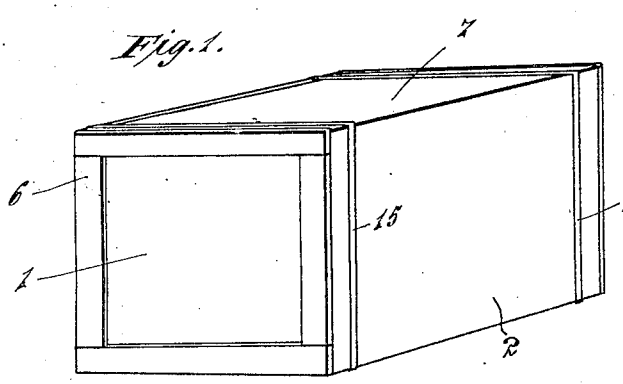
April 22, 1924. 1,491,356

A. V. H. MONRO

PACKING CASE

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Fig. 1.



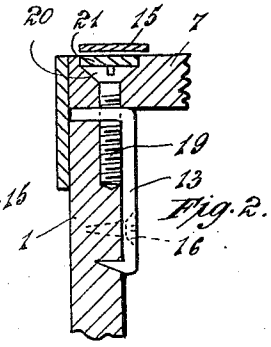


Fig. 2.

Fig. 3.

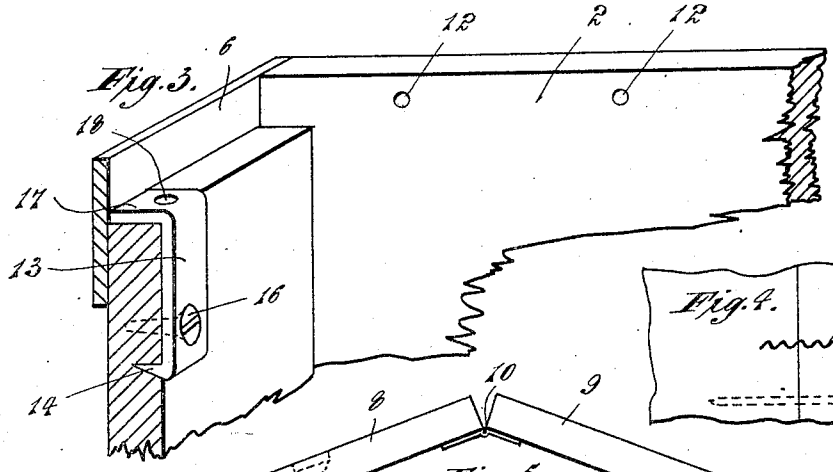


Fig. 4.

Fig. 5.

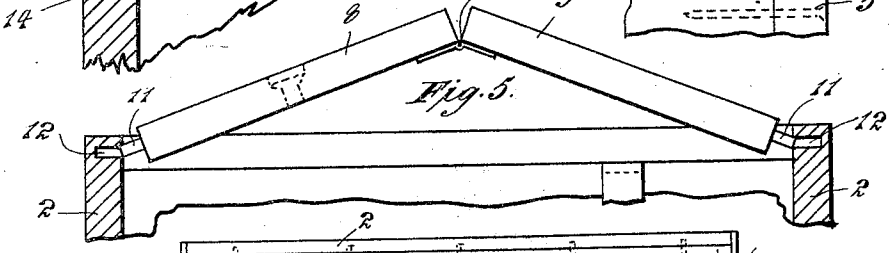
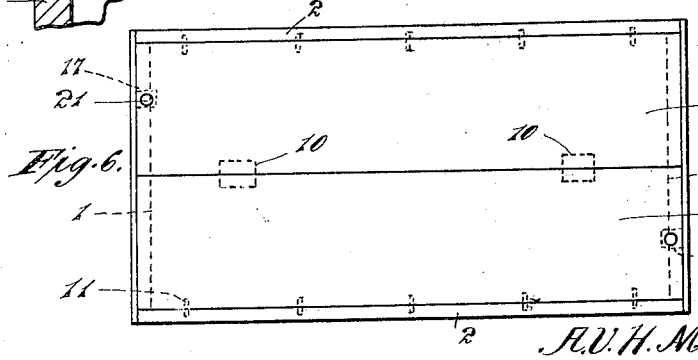


Fig. 6.



