be stretched up over the top, snapped into its grooves *t*, and seated in rear of the studs *p*, so that they cannot turn backward. The box can then be shipped by mail, express, or otherwise without danger of accidental opening. To open it, the band *r* should first be freed from the cover, when the latter can be pressed inwardly and turned to bring its studs *p* into the upright legs of the grooves, whereupon it can be drawn out. In many instances the fastening D or the fastening E can be alone relied on; but I prefer to employ both for the greatest security.

It will be seen that my invention provides improvements which can be readily and advantageously availed of, and it will be understood that the invention is not limited to the particular details of construction, arrangement, or combination set forth and shown as constituting the preferred form of the invention, but that it can be employed, in whole or in part, according to such modifications as circumstances or the judgment of those skilled in the art may dictate without departing from the spirit of the invention.

The shape of the box can be varied to adapt it to the shape of the bottle or other vessel to be packed, and the construction of the inner casing and the arrangement of the absorbent material can be modified to suit the shape of the box and the requirements of use.

By making the fastening between the cover and body an undercut fastening, so that the holding portions of the recess and projection when in engagement in the fastened position require a preliminary releasing operation before they can be disengaged to permit the separation of the cover, great security is attained against accidental opening of the box. Any construction of recess and projection can be employed and any means for catching the fastening against accidental displacement can be employed. In the construction shown the catch E is utilized for this purpose, and in addition the tendency of the box and cover to separate is also utilized. In this construction several portions of the box incidentally contribute to produce this separable tendency.

The elastic packing between the cover and body, no matter where placed, may be compressed as the fastening is passing to the holding position, so that its expansion will tend to resist movement of the parts when they have reached the holding position, as such movement would necessitate a slight compression of this packing. In case of wetting the expansion of the inner tubes draws the fastening into tighter engagement. The compression of the fibrous material J and J' between the ends of the bottle and the adjacent ends of the box and cover also tends to separate the latter and add to the resistance to be overcome in moving the cover inwardly until

the projection can pass from the holding portion of the recess it enters.

The catch E shown is only one of many suitable means for locking the fastening, any of which can be used. It serves as an elastic catch or resister, acting against the projection to prevent or resist its movement from the holding position and capable of being sprung out of the path of the projection to permit movement of the latter.

What I claim is—

1. In mailing-boxes and the like, a body and a cover therefor, said body having an internal socket for receiving a bottle or other liquid-holding vessel, said socket of less size than the interior of said body, and of a size and shape substantially fitting the vessel to be received therein, and said body having within its interior between said socket and its walls, a mass of absorbent fibrous material conforming in shape on its exterior to the inner walls of said body, and on its interior to said socket, filling the space between said body and socket, and having an absorbent capacity substantially sufficient to absorb the liquid contents of any vessel fitting said socket, whereby in case of breakage of a vessel within said body the liquid contents of the vessel will be absorbed by said material and thus leakage will be prevented and a transverse reinforcing-disk carried at the end of said body and reinforcing the latter, whereby the strength of the box is maintained while its size is greater than that of the vessel to be carried in it.

2. In mailing-boxes and the like, a cup-shaped body, in combination with a cup-shaped cover fitting thereon, said body and cover having hollow interiors each formed with a socket reciprocal to the socket in the other, said sockets adapted the one to receive and fit one end and the adjacent sides of a bottle or other liquid-holding vessel, and the other to receive and fit the other end and the remaining portion of such bottle or vessel, and said body and cover each having between their inner side and end walls and said sockets a mass of fibrous absorbent material surrounding said sockets, said material adapted to absorb the contents of the vessel fitting said sockets, whereby in case of breakage leakage from the box will be prevented and transverse reinforcing-disks at the closed ends of said body and cover reinforcing said parts, whereby the strength of the box is maintained while its size is greater than that of the vessel fitting it.

3. In mailing-boxes and the like, a hollow body having an interior of greater size than a liquid-holding bottle or vessel to be packed in the box, having an internal socket adapted to receive and fit the sides and end of such vessel, and of less width and depth than the interior of said body, and a continuous and homogeneous mass of absorbent material fixed within said body and filling the interior

of the latter between the sides and end of said socket.

4. In mailing-boxes and the like, a body having a hollow interior of greater size than the article to be packed in the box, and having an internal socket receiving and substantially fitting such article, in combination with a porous wall, within said body, for said socket, embracing the article within the latter, and an open fibrous material surrounding said wall and filling the space between the latter and the walls of said body, whereby in case of breakage of said article the contents thereof can flow through said wall and into said material.

