

July 21, 1931.

I. HILL ET AL

1,815,565

EGG SHIPPING CASE

Filed July 13, 1928

4 Sheets-Sheet 1

Fig. 1.

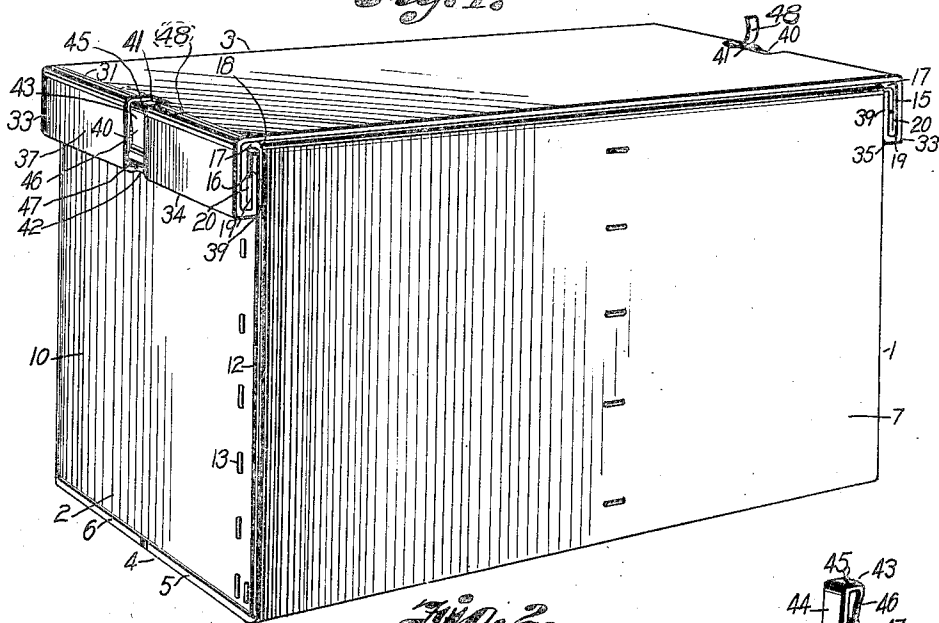
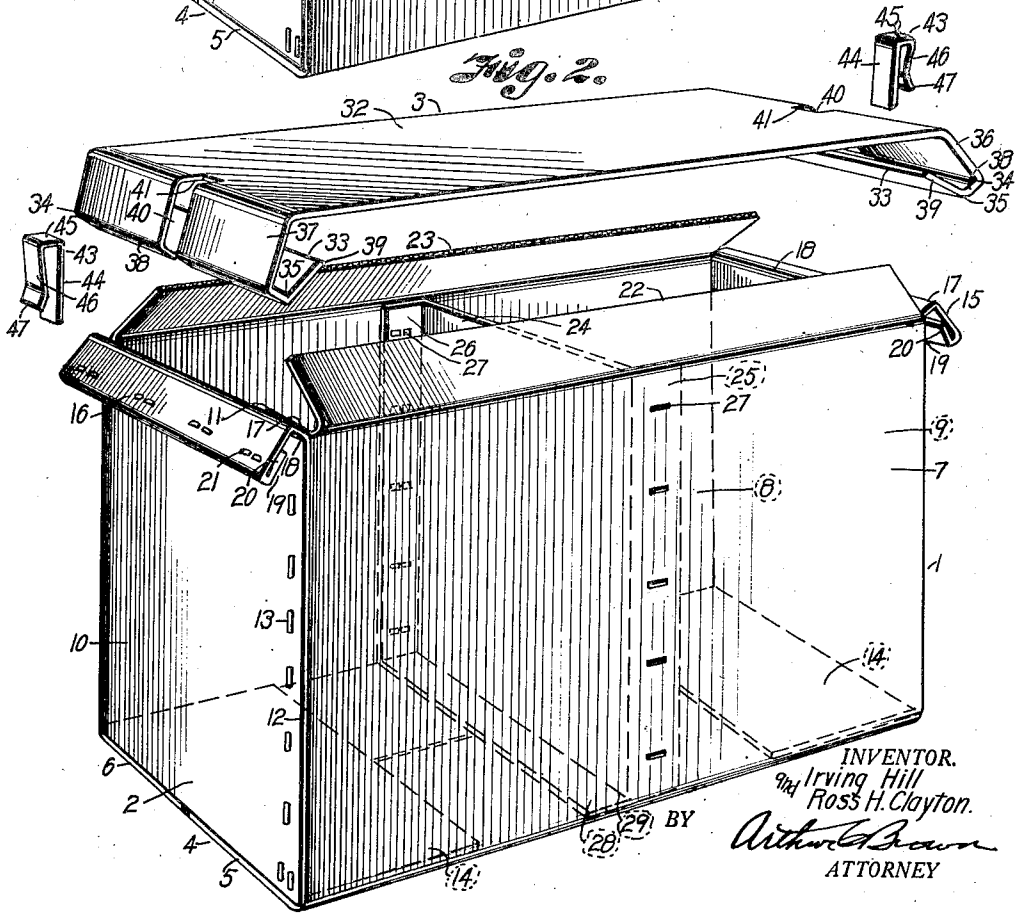


