No. 882,522. PATENTED MAR. 17, 1908.

J. C. KIMSEY.

PAPER BOX OR CONTAINER.

APPLICATION FILED MAR. 17, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

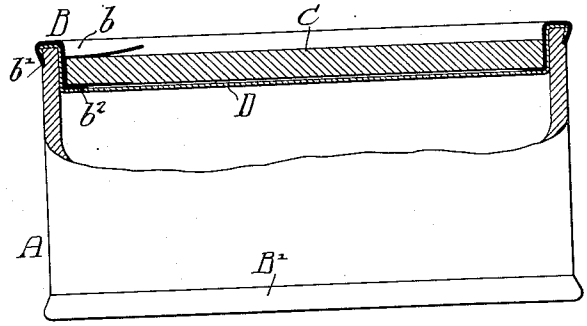


Fig. 5.

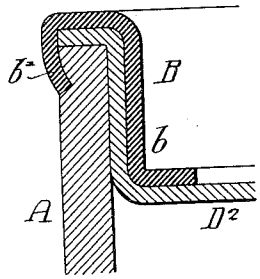


Fig. 6.

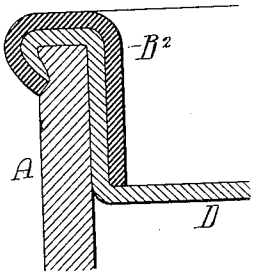
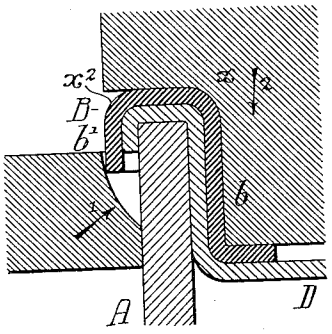


Fig. 7.



Witnesses:

Hamilton D. Turner

Augustus R. Coppes

Inventor.

James C. Kimsey.

by his Attorneys,

Howson & Howson

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2 SHEETS—SHEET 2.

Fig. 2.

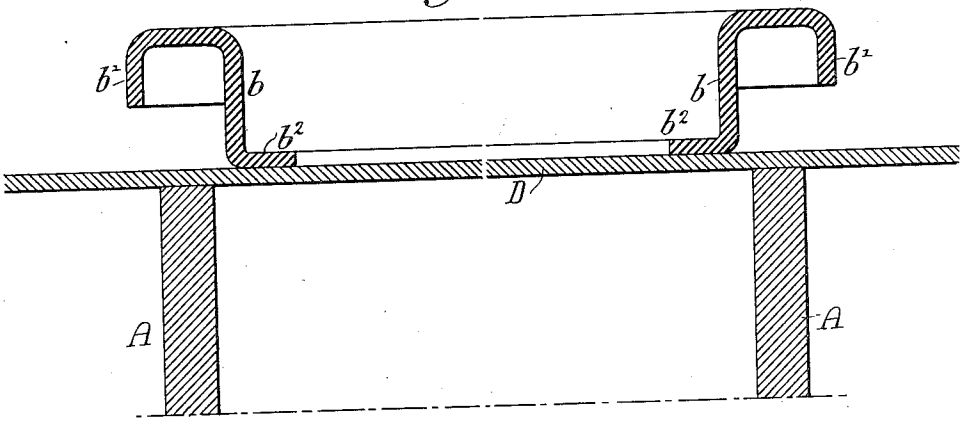


Fig. 3.