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Fig. 7.

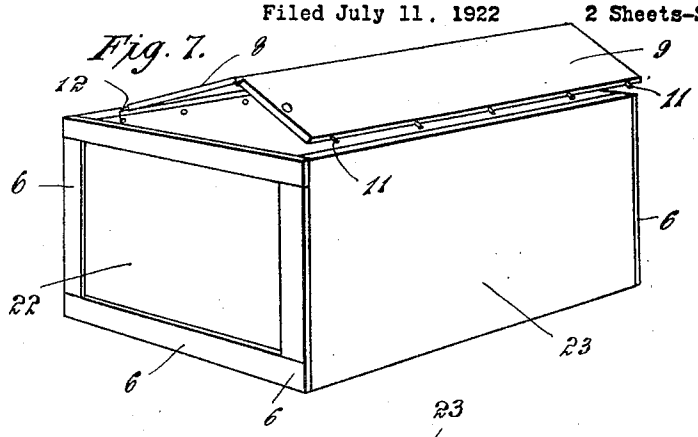


Fig. 8.

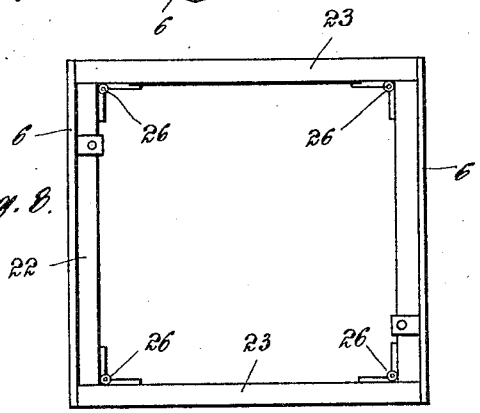


Fig. 9.

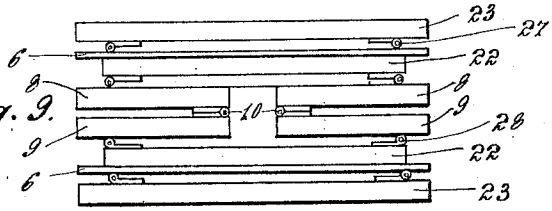


Fig. 10.

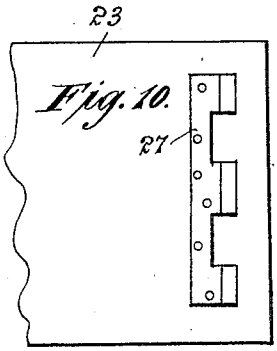
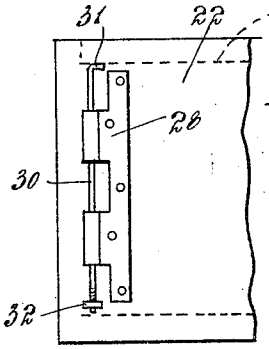


Fig. 11.



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Patented Apr. 22, 1924.

1,491,356

UNITED STATES PATENT OFFICE.

ARCHIBALD V. HALE MONRO, OF WELLINGTON, NEW ZEALAND.

PACKING CASE.

Application filed July 11, 1922. Serial No. 574,157.

To all whom it may concern:

Be it known that I, ARCHIBALD VASSAL HALE MONRO, a subject of the King of Great Britain and Ireland, residing at Wellington, New Zealand, have invented a new and useful Improvement in Packing Cases; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to packing cases or boxes of the type for guarding against the unauthorized opening or pillaging thereof without leaving evidence that such case has been interfered with.

The chief objects of the present invention are to provide improved means of securing the lid in position and to provide such a case which is easily collapsible for packing purposes.

According to the present invention the lid and, if desired, the bottom, is secured by means of screw bolts having counter-sunk heads, such bolts passing through the lid into lugs fixed in the walls of the case. The lug is preferably made with an elbow at its top end through which the bolt is screwed.

