

March 12, 1929.

G. G. VIAL
BOX OR CASE FOR CONTAINING, REMOVING, AND
MARKETING PRODUCE AND MERCHANDISE
Filed Dec. 18, 1926

1,705,078

2 Sheets-Sheet 1

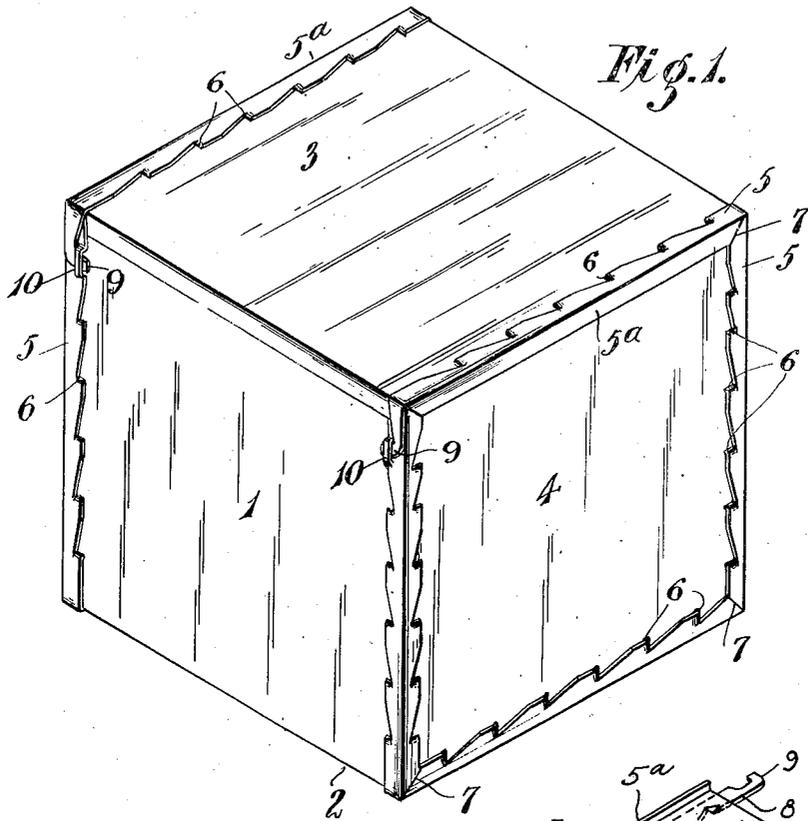


Fig. 1.

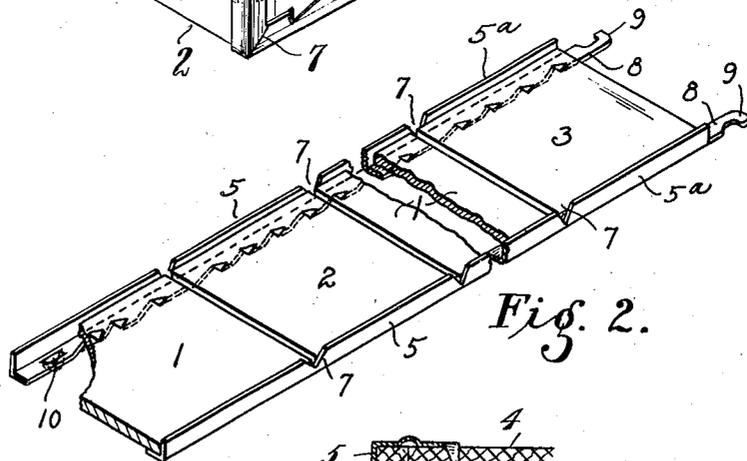


Fig. 2.

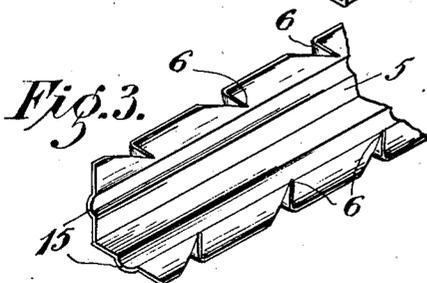


Fig. 3.

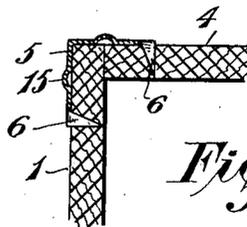


Fig. 4.