5. In mailing-boxes and the like, a cup-shaped body and a cup-shaped cover therefor, in combination with an inner wall for the box consisting of a transversely-divided tube, one member thereof fitting within the interior of said body and of a length differing from the depth thereof, and the other member fitting within the interior of said cover and of a length differing from the depth thereof, the members of said tube when said body and cover are in position abutting at a point remote from the point of engagement of said body and cover, and said body and cover respectively having sockets communicating with each other for fitting the article to be packed in the box, and having cushioning material between said sockets and the walls of said tube.

6. In mailing-boxes and the like, a body consisting of an outer cup-shaped member of molded papier-mâché impervious to moisture, and an inner wall fitting said member and consisting of a strawboard and expansive tube, and a cover fitting and attached to said body opposite the end of said tube, said body having within said tube a socket for receiving a liquid-holding bottle or vessel, whereby in case of breakage said absorbent tube by longitudinal expansion reacts against said cover and body and makes a tight joint therewith.

7. In mailing-boxes and the like, a cup-shaped body and a cup-shaped cover, each cylindrical and of like diameter, and each consisting of molded material impervious to moisture, in combination with a cylindrical strawboard tube divided intermediate of its ends into two members, the one fitting and fixed within the interior of said body, and the other fitting and fixed within the interior of said cover, said tube members of a length differing from the depth of said body and cover, and when the body and cover are attached together disposed with their ends in proximity within the body, strawboard disks within said body and cover between the ends of said tube members and the end walls of said body and cover, a socket within said body for receiving the vessel to be packed in the box, and yielding material within said body and cover filling the space between said socket and the walls of said tube members

and disks, and means fastening said cover and body together.

8. In mailing-boxes and the like, male and female body and cover portions interengaging and fitting together, in combination with a catch holding said parts together, and an elastic fastening-band fixed to one of said members, engaging said catch when the latter is in the locking position and passing over the end of the other of said members to prevent separation thereof.

9. In mailing-boxes and the like, male and female body and cover sections fitting together, in combination with a catch locking said parts together, and a flexible band connected to one of said parts engaging said catch when the latter is in the locking position, and passing over the other of said parts and preventing release of said catch.

10. In mailing-boxes and the like, a cup-shaped body and a cup-shaped cover, in combination with a strawboard tube fitting and fixed within one of said parts, projecting beyond the open end thereof, and fitting at its projecting end into the other of said parts, said tube having a yielding leak-proof coating on its outer face between the end of the part carrying it and the end of its projecting portion, whereby when the projecting end is forced within the member receiving it, a leak-tight joint between the cover and the body is made.

11. In boxes and the like, a body A having an inner socket K, a porous wall I, an absorbent material J, an absorbent wall F, and outer walls c and d.

12. In mailing-boxes and the like, a hollow body, a cover therefor, and fastening provisions holding said body and cover together, in combination with a separate elastic catch springing into locking engagement with said fastening provisions as the latter reach the position for fastening the cover to the body, auxiliary to and resisting disengagement of said fastening provisions, whereby accidental freeing of the cover is prevented, and first said catch and then said fastening must be operated to free it.

13. In mailing-boxes and the like, a hollow body and a cover therefor, in combination with fastening provisions for holding said parts together, consisting of a recess on the one part and a projection entering said recess and carried by the other part, and a distinct elastic catch carried by one of said parts springing behind and normally engaging said projection when in said recess, and resisting escape of said projection therefrom, and movable to disengage said projection and permit its withdrawal from said recess.

14. In mailing-boxes and the like, a hollow body and a cover therefor, in combination with fastening provisions between said parts consisting of an undercut recess carried by one of said parts, and a projection carried by the other of said parts entering said recess and when in the holding position engaging

the undercut portion thereof, and a separate elastic catch behind and engaging the rear of and resisting movement of said projection from the undercut portion of said recess, whereby accidental freeing of said fastening is resisted.

15. In mailing-boxes and the like, a body and a cover, in combination with fastening provisions between said parts consisting of a substantially L-shaped recess on the one part and a projection on the other part entering said recess, and moving to a holding position

therein, and a separate catch crossing said recess and resisting movement of said projection from said position, whereby accidental separation of the cover is prevented.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES WILLIAM LOVELL.

Witnesses:

GEORGE H. FRASER,
THOMAS F. WALLACE.