Fig. 2.



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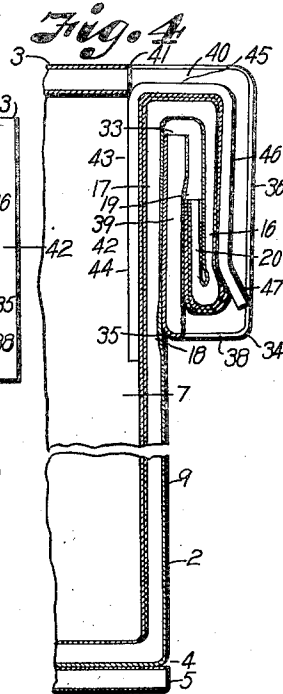
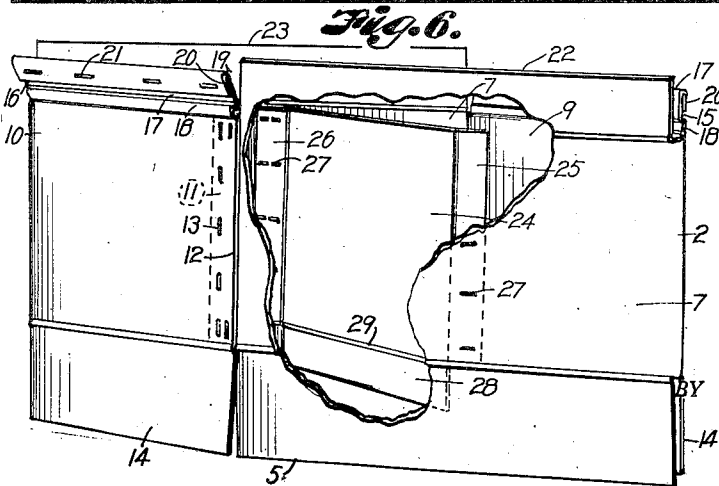
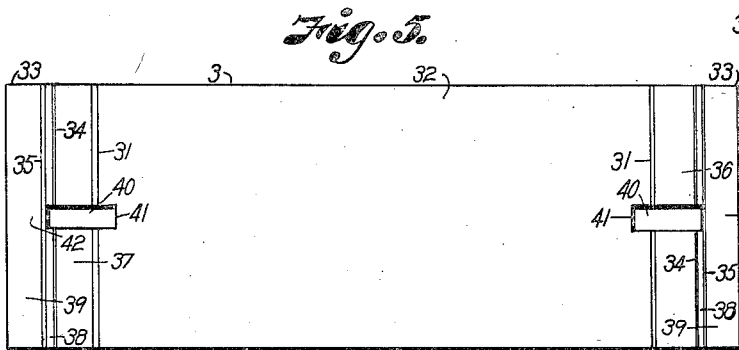
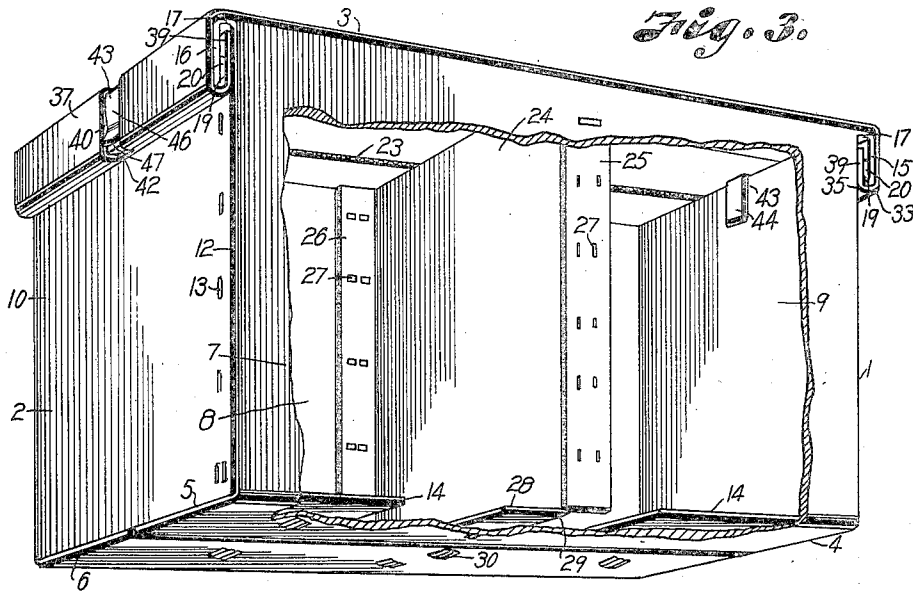
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Fig. 7.