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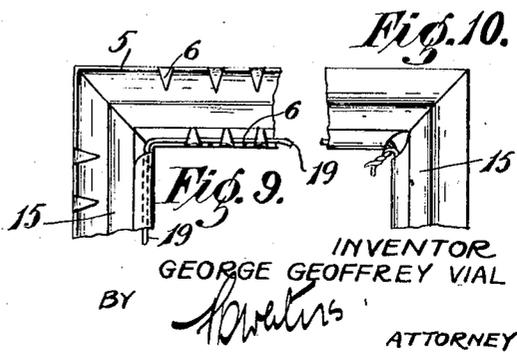
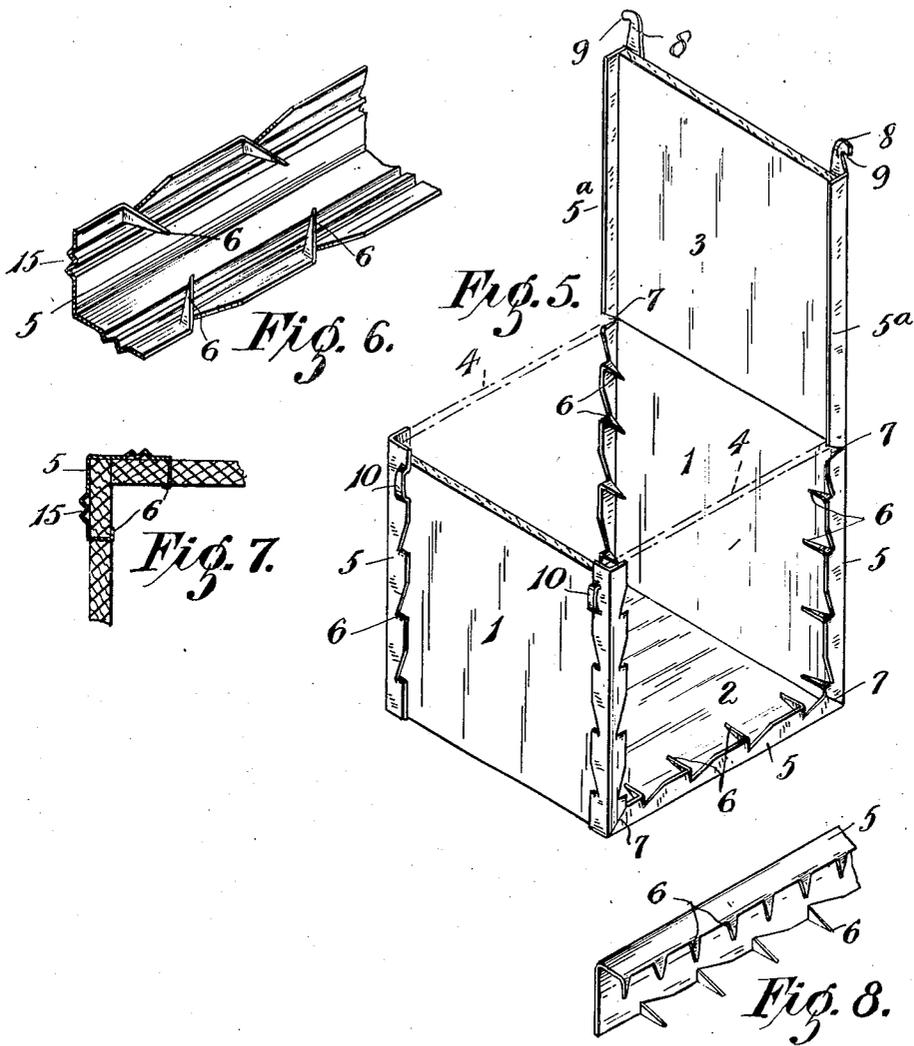
ATTORNEY

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2 Sheets-Sheet 2



INVENTOR
GEORGE GEOFFREY VIAL

BY

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UNITED STATES PATENT OFFICE.

GEORGE GEOFFREY VIAL, OF ARMADALE, AUSTRALIA.

BOX OR CASE FOR CONTAINING, REMOVING, AND MARKETING PRODUCE AND MERCHANDISE.

Application filed December 18, 1926, Serial No. 155,656, and in Australia October 26, 1926.

The invention relates to boxes in which there is a securing means consisting of a pair of longitudinal "side-and-corner" binding metal bands of angle formation which completely encircle the box, teeth cut and formed upon each band adapted to be pressed into the box sides and which form the sole means of holding and securing all the six box faces together after the box is filled.