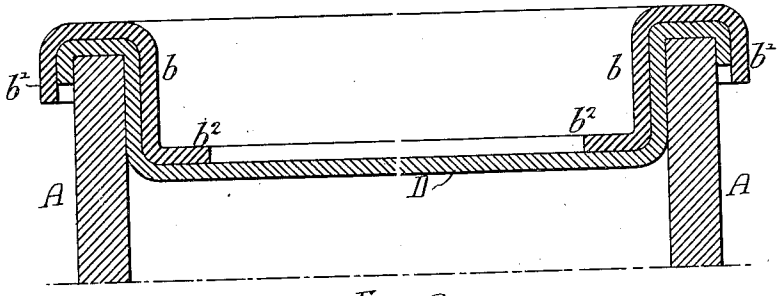
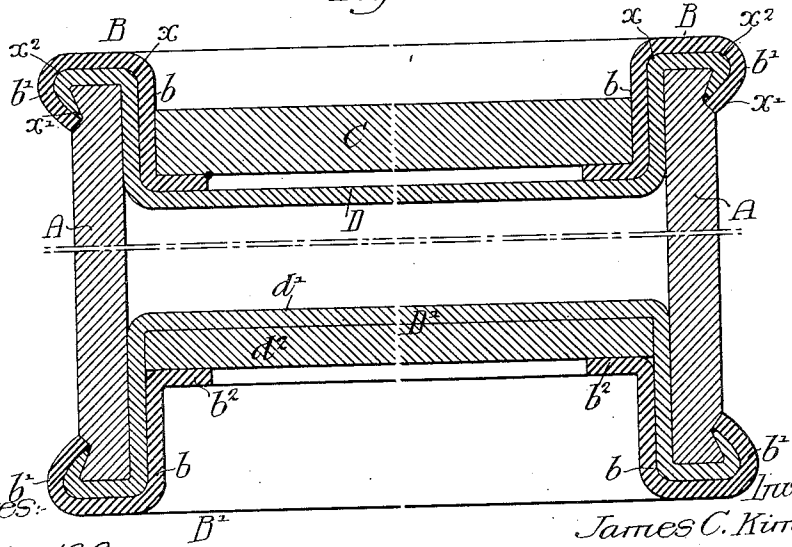


Fig. 4.



Witnesses:-
Augustus B. Coppes
Hamilton D. Turner

Inventor.-
James C. Kimsey.
by his Attorneys.
Howson & Howson

UNITED STATES PATENT OFFICE.

JAMES C. KIMSEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO AMERICAN PAPER BOTTLE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

PAPER BOX OR CONTAINER.

No. 882,522. Specification of Letters Patent. Patented March 17, 1908.

Original application filed October 8, 1904, Serial No. 227,677. Divided and this application filed March 17, 1906. Serial No. 306,669.

To all whom it may concern:

Be it known that I, JAMES C. KIMSEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Paper Boxes or Containers, (being a division of my application filed October 8, 1904, under Serial No. 227,677,) of which the following is a specification.

My invention relates to certain improvements in paper boxes or containers in which a metallic ring is used to secure the head or closure to the body of the box.

The present application is a division of an application filed by me on the 8th day of October 1904, Serial Number 227,677.

The object of my invention is to provide an effective means for firmly attaching a paper head or closure to the paper body of the box. This object I attain in the following manner, reference being had to the accompanying drawings, in which:—

Figure 1, is a side view, partly in section, of a box illustrating my invention; Figs. 2, 3 and 4, are views showing different steps in securing the head or closure to the body of the box, the figures being enlarged to more clearly illustrate my invention; Figs. 5 and 6, are views of modifications of my invention; and Fig. 7, is a diagram view showing the method of attaching the ring and head to the body portion.

A is the body of the box made in the present instance from a single sheet of paper rolled on a suitable form and pasted so that the laps are firmly secured together, forming usually a three-ply body, but the number of plys or thicknesses of paper will depend upon the size of the box and for what use it is intended. The body is usually cut from a long tube, the cut making the sharp corners illustrated in the drawings.

B is a metallic ring for securing the head to the box, this ring has a straight inner flange b and a shorter outer flange b', the end of the inner flange is turned inwards to form a supporting and stiffening member b^2.

D is the head or closure of the box made of comparatively thin paper, celluloid or other suitable material which can be readily flanged without breaking when being applied to the body of the box.

C is a supplementary cover for closing the box when the head D is broken, and also acts as a support for the fragile head when thin paper is used, both against pressure of the contents of the box and against outside pressure.

The ring B, head D and cover C usually form the top or cover section of the box. The head D′ of the bottom is secured to the body A by a ring B′ similar to the ring B and is clenched in the same manner, but in place of providing the detachable support C, I preferably make the bottom head in two sections. By this means one section d' can be made of thin and pliable paper, while the other section d^2 can be made of thin cardboard if necessary. The ring B′ secures both sections in place, as clearly illustrated in Fig. 4, the heavier section being mounted between the member b^2 of the ring and the section d'.