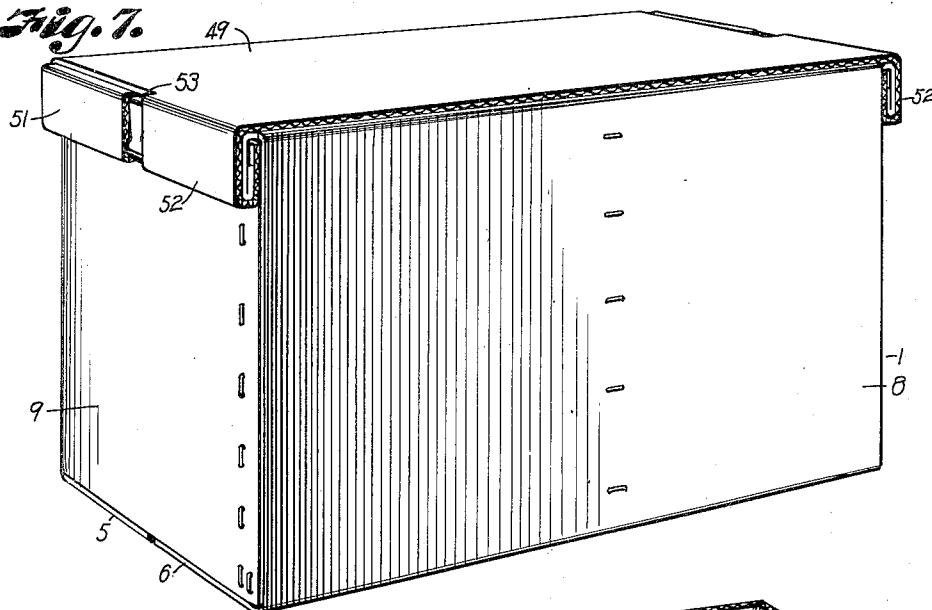
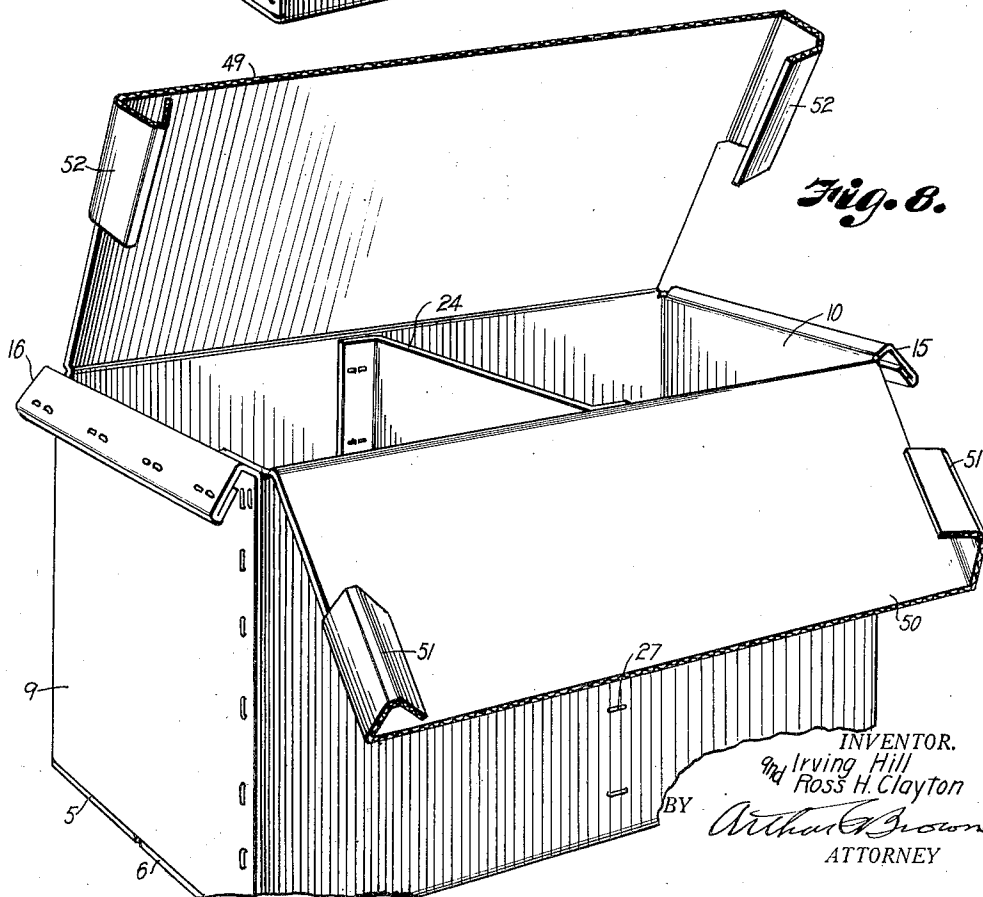