Facility of handling, economy and security are obtained in a greater degree than any manufacture or box case or container that I have seen used for like purposes. Any kind of lining may be employed according to requirements when such exist.

One object of the invention is to provide simple and effective means whereby boxes cases or containers, such as at present in use for exporting and otherwise, can be more readily and economically manufactured than heretofore practicable and will be found much stronger than existing boxes for export purposes.

A further object of the invention is to provide simple means whereby boxes for commercial use can be made from much lighter material than can be done at present and means whereby the whole of the members or flats of the box can be rigidly secured together without necessitating the forming of dove-tail or other joints and without the use of binding cleats or battens. The essential features of the invention include providing a metal binding of angle section metal for embracing the sides and corners of a box, means whereby said angle section metal when bound longitudinally along the sides will be rigidly secured together, means whereby two sides of the box together with the bottom and the lid of the same can be initially secured together and then folded to receive and securely fasten the two additional sides of the box in the required position, means whereby the lid or cover of the box can be readily fastened in its closed position. The word "corner" when used in this specification is intended to indicate the whole meeting line of the two box faces.

On embodiment of the invention will now be more fully described aided by a reference to the accompanying sheets of drawings illustrating a butter box having its walls and top and bottom securely bound together

by angle section metal bindings constructed and arranged according to the invention. 55

In the drawings:

Figure 1 is a view in perspective of a butter box constructed according to the invention having its lid or cover closed and locked.

Fig. 2 is a perspective view of the assemblage prior to being folded up into the form shown in Fig. 5. 60

Figure 3 is a detail view in perspective of one form of angle section metal binding which may be employed for binding the members of the box together. 65

Figure 4 is a detail view in section showing the application of the angle section metal binding about a corner of the box.

Figure 5 is a detail view in perspective showing the two side pieces and the top and bottom of the box, which are connected together by angle section metal bindings, set up to receive the end pieces or members of said box. 75

Figures 6 and 7 illustrate a form of angle section metal binding having extra long teeth or clinching spikes and V-shaped longitudinal strengthening ribs or corrugations.

Figure 8 is a further modified form of metal binding. 80

Figure 9 is a detail view showing the interior surface of an angle section metal binding fitted with reinforcing tie wire.

Figure 10 is a detail view showing the opposing ends of a metal binding strip at a corner of a box which are connected together by the reinforcing wire. 85

As seen in Figure 1 the box is constructed from six pieces of comparatively thin timber or other material to form the side members 1, bottom member 2, top or cover 3, and the end members 4. The whole of these box pieces of timber are adapted to be rigidly secured together by two strips or continuous lengths of specially constructed angle section metal such as 5. 90

These angle section metal strips 5 are constructed having teeth or spikes 6 formed about their outer edges and designed to be forced into the box members, in the manner hereinafter described, for rigidly securing the same together without the aid of nails, screws or other additional independent fastening means. 100

In arranging the box parts prior to being 105

assembled to form a cube as seen in Figure 1, two pieces of specially constructed angle section metal 5 of the required length and gauge are provided having projecting teeth or clinching spikes 6, arranged longitudinally parallel, as seen in Figure 2, when the two side pieces 1, bottom piece 2, and the lid or cover piece 3, are laid flat-wise upon each angle section metal strip and said box members are then pressed downwardly so that the upstanding spikes or teeth 6 (see Figure 3) will be forced into or penetrate the outer surface of each piece of timber and secure the same together to form a blank as illustrated by Figure 2 of the drawing.

The pieces of wood forming the bottom, top, and side walls of the box are so arranged that the spikes or teeth 6 of each pair of metal strips 5 will enter the said pieces at a position across the grain to enable a perfect grip being obtained, while a V-shaped gap or mitre 7 is formed at required intervals in one of the flanges of each angle section metal strip (see Figures 2 and 5) to enable the box members seen in Figure 2 to be folded so as to assume the position seen in Figure 5.

It will be understood that if desired the box blank, comprising the sides, bottom and lid of the box, may be inserted or fed into a suitable press to firmly clinch the spikes or teeth 6, and also to perform the necessary bending operation to form a partially constructed box as is illustrated by Figure 5 of the drawing.

The members or pieces of wood 4 forming the ends of the box are now placed into the required position within the partially constructed box, either separately or together so that when the necessary pressure is applied to said end pieces, the inwardly projecting spikes or teeth 6 (see Figure 5) will penetrate said end members and rigidly secure the same to the angle section metal in juxtaposition with the sides and bottom of said box.

