E. C. POTTER.

PACKING OR SHIPPING BOX.

APPLICATION FILED OCT. 4, 1913.

**1,146,516.**

Patented July 13, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

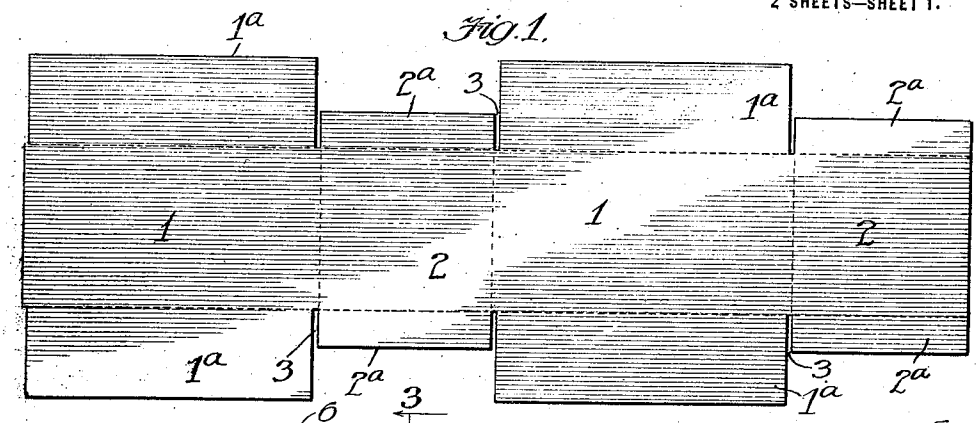



Fig. 2.

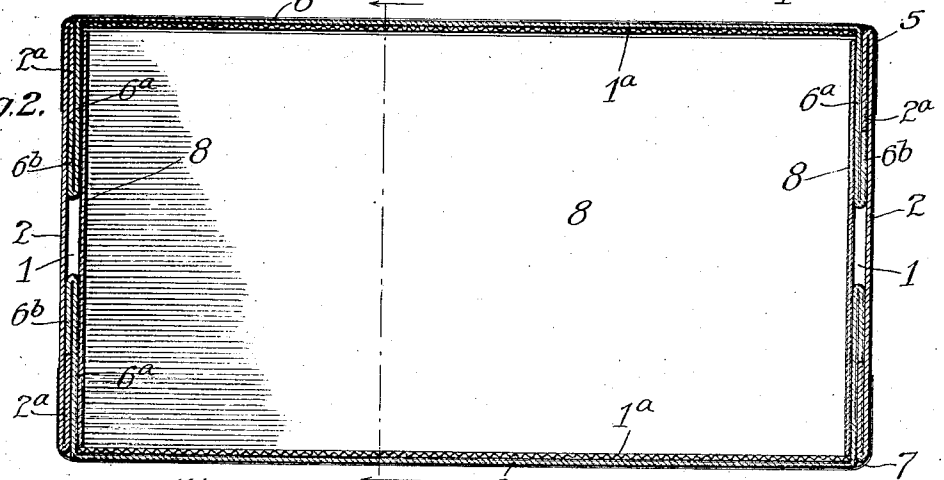



Fig. 4.

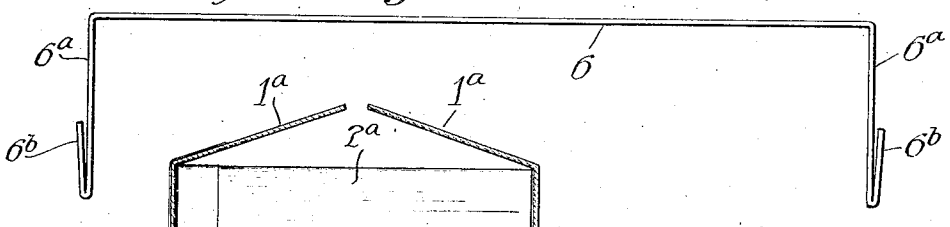



Fig. 3.

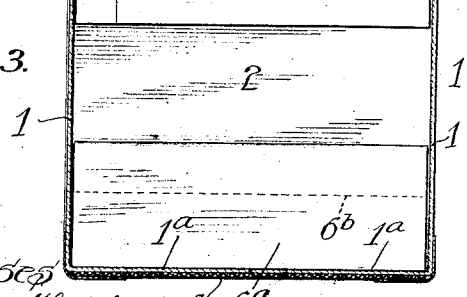
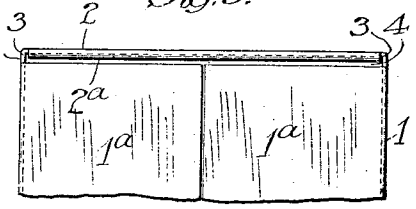



Fig. 5.