Fig. 8.



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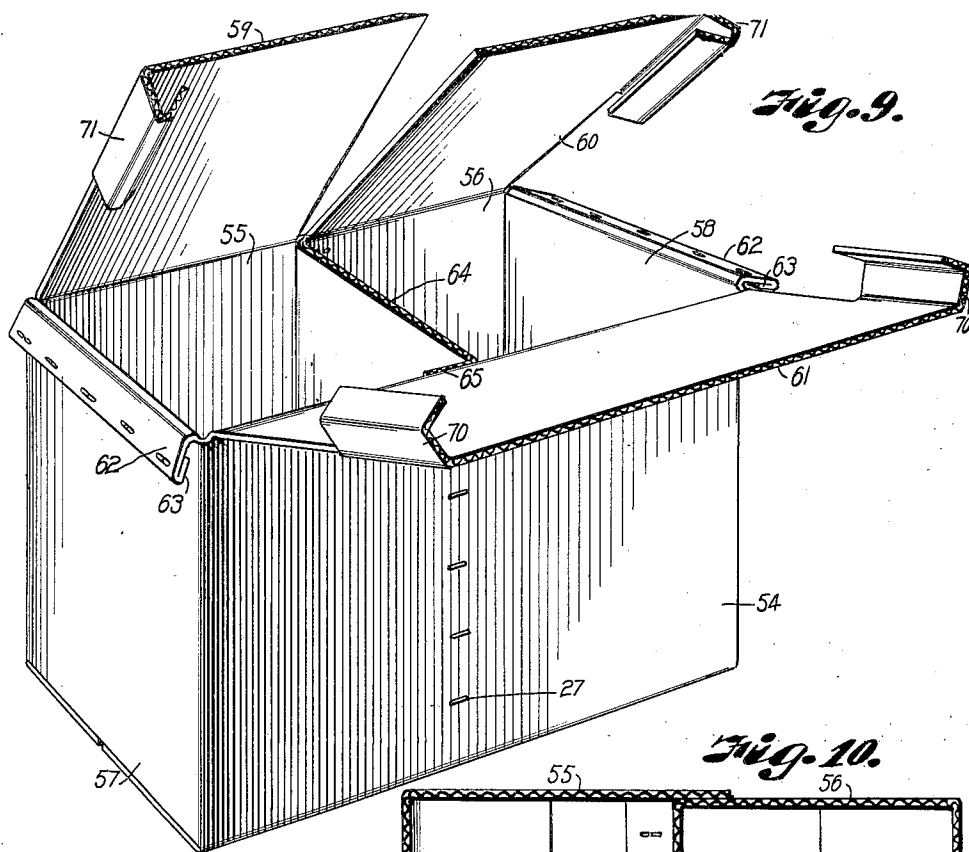


Fig. 9.