The countersunk heads of the bolts are let into the counter-sunk holes in the lid and the holes sealed with wax, lead or the like.

When the case is made collapsible the four sides of the case are hinged together by a suitable form of hinge which may be easily disconnected.

After the four sides are placed in position the top and bottom of the case are then secured as described above. When collapsing the case after the top and bottom are removed the hinges are first disconnected and the parts may be held one upon the other thus occupying a very small space.

The top and bottom instead of being in one piece may be formed of two or more boards hinged together while the longitudinal edges of the lid are provided with a number of metal dowels projecting from the edge and adapted to engage in the sides of the box near the upper edge. To place the lid in position the metal dowels are first inserted into their respective holes, this being possible by the parts of the lid being hinged together.

The invention will be described with the aid of the accompanying drawings, wherein:—

Figure 1, is a perspective view of a case closed.

Figure 2, is a cross section showing how the lid is secured.

Figure 3, is a fragmentary view in perspective.

Figure 4, is a view of a detail.

Figure 5, is an end view of a case showing how the lid is placed in position.

Figure 6, is a plan of the case.

Figure 7, is a perspective view of a collapsible case.

Figure 8, is a plan of such case with the lid removed.

Figure 9, is a view showing the case collapsed.

Figures 10, and 11, are side views of different parts of a hinge for the collapsible case.

Referring first to Figures 1 to 6, the ends 1 are secured to the sides 2 in any suitable way, for preference by means of nails 3 and corrugated fasteners 4. The ends 1 are not of the same depth as the sides 2, as shown in Figure 3, but the top edges are below the edges of the sides 2 a distance corresponding to the thickness of the lid.

The ends have battens 6 which cover the joints between the ends and sides and such battens extend above the edges of the ends 1 to a height corresponding with the sides 2. The battens 6 also help to strengthen the box, particularly at the corners thereof. The lid 7 is supported upon the top edges of the ends 1 and fits between the sides 2 and the battens 6. The lid is preferably made in two parts 8 and 9, hinged together by hinges 10, upon the inner side of the lid as shown in Figures 5 and 6. The outer longitudinal edges of the parts 8 and 9 have a number of dowels 11 projecting therefrom, such dowels being adapted to enter holes 12 along the interior of the sides 2 near the upper edge thereof. The ends of the lid are secured as follows:—

A lug consists of a shank 12 lying against the inner side of the end wall, having a foot 14 adapted to be driven into the end 1. The top of the shank ends in an elbow 17 at right angles to the shank and is fitted into the upper edge of the end 1. The elbow 17 has a hole 18 for a screw bolt 19 having a counter-sunk head 20, such bolt being adapted to pass through the lid 7, the head entering the counter-sunk hole in the lid whereby such lid may be secured in position and the portion above the head 20 of the

screw may be filled with sealing wax, 21, to receive the impression of a seal. As many of these screw bolts and lugs as required may be used, but for small cases one screw bolt in one end of the part 8 of the lid and another in the opposite end of the part 9 would be sufficient, as shown in Figure 6. If desired a lug and screw may be used in each end of the parts 8 and 9.

In larger cases the lid may be made of three parts, a centre portion to which the two side parts 8 and 9 would be hinged. In this case a lug and screw may be used in each end of the three boards. The bottom may be made exactly similar to the lid.

In place of the hinged lid, a one-piece lid may be employed, the ends being secured by means of the lug and screw without dowels along the sides. This, however, would only be suitable for small cases. If desired, the case may be bound by means of flat metal bands 15, tightened and secured together by any well-known system.

Referring now to Figures 7 to 11, these show a collapsible case. The ends and the sides are arranged to form a square box, the ends have the battens 6 as before, while the length and depth of the ends, including the battens, correspond to that of the sides. The ends 22 are hinged to the sides 23 by hinges 26. The hinges 26 are made in two parts 27 and 28, detachable as shown in Figures 10 and 11, each part of such hinges being fixed respectively to an end 22 and to a side 23. The two parts of the hinge are adapted to be secured together by a pin 30 having a head 31, while a nut 32 is threaded upon its other end to retain the rod in position.