In assembling the box I first make the body portion in the manner set forth, the body being plain without ribs or flanges at either end, as shown in Fig. 3. The bottom head D′ is placed in position, the thin portion overlapping the end of the body. The ring B′ is then applied, forcing the head into the box and forming a flange on the head between the inner flange b of the ring and the inner surface of the body, the outer edge of the head lapping over the end of the body and clamped thereto by the outer flange of the ring B′ which is embedded in the outer wall of the body, as shown in Fig. 4. After the box is filled the top head D is placed in position, as shown in Fig. 2, its edge overlapping the end of the body A, the ring B is then applied forcing the head D into the box, as shown in Fig. 4, forming a flange on the head which is held between the inner flange b of the ring and the inner surface of the body A, while a portion of the head D extends over the end of the body and laps onto the outer surface, as shown in said Fig. 3, inside the outer flange b' of the ring which, when crimped and embedded in the body as illustrated in Fig. 4, firmly holds the head to the body and makes an air tight seal not only at the corner x but at x', as the pressure to embed the flange b' is in the direction of the arrows 1 and 2, Fig. 7.

By making the outer flange less in depth than the inner flange I am enabled to crimp

the outer flange so as to force it into the body of the box on a diagonal line, as indicated by arrow 1, Fig. 7, the top and inner edge of the ring acting as supports for the body, thus a tight joint at the corner x is secured, as well as at the points x' and x^2.

After the ring has been attached by embedding its outer flange into the body of the box the supporting cover C is forced into the ring until it rests upon the portion b^2, this cover is a neat fit so that it will not work loose and is provided with a tab so that it can be readily withdrawn. The cover C acts as a support for the thin paper head D yet does not come in direct contact with it, being separated by the portion b^2 of the metallic ring.

In some instances when it is desired to fill the box from the bottom the top head is placed in position first and after the box is filled the bottom is secured. The box is usually sent from the factory with one head in place and the other head loose, which is placed in position by the packer of the box. Suitable tools may be provided for the packer so as to readily apply the head to the body of the box.

In some instances I may extend the head or closure D^2 only over the end of the body portion A, as shown in Fig. 5, and this while not making as perfect a seal as the form shown in Fig. 4, will make a seal which will answer, in many cases. In some instances the projection of the inner flange of the ring B^2 may be dispensed with, as shown in Fig. 6, especially when the cover is made of strong or tough material.

While I have shown, in the main figures, a container having both bottom and top heads, it will be understood that the invention can be carried out in a container having only one fixed head, such as a paper tumbler or bottle, in this case the head will form the bottom of the tumbler or bottle.

It will be seen by the above description that I am enabled to make a paper box in which the body portion as well as the top and bottom are entirely of paper, and I secure each closure to the body portion by a narrow metallic ring which acts only as a means for securing the closure to the body portion.

I claim:

1. The combination in a box, of a body of yielding material, a flexible closure extending into the body portion, and having a flange on a line parallel with the inner surface of the body, and a lateral flange extending over the end of the body, a metallic ring for securing the closure to the body, said ring having an inner flange on a line parallel with the inner surface of the body, said flange holding the flange of the closure snug against the inner surface of the body, said ring having a relatively short outer flange embedded in the yielding body, substantially as described.

2. The combination in a box, of a paper body having straight sides and sharp corners, a paper closure mounted within the body and having a flange on a line parallel with the inner surface of the body and the edge of the closure being turned down over the outer edge of the body portion of the box, with a metallic ring having a straight non-embedded inner flange holding the flange of the closure snug against the inner surface of the body, and a relatively short outer flange and having sharp corners at the junction of the flange with the body portion of the ring, the sharp corners of the body and the overlying closure fitting the recess between the flanges of the ring, the outer flange of the ring being embedded in the yielding body at such point as to press the yielding material of the body and the closure against the inner corner of the ring, thereby insuring a tight fit at that point, substantially as described.

3. The combination in a box, of a body, a paper closure greater in diameter than the body, a metallic ring having an inner and an outer flange, the inner flange having a projecting rim acting as a support for the closure and forming a seat, with a supplementary cover of heavy yielding material fitting snugly within the ring and held to the seat by friction, said cover acting as a support for the fixed closure before said closure is broken and acting as a cover when the closure is broken, substantially as described.

4. The combination in a paper box, of a body portion of heavy paper, a closure of comparatively light paper, said closure being mounted within the body of the box and having an annular flange extending parallel with the inner surface of the box, the edge of the closure being turned down over the outer edge of the body portion of the box, a narrow metallic ring having an inner flange extending parallel with the inner surface of the box and clamping the flange of the paper closure against the inner walls of the body portion and having an inturned rim, said ring having a short outer flange extending over the edge of the body portion and embedded with the edge of the closure in the said body portion, the ring acting only as a means for securing the closure to the body portion, substantially as described.

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

JAMES C. KIMSEY.

Witnesses:
WILL. A. BARR,
JOS. H. KLEIN.