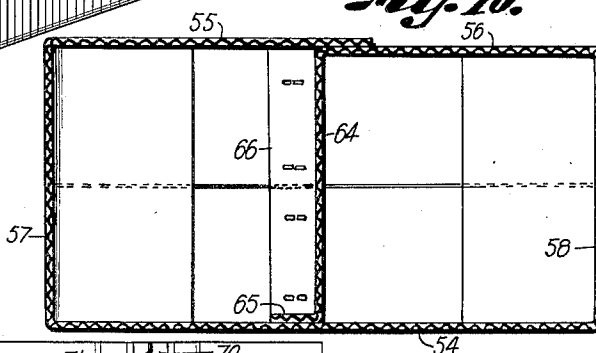


Fig. 10.

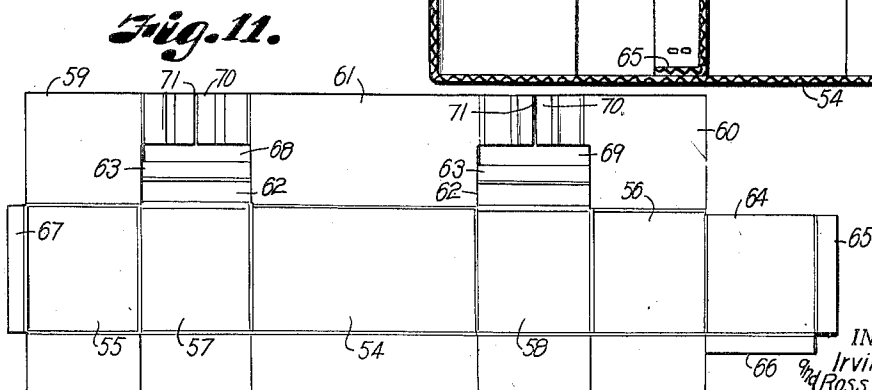


Fig. 11.

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EGG SHIPPING CASE

Application filed July 13, 1928. Serial No. 292,385.

Our invention relates to containers, and more particularly to cases for carriage of eggs, fruit and the like, requiring relatively careful handling, frequent inspection of contents and protection of contents from damage by moisture the present invention being an improvement over the structure disclosed in our co-pending application Serial No. 257,371 and having for its principal objects to provide means for transferring and handling the body of the box when the cover is removed, to secure the bottom of the box to a midrib and to provide an integral box adapted for shipping in collapsed condition and for resisting strains due to handling and support of contents.

In accomplishing these and other objects of the invention we have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a preferred form of the case with the cover in closed position.

Fig. 2 is a perspective view of the case with the lid removed.

Fig. 3 is a perspective view of the case from below, portions being broken away for better disclosure of structure.

Fig. 4 is a sectional view through one end of the case illustrating the means of fastening the cover to the body.

Fig. 5 is a plan view of the blank from which the cover is made.

Fig. 6 is a perspective view of the case in collapsed position.

Fig. 7 is a perspective view of a modified form wherein the cover is made integral with the body.

Fig. 8 is a perspective view of the modified form shown in Fig. 7, with the cover open.

Fig. 9 is a similar view of a further modified form wherein the case is made of one piece including the cover and a midrib.

Fig. 10 is a horizontal sectional view through the form shown in Fig. 9.

Fig. 11 is a blank for making the box shown in Fig. 9.

Referring in detail first to the preferred

form illustrated in Figs. 1 to 6 of the drawings:

1 designates a case formed of cellular material such as fibreboard, pulpboard, and combinations thereof and preferably formed of double faced corrugated board and comprising a body member 2 and a lid 3. While the upper and lower closures, namely, the lid and the bottom, may be constructed similarly, as presently described for the cover structure, for equally ready access to top or bottom of the box, we prefer to provide a body comprising a bottom 4 consisting of flaps 5 and 6, sides 7 and 8, and ends 9 and 10.

The side 7 is illustrated as comprising one end of a continuous strip or blank, and the end member 10 as comprising the other end of the blank. These blank ends are brought together in assembly, and joined by suitable means such as a strip of paper, cloth or other material fastened to the two members, and preferably by a flange or wing 11 on a selected end of the side member 7 engaged with an edge such as 12 of the end 10 by fasteners 13.

Similar intumed flaps 14 on the lower edge of the end members 9 and 10 are adapted to overlie the bottom 4 and may extend substantially into engagement, but are preferably spaced, as shown in Fig. 2.

Locking hooks 15 and 16 are provided on the upper edges of the end members 9 and 10, preferably by outwardly downbending the upper edges of the end members to provide integral resilient outstanding hook-like flaps 17 connected with the body by spacing necks 18 which are preferably as long as the widths of the end members, the downbending of the edges providing pockets or sockets 19 to receive reinforcing flanges 20 and interlocking elements of the cover presently described.

The reinforcing flanges 20 are formed on the edges of the flaps by turning said edges inwardly upon the flaps to strengthen the structure at these points; and the flanges are preferably secured to the flaps by suitable means such as staples 21, to provide means for grasping and securely holding the box

for handling the same when the cover is removed.

Upper side flaps 22 and 23 of the body are shown as intumed and preferably relatively narrow in the preferred form, for easy inspection of the contents when the cover is removed.

A midrib or cross member 24 may also be installed in any desired position in the body, and when incorporated in the preferred form, has oppositely directed wings 25 and 26 attached by suitable means, such as staples 27, to supporting members, for example, the sides of the box, the wings being oppositely turned to permit collapse of the body member for shipment or storage.

A flange 28, defined by a score line 29, is preferably formed on the lower edge of the midrib and adapted to be bent to overlie the bottom when the box is set up and to be attached to the bottom by means such as stitching, represented by the staples 30, to give additional rigidity, and to provide an intermediate fastening and connecting means for the bottom flaps. The flanges 28 constitutes a truss-like member to support the intermediate portion of the bottom when the box is lifted.

The cover or lid member 3 is formed from a blank illustrated in Fig. 5, the material of which is preferably heavier than the body material and may be different in character. The blank is scored on lines 31, adjacent one margin, and preferably adjacent the margins representing the ends of the cover, to provide a top or closure portion 32 and hook-shaped end flaps 33, the flaps being foldable on score lines 34 and 35 to produce vertical wall or face portions 36 and 37, shoulder portions 38 and intumed lip or flange portions 39, whereby the hook-like character may be conferred. The hooks of the cover member are thus adapted to engage the downturned flaps of the body to retain the cover on the body.

One of the end flaps 33 may be bent downwardly and its lip 39 bent inwardly and upwardly for insertion of the lip 39 between the locking hook 16 and end wall 10 of the body whereby, when means presently described hold the locking hook 16 parallel to the end wall 10, the interlocked flap and lip will lock the cover to the body member.

The two wall portions 36 and 37 of the cover are provided with slots or rectangular openings 40 when extended inwardly from the score line 31, as at 41, to a depth substantially equal to the width of the neck portion 17 of the adjacent end member of the body. The opening 40 is preferably limited outwardly by the outer score line 35 which defines the lip 39, whereby the hook comprises an integral transverse member, the opposite end portions of which are connected by a neck portion 42. When the cover hook

flap is bent for engagement with the body hook, as in Fig. 2, the inner face of the lip is exposed through the slot, and when the cover hook is engaged with the body hook 16, the face of the hook 16 is exposed through the slot.

The engaged hooks of cover and body provide not only interlocking means for securing the cover to the body, but an integral handle for the box.

We further provide fastening means to hold the body hook in position, as previously herein indicated, which may be installed in engagement with body and hook areas defined by the slot 40 of the cover, and preferably comprising a clamp or clip member 43 adapted to be inserted through the slot 40 and over the neck 18 of a body hook to urge the hook toward the member of the body and clamp the hook in downbent position to retain the cover hook in end-hook engaging position. The body portion 44 of the clamping member may be of any convenient length. The bridge portion 45 is preferably conformable to the width of the neck portion 18 of the downbent upper edge or hook 16 of the body, and the arm 46 is substantially as long as the width of the hook 16, the member being preferably resilient and relatively rigid, its width being substantially equal to the width of the slot, and its arm 46 having an outturned end 47.