If desired the clinching spikes or teeth 6 may be made comparatively long in order that when subjected to pressure they will pass through the box members and their inner ends clinched or bent over as seen in Figure 9.

Referring to Figure 5 it will be seen that the portion of angle section metal strip 5, embracing the corner of the lid or cover 3, has only one set of spikes or teeth which are adapted to be forced into the outer surface of the lid, while the plain or depending flange portion 5^a of said angle section metal is designed to embrace the upper end members 4 of the box, so that said lid or cover 3 can be readily closed when the contents have been packed in said box, and to enable the box to be opened for the removal of its

contents. One end of each angle section metal strip which passes about the lid or cover 3 is constructed in the form of a projecting tang or finger piece 8 having a hook 9. This hook is adapted to pass through an eye or loop 10 that is formed on the opposing end of said metal strip and securely lock the lid or cover in its closed position as seen in Figure 1, in such a manner that it is impossible for said hook to be released accidentally and obviates any obstruction when packing or storing.

The resilient or springy nature of the angle section metal strip 5 enables the lid or cover of the box to be readily closed and opened as and when required without causing injury to said strips at the hinge point.

It is obvious that clinching spikes or teeth 6 and the necessary mitres or V-shaped gaps 7 may be formed in the flanges of the angle metal strips by suitable dies, or other approved means. The angle section metal strips 5 which are preferably of a very light nature, can be strengthened or reinforced by forming one or more longitudinal ribs or corrugations 15 in the flanges of the same as seen in Figures 3, 4, 8 and 9, and the clinching spikes or teeth 6 formed by stamping and bending the metal as required at predetermined intervals as seen in Figure 10.

According to Figures 9 and 10 the angle metal strips 5 may be reinforced by longitudinal wires 19 which may be secured in position as seen in Figure 9 or in any other approved manner, while the ends of said wires can be twisted together when the box parts are finally secured or assembled in the erected position as seen in Figure 1.

It will be understood that in the construction of comparatively large boxes, for commercial use, any number of extra reinforcing strips of flat metal may encircle the box parts and furnished with clinching spikes or teeth as before described to penetrate each of the box members and further secure the same together.

For the purpose of more clearly explaining the constructions and setting up of the box I will state: A blank is formed as illustrated in Figure 2 consisting of two sides indicated by 1, 1, a bottom indicated by numeral 2, and lid or top indicated by numeral 3; all the above are separate pieces but secured together longitudinally and hingably or bendably by the two strips of angle section metal binding 5, 5. The next stage in the setting up of the box is illustrated in Figure 5, the two aforesaid sides 1, 1, being lifted or forced into vertical position as shown, and the members forming the two additional sides indicated by the numeral 4, are inserted into the position prepared for them and so held by the hands, and the other

members as illustrated in Figures 1 and 5 and then forced against the metal spikes of the metal binding thus holding all parts of the box in their proper position.

5 The improved metal bound box will be found most useful to butter exporters as it can be constructed from very thin wood and will not occupy as much shipping space as the butter boxes at present in use by ship-
10 ping companies or the like.

Many modifications of detail as regards the metal bindings may be made to adapt the above to different requirements without departing from the spirit of the invention.

15 I claim:

1. A box having securing means consisting of a pair of longitudinal "side-and-corner" binding metal bands or strips of angular formation completely encircling the
20 box and of which one edge is cut and formed with teeth adapted to be pressed into and through at least one face of the box, and the other edge is formed with teeth adapted to be pressed into the conjoining face, these

teeth forming the sole means for holding
25 and securing all the sides of the box.

2. A box having securing means consisting of a pair of longitudinal "side-and-corner" binding metal bands or strips of angular formation completely encircling the
30 box and of which one edge is cut and formed with teeth adapted to be pressed into and through at least one face of the box, and the other edge is formed with teeth adapted to be pressed into the conjoining face, these
35 teeth forming the sole means for holding and securing all the sides of the box, one end of each of such band strips being formed with a tang which engages with a suitable
40 slot on the opposite end of the same strip thus when locked as herein described securing the lid in a closed position whilst the tang lies flat against the box.

In witness whereof, the said GEORGE GEOFFREY VIAL has hereunto set his hand
45 this eleventh day of November, 1926.

GEORGE GEOFFREY VIAL.