Witnesses:
Martin H. Olsen
Robert Dobberman

Inventor
Earl C. Potter
By Rector, Kibben, Davis & Macauley
His Attys.

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2 SHEETS—SHEET 2.

Fig. 6.

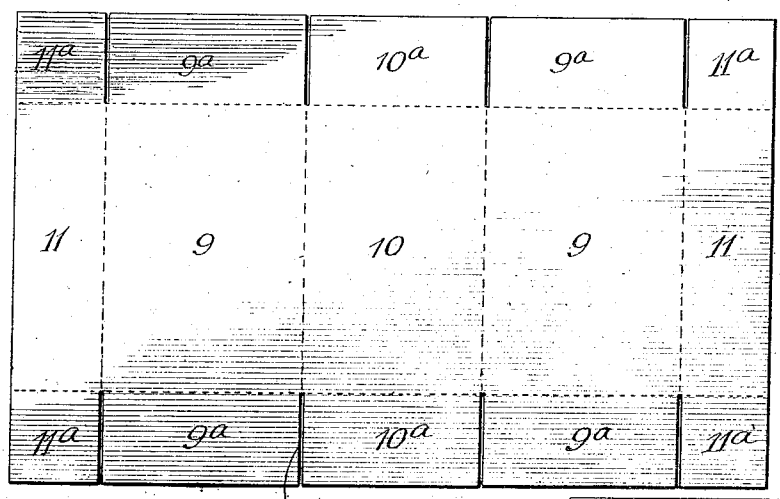



Fig. 7.

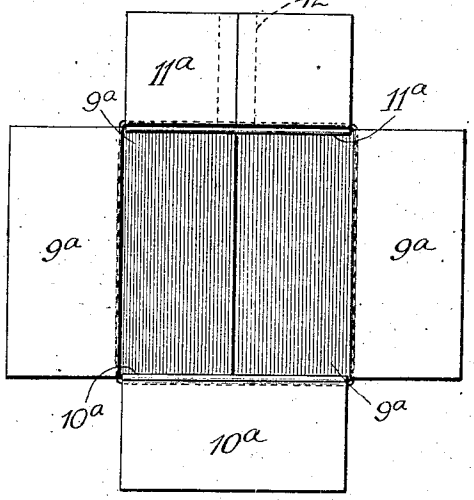



Fig. 9.

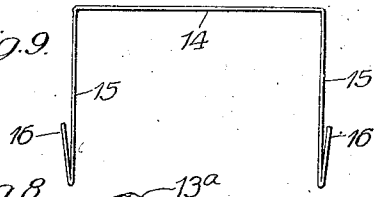



Fig. 8.

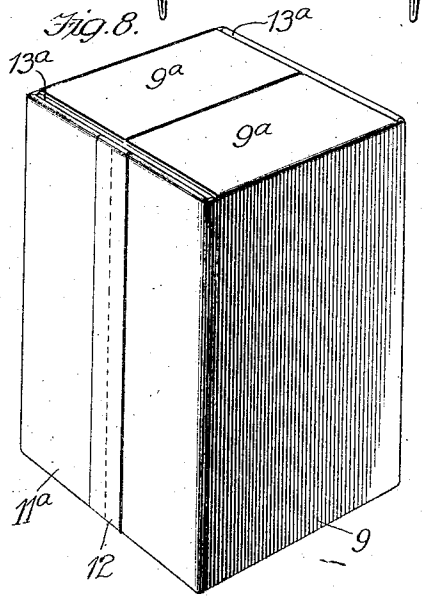
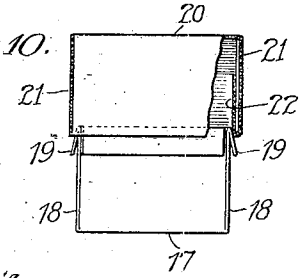



Fig. 10.




Witnesses

Martin H. Olsen

Robert Dobberman

Inventor

Earl C. Potter

By Rector, Kibben, Davis & Macauley

His Attys.

# UNITED STATES PATENT OFFICE.

EARL C. POTTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SEFTON MANUFACTURING COMPANY, OF ANDERSON, INDIANA, A CORPORATION OF INDIANA.

## PACKING OR SHIPPING BOX.

1,146,516. Specification of Letters Patent. Patented July 13, 1915.

Application filed October 4, 1913. Serial No. 793,369.

*To all whom it may concern:*

Be it known that I, EARL C. POTTER, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Packing or Shipping Boxes, of which the following is a specification.

My invention relates to packing or shipping boxes of the collapsible or knock-down type and made of suitable material preferably double-faced corrugated paper board, and the object thereof is to produce a box so constructed and arranged that when closed it shall become locked and sealed by such act of closing the box.