The fastening means is, therefore positioned below the outer surfaces of the box members, and is thus protected from disturbance by agencies moving over or adjacent the box, and is unable to injure other objects.

Since a container constructed as described may be opened and reclosed many times without disclosure of removal of fastener and cover, we provide sealing means to guard against and disclose pilferage or unwarranted inspection, comprising an element having parts connected with the cover and body in closed position thereof. Said means preferably comprise a sealer 48 which must be displaced to permit release of the fastener, and which may consist of a sealing strip adhesively attached to the box, for example, to cover across the fastener-admitting slot therein.

In the modified form of the device illustrated in Figs. 7 and 8, the cover is made integral with the body and comprises cover members 49 and 50 constituting elongated side flap members, each preferably extending across the body to completely close the top opening thereof. The cover hooks therein comprise downbent portions 51 and 52 on opposite edges of the outer ends of the cover elements, each hook being not more than half the width of the cover element, whereby when the two cover elements are closed on the body, and the cover hooks are engaged with the body hooks, the adjacent ends of cover hooks may be spaced to provide a recess 53 analogous

to the slot of the preferred cover to admit the fastener for clamping the end hook to the body to lock the lips of the cover hook between the body hooks and the vertical walls of the cover hooks.

Various modifications in form will be readily discovered, constructed of integral blanks of which the end portions represent one or another portion of the box, one such modified form being illustrated in Figs. 9, 10 and 11.

The figures represent a box of the general character previously described but in which a cover, body and midrib are all formed from a single integral blank illustrated in Fig. 11. For this form the blank comprises a side portion 54, portions 55 and 56 making up the other side, end portions 57 and 58, portions 59 and 60 comprising one closure element, and an intermediate portion 61 comprising the complementary cover element. Locking hook portions 62 are separated from the end portions 57 and 58 by score lines, and the inturned reinforcing flanges 20 illustrated in the figures of the assembled box are represented by the portions 63 on the edges of the hook portions 62.

The cross member is a midrib comprising the portion 64 of one end of the blank in bent to pass transversely across the box and having a wing 65 for attachment to the side of the box, and a flange 66 for bending to overlie the bottom of the box and adapted to be secured thereto. A wing 67 opposite the midrib portion is adapted for attachment to the side member 56 for completing the box structure. In this form, slots 68 and 69 produced in the blank provide for cover hook portions, such as 70 and 71, similar to the hooks of the other forms.

In using the device provided, as described, the body hooks are turned outwardly into position for receiving cover hooks, and the ends of the cover are down-bent and in bent to form hooks. The inner lips or flanges of the cover hooks are then inserted into the pockets of the body hooks and the interlocked hooks downbent to seat the cover tightly upon the body. Engaging the body hooks with the cover hooks tends to seat the cover on the box although the wall portions of the cover hooks must be urged toward the body to prevent outspringing of the united hooks due to tendency thereof to return to unbent position.

The interlocked cover hooks and body hooks being held in close assembled position, the removable clips are inserted through the openings of the cover over the exposed portions of the body hooks, and resiliently retain the body hooks in downbent position substantially parallel with the body, thereby locking the cover hooks in engagement with the body. The cover cannot be removed except by unbending the body hooks, and removal is easily made possible by displacing the clip.

The transversely extending body hooks and the doubly folded end hooks of the cover provide, when interengaged, a cleat-like buffer, and being formed of the paper board described, the buffer is relatively resilient whereby hazard of damage to contents, by shifting due to movements of the carrier, or during handling, is avoided. The transverse buffer members also constitute handles similar to the cleats or cross pieces adjacent the upper edges of crates whereby the cases illustrated may be conveniently handled.

The restraint of the inturned cover hook lip and downturned body hook by the metal clip member provides relative rigidity for the comparatively fragile paper board, thus improving the cleat function of the transverse member comprised of the hooks. The retention of the hook elements by the resilient metal clip also reinforces the transverse compound element against tearing or breaking under tension and the element may, therefore, be engaged by the fingers for pulling a case horizontally along the floor or from a stack.