To put the case togther, all that is necessary to do is to insert the respective parts 27 and 28 of the hinges together, insert the pin 30 and then place one lid in position. Such lid will retain the pin 30 in position when the case is turned over, after which the nuts 32 are threaded upon the pins. The remaining lid is now secured by means of the lugs and screw bolts 19 as before.

When collapsing the case, one lid is first removed, the nuts 32 removed, the box turned over and the other lid removed, the pins 30 withdrawn and the ends and sides taken apart. The pins are reinserted into a part 28 of the hinge and the nuts 32 replaced in order to prevent the pins becoming lost. The parts are now placed one above the other as shown in Figure 9, the lids being folded as indicated. Thus the whole case occupies a compact space.

What I claim is:—

1. In a packing case of the type referred to, means for securing the lid in position consisting of downwardly depending lug having means for securing it to the inner side of the wall of the case, and a portion through which a screw bolt which passes through the lid is threaded, substantially as described.

2. In a packing case of the type referred to, the lid secured by means of a lug lying against the interior wall of the box, such lug consisting of a shank having a foot adapted to be driven into such wall, the upper end of the shank forming an elbow, and a screw bolt passing through the lid and passing down through the elbow, substantially as described.

3. A packing case consisting of ends, sides secured to the ends so that the sides overlap said ends, said sides extending above and below the ends a distance corresponding to the thickness of the lid and bottom respectively, and battens fixed to said ends, the battens upon the top and bottom of the ends extending a distance corresponding to the thickness of the lid and bottom respectively so as to overlap said lid and bottom, while the other two battens overlap the sides and lie flush therewith, substantially as described.

4. A packing case consisting of ends, sides secured to the edges of said ends so that the exterior surface of said sides will present an unbroken face right up to the plane corresponding with the exterior surface of the ends, said sides extending above and below the upper and lower edges of the ends respectively a distance corresponding to the thickness of the lid and bottom, battens fixed to said ends so as to overlap the edges of the sides and bottom of the ends extending to a distance corresponding to the thickness of the lid and bottom, the outer edges of the other two battens lying flush with the outer surface of the sides, all arranged whereby the lid and bottom when in position lie flush with the upper and lower edges of the battens and sides respectively, substantially as described.

5. A packing case consisting of ends, sides secured to the ends so that the sides overlap said ends, said sides extending above and below the ends a distance corresponding to the thickness of the lid and bottom respectively, and battens fixed to said ends, the battens upon the top and bottom of the ends extending to a distance corresponding to the thickness of the lid and bottom respectively, so as to overlap said lid and bottom, while the other two battens overlap the sides and lie flush therewith, the said ends and sides connected by detachable hinges located in the corners of such case, and means for disconnecting such hinges so that the parts of the case may be collapsed and taken apart, substantially as described.

6. A packing case consisting of ends, sides secured to the ends so that the sides overlap said ends, said sides extending above and below the ends a distance corresponding to

the thickness of the lid and bottom respectively, and battens fixed to said ends, the battens upon the top and bottom of the ends extending to a distance corresponding to the thickness of the lid and bottom respectively so as to overlap said lid and bottom, while the other two battens overlap the sides and lie flush therewith, a lug lying against an interior wall of the box, said lug consisting of a shank having a foot adapted to be driven into said wall, an elbow formed at the upper end of said shank, a screw bolt passing through said lid and screwed into said elbow, said bolt having a countersunk head adapted to be fitted into a countersunk hole in said lid a distance to enable the hole above the head to be filled with sealing material, substantially as described.

7. A packing case consisting of ends, sides secured to the ends so that the sides overlap said ends, said sides extending above and below the ends a distance corresponding to the thickness of the lid and bottom respectively, and battens fixed to said ends, the battens upon the top and bottom of the ends extending a distance corresponding to the thickness of the lid and bottom respectively so as to overlap said lid and bottom, while the other two battens overlap the sides and lie flush therewith, the lid made in two parts and hinged together, metal dowels projecting from the outer edge of each part adapted to enter holes near the upper edge of the case, substantially as described.

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

A. V. HALE MONRO.

Witnesses:
SIDNEY H. HIGGS,
A. V. SMITH.