One of the objections made by transportation companies to the use of folding paper boxes, even boxes made of corrugated paper board, is that they may be opened and pilfered from and then closed and sealed in such a manner as to cover up all appearances of the unlawful opening. In constructing my present box I have overcome this objection by constructing the box in such manner that after it is closed and locked it cannot be opened without destruction of the box itself or without damage or injury thereto in such manner as to plainly indicate that it had been tampered with.

In the drawings Figure 1 is a plan view of a blank from which the body of a box embodying my invention is made; Fig. 2 a longitudinal section of the box assembled, closed and locked; Fig. 3 a cross section on the line 3—3 of Fig. 2 with the exception that the two pairs of flaps are shown slightly opened and also excepting that the locking closure is omitted, this view being on a somewhat reduced scale as compared with Fig. 2; Fig. 4 a detail view of the locking closure on the same scale as Fig. 2; Fig. 5 a detail view of a portion of the box; Fig. 6 a plan view of a blank from which a modified form of box is made; Fig. 7 a plan view of the modified form of box with one top or end set of flaps open; Fig. 8 a perspective of the box complete except for the locking closure; Fig. 9 a detail view of said closure, and Fig. 10 an elevation partly in section illustrating another modified form of construction which is not specifically claimed herein, but made the subject matter of a separate application.

My invention may be embodied in boxes of different constructions and in the present instance I have shown three different embodiments thereof, the first illustrated in Figs. 1 to 5, the second in Figs. 6 to 9 and the third in Fig. 10.

Referring to the embodiment of my invention as shown in Figs. 1 to 5, the blank from which the body of the box and some of the closures are made is illustrated in Fig. 1, it being understood that the box may be of any desired dimensions and of any suitable material, in the present instance such material being double faced corrugated paper board which is preferred. The box herein shown is a rectangular one with four side walls and with the top and bottom openable, whereas in Figs. 6 to 9 the top and bottom are entire and the two smaller side walls which might be termed ends are the openable ones. The terms top and bottom and ends are relative or comparative but for convenience in describing and claiming the invention the four entire walls will be referred to as side walls and the openable top and bottom or ends will be referred to as ends, although in the form now being described such ends are more specifically top and bottom.

As shown in Fig. 1 the blank comprises two pairs of side walls 1, 1 and 2, 2 hinged together along score lines, the opposite longitudinal edges of each wall 1 having similar flaps $1^a$, which when folded over toward each other are together of the same area as a side wall 1 and when thus brought together at their free edges constitute a closure. The other side walls 2 each have on their opposite edges hinged flaps $2^a$ which, however, are shorter than the flaps $1^a$ and are adapted to be inturned into the interior of the box when assembled and to rest against the inner side of their walls 2. These short flaps $2^a$ are separated at their ends from the flaps $1^a$ by somewhat wide slots or kerfs 3. In practice and by preference the short flaps are of the same width as their side walls to which they are hinged but the flaps $1^a$ are made slightly shorter than their walls 1 by having the kerfs or saw-cuts 3 entirely in the flaps $1^a$. There is thus provided at opposite ends of the box slots 4 clearly shown in the detail in Fig. 5 through which the flaps of the locking closure hereinafter described are inserted.

In assembling the box the blank of Fig. 1 is folded along the score lines between the side walls and the outermost walls 1 and 2

after being brought together are held in suitable manner as by means of the tape or strip 5. The top of the box is thus formed and one end of the box which is here really the bottom is formed by folding inwardly toward each other two opposite flaps $1^a$, the two adjacent short flaps $2^a$ having been previously inturned so as to rest against the inner faces of their side walls 2. In order to lock this end of the box, that is the bottom, I employ what I term a locking closure consisting of a closure or strip 6 of the same area as the combined area of the two flaps $1^a$ or the same area as that of a side wall 1. As shown in Fig. 4 this locking closure has at its opposite ends a long flap $6^a$ and at the lower end of each of such flaps a shorter and reversely folded flap or extension $6^b$. The flaps $6^a$ and $6^b$ are insertible through the slots 4 which are formed at the ends of the box and after this locking closure has been forced downwardly to the proper extent the extensions or flaps $6^b$ will engage the flaps $2^a$, the free edges of the flaps $6^b$ and $2^a$ abutting each other, with the result that the locking closure becomes locked and this end or bottom of the box becomes sealed. It will be understood that there is sufficient resiliency in the extensions $6^b$ as to cause them to press outwardly against the inner wall and to engage under the free edges of the flaps $2^a$ just as soon as the locking closure has been forced enough inwardly into the body of the box. The box now has its bottom or one end closure completed and locked and the box is now ready to contain the goods. After the box has been packed the other end which in the present case is really the top of the box is closed, locked and sealed in the same manner as the bottom was formed, that is to say the other two flaps $2^a$ are folded inwardly and pressed against their side walls and the other two closure flaps $1^a$ are folded inwardly, then another locking closure 6 is applied, its flaps being inserted through the slots 4 formed at the ends of the box after the flaps $1^a$ have been folded over and the extension $6^b$ will thereupon engage their adjacent short flaps $2^a$. The box is thus locked and sealed as an incident to the closing thereof and it is locked against any possibility of opening or tampering without practically destroying the box. If desired the corners of the box around the adjacent ends, that is the top and bottom in the present instance, may have tape or strips of adhesive paper applied thereto but this is not essential.

If desired a liner consisting of four side walls 8 hinged together may be inserted in the box as seen in Fig. 2, the goods being contained within such liner and the flaps taking their position between it and the side walls of the box. However, this liner is not essential and may be omitted if desired, as shown in Fig. 3.

In Figs. 6 to 9 I have shown another form of box modified with respect to the first form as to the particular ends which are openable and locked in the manner described and also modified in respect to the formation of the box body. The box body is formed from the blank shown in Fig. 6, there being two similar side walls 9, another side wall 10 and two similar half walls 11 which when brought together and held by the tape or adhesive strips 12 form a wall similar to wall 10. The walls 9 are provided at opposite ends with hinged closure flaps $9^a$ which are slightly less in length than the edges of their walls to which they are hinged, due to the kerfs 13 which run through the flaps themselves. The walls 10 and 11 are also provided with similar flaps $10^a$ and $11^a$.

In assembling the box the side walls are folded along the score lines between them, and the two walls 11 are brought together and joined by a tape 12 to form a single wall. In forming one end of the box the flaps $10^a$ and $11^a$ are folded inwardly against the inner faces of their side walls after which the two opposite or remaining flaps $9^a$ are folded over so that when brought edge to edge they will form an end closure, as seen in Fig. 7. A locking closure such as shown in Fig. 9 is now applied, the same comprising a closure proper marked 14, long flaps 15 at the ends thereof and short extensions or flaps 16. These latter flaps are inserted through the slots $13^a$ formed at the two opposite sides of the box by the kerfs 13 and as the extensions or short flaps 16 are reversely or outwardly bent they will engage underneath the free or exposed edges of the adjacent flaps $10^a$ and $11^a$ and become locked therewith. The box is now in the condition illustrated in Fig. 7 in which the flaps at the top or unclosed end of the box are shown open and the box ready to receive the goods to be packed and shipped. Before all the goods have been introduced into the box the flaps $10^a$ and $11^a$ are folded inwardly and downwardly against the inner faces of their side walls and after the box has been filled to capacity the other flaps $9^a$ are folded over. The box is now in the condition illustrated in Fig. 8, ready to receive a locking closure such as shown in Fig. 9 and applied and locked in the same manner as the one already described. It will be understood of course that it is not necessary that the blank should be made just as shown in Fig. 6 but that one of the side walls instead of being made of two halves 11 could be made entire just like the wall 10. It will also be understood that a liner similar to the liner 8 could be employed in this form of box if desired.

In Fig. 10 I have shown another modifica-

tion comprising two telescoped parts, one of which may be considered the body of the box and the other a cover. The body of the box comprises a bottom 17 and side walls 18 at whose top edges are provided hinged flaps 19 outwardly and downwardly turned. The other section or top of the box comprises a top 20, side walls 21 hinged thereto and having flaps 22 hinged thereto and turned inwardly against the inner faces of their side walls 21. When the two parts or sections of the box are telescoped to full extent the edges of the flaps 19 and 22 engage each other so that the box becomes locked and sealed. It will be understood that while I prefer to similarly construct both openable ends of the box which are here more properly the top and bottom, that is to provide them with the locking and sealing means described, yet it is to be understood that one of such ends may be otherwise formed and permanently locked or sealed in the same manner leaving the other end to be constructed and locked and sealed in the manner described.

By the use of my invention I provide a box which becomes sealed by the act of closing the same, with the obvious result that such locking of the box is accomplished as an incident and without any skill on the part of the user. As a further result of the use of my box, the same cannot be tampered with or pilfered from inasmuch as any such attempt would be disclosed by the condition of the box which would require substantial defacing or destruction of the box before entrance could be obtained. It is intended that these boxes shall be for a single use only and the opening and consequent destruction of the box is accomplished by the consignee himself.

I claim:

A box body comprising four side walls hinged together and means for closing an end thereof consisting of flaps hinged to two opposite side walls and together forming an end closure, short flaps hinged to the other two opposite side walls and inturned into the box body to lie parallel with the sides to which they are hinged, a locking closure having a central portion overlying said first-mentioned flaps and having end flaps also insertible into the box body and formed with recurved ends arranged to abut against and engage said inturned flaps, and a liner within the box between which liner and the side walls are located the inturned flaps and the end flaps of the locking closure.

EARL C. POTTER.

Witnesses:
S. E. HIBBEN,
ROBERT DOBBERMAN.