The inturned flanges of the body hooks reinforce and strengthen the flaps for co-operation with the cover hooks. These flanges further provide means for grasping the flaps and holding them firmly for handling the box when the cover is removed.

The structure, including the sinking of the fasteners or clips, above referred to, whereby all of the longitudinal surfaces are relatively smooth and unobstructed, also facilitates stacking, and sliding disengagement of a selected case from a stack.

The midribs, while permitting collapse of the cases for storage or shipment in small space, provide rigidity against vertical stresses, so that the cases may be piled one upon another without hazard of breakage, and strains upon the tops or sides of the cases are not likely to cause breakage of the cases nor of contents. The bottom-engaging flanges on the lower edges of the midribs reinforce the boxes, and partially aid in supporting the bottom when a filled box is lifted.

The construction of the cases from corrugated double-faced board also avoids warping, and thus assures constant volume for occupancy by the cases throughout their life.

Cases constructed as described are easily opened for inspection. The metal clips are easily lifted from locking position, whereupon a cover hook may be released from a body hook by a single motion and the cover lifted for inspection of the contents. The covers may be restored with relative ease to original securely closed position and no marring of any portion of the body, cover or hook members need occur.

A resilient clip is adapted for securely clamping a body hook upon each occasion of installation and even though the material

may be somewhat depressed because of frequent removal and restoration of the clip, the resilient clip will continue to function to latch the cover hook in interlocking position with the body hook.

A container having significant characteristics and elements illustrated and described, serves substantially the same purposes as a wooden crate or case and possesses substantially all the advantages of the wooden case with additional advantages peculiar to its structure and the material of which it is composed.

What we claim and desire to secure by Letters Patent is:

1. A box comprising a body portion having downturned hooks provided with backturned edge flanges, a cover for the box, means on the cover engageable with the downturned hooks and flanges to secure the cover to the box, and a member for latching said means with the hooks.

2. In a box, a body portion having a downturned hook provided with an integral edge flange inturned upon the hook, said hook being spaced from the body to receive the flange, and means for attaching the flange to the hook to form a handle.

3. In a box, a body having a downturned hook spaced from the body to form a recess and provided with an inturned stiffening flange extending into the recess, a cover having a member movable into said recess to engage the hook, and means for latching said member to the hook to constitute the member and flange-stiffened hook a handle for lifting the box.

4. In a box of the character described including sides having lower edge flaps forming a bottom portion, a midrib comprising a body extending across the box, wings engageable with selected sides, and a flange engageable with said flaps for stiffening the bottom portion and supporting the flange-engaged bottom portion from the midrib.

5. In a box of the character described including vertical members and a bottom having outer edges engaged with the vertical members for support therefrom, a midrib having wings overlying selected vertical members and attached thereto, and a flange adapted to overlies the bottom for attachment thereto for supporting the free edges of the bottom.

6. A box including a body portion having integral hook members at selected edges provided with inturned integral edge flanges, and means securing the flanges to the hook members for stiffening the edges of the hooks.

7. A box comprising a body portion, including sides and a bottom, including a flap having a free edge, and a midrib integral with the body portion and having a flange

for engagement with the bottom flap for supporting the free edge portion thereof.

8. In a shipping case of the character described including a body having side and end members, a hook comprising the upper edge portion of one member outbent to form a spacing neck and downbent to form a flap spaced from the body to provide a pocket for receiving a reinforcing member, and a reinforcing member receivable in said pocket and fixed to the flap.

9. In a shipping case, a body including an end member having an outwardly and downturned flap, at its upper edge and a neck spacing the flap from the end member to form a pocket, a flange on the edge of and turned inwardly upon the flap, and secured thereto for reinforcing the same to form a hook, and a cover having a downbent end flap having an edge bent inwardly and upwardly to form a lip insertable in the pocket for engaging the cover flap and lip with the body hook to form a reinforced handle, and means for latching the handle to the body.

10. An egg shipping case including sides and a bottom including a flap having a free edge portion, and a midrib fixed to the sides and engaged with said flap for supporting the free edge thereof.

In testimony whereof we affix our signatures.

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