

Jan. 2, 1923.

I. E. MARSHALL.  
HINGE AND CORNER IRON.  
FILED APR. 4, 1918.

1,440,739.

2 SHEETS—SHEET 1.

Fig. 1.

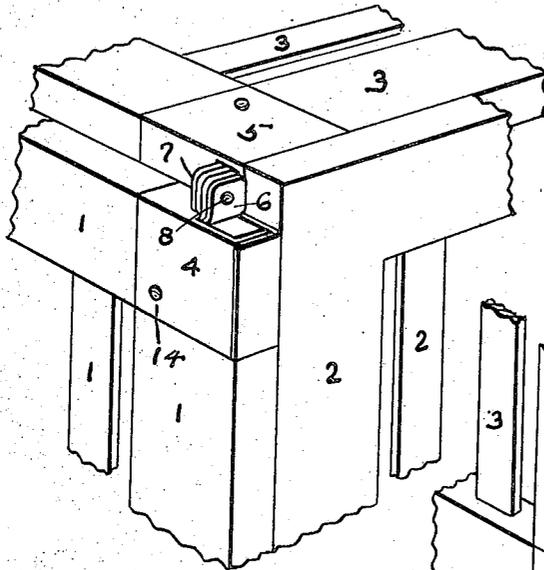


Fig. 2.

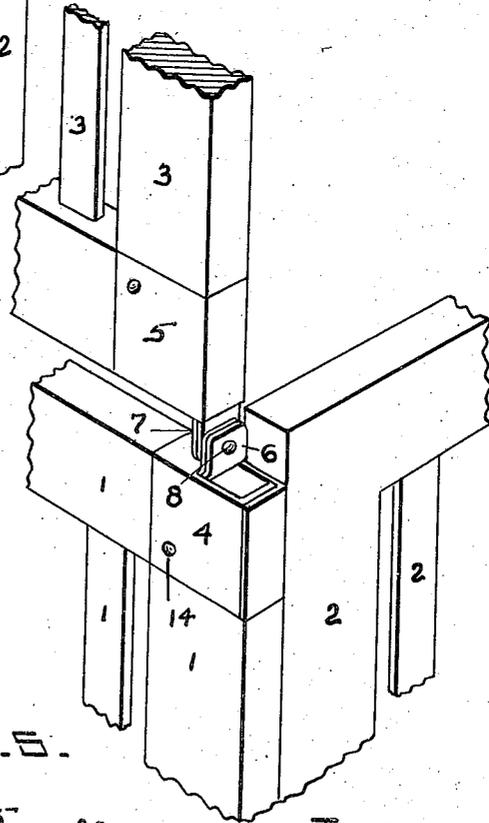


Fig. 3.

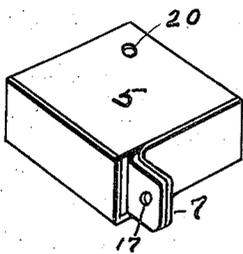


Fig. 4.

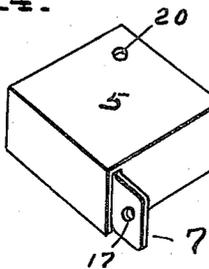
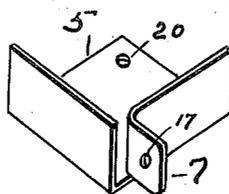


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 6-

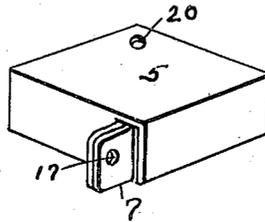


Fig. 7-

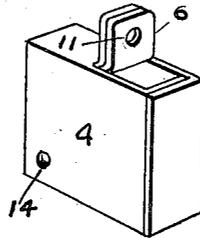


Fig. 8-

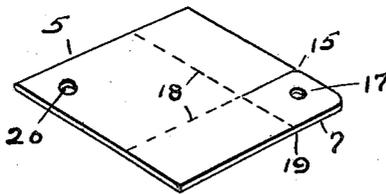


Fig. 9-

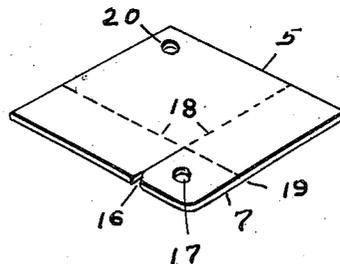
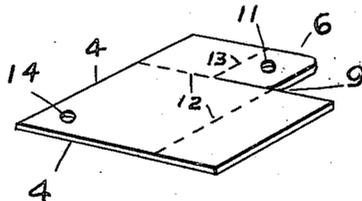


Fig. 10-



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## UNITED STATES PATENT OFFICE.

IANTHUS E. MARSHALL, OF RICHMOND, CALIFORNIA.

## HINGE AND CORNER IRON.

Application filed April 4, 1918. Serial No. 226,603.

*To all whom it may concern:*

Be it known that I, IANTHUS E. MARSHALL, a citizen of the United States, residing at the city of Richmond, county of Contra Costa, State of California, have invented certain new and useful Improvements in Hinges and Corner Irons, whereof the following is a specification.

This invention relates to improvements in hinges and corner irons, applicable more especially to collapsible crates or boxes for shipping poultry and fruit and other things which it is desirable to so protect.

The present invention consists in an interlocking corner and hinge iron and in the manner of making the same.

In carrying out the invention I cut blanks out of sheet metal, which being bent in predetermined directions produce the interlocking hinge and corner iron.

In the accompanying two sheets of drawing I have illustrated the invention, and so much of a crate as is desirable to fully show the manner of its use.

Figure 1 is a perspective view of part of a corner of a crate with the present invention applied to it, the cover of the crate being closed.

Figure 2 is a similar view to Figure 1, but with the cover of the crate open.

Figure 3 is a perspective view of the corner and hinge iron for the cover, apart from the same.

Figure 4 shows one of the parts of the iron, being the upper part of Figure 3.

Figure 5 shows the lower member of the iron of Figure 3.

Figure 6 is the same as Figure 3, but inverted and in the position in which the iron appears in Figures 1 and 2.

Figure 7 is a perspective of the corner and hinge iron of the body of the crate. This figure, in connection with Figure 6, shows the juxtaposition of the irons of the cover and the body of the crate, when in use on the crate as seen in Figures 1 and 2.

Figures 8, 9 and 10 are perspective views of the blanks from which the respective irons are bent up, as will be explained hereinafter.

In these figures:— 1 represents the back bars of the crate, and 2 the side or end bars thereof. 3 represents the bars of the cover. 4 is the box-like corner and hinge iron applied to the joint of the bars 1; and

5 is the iron applied to the joint of the bars 3. These parts are provided with the ears 6 and 7 respectively, which ears register with each other and are perforated, as seen, to receive the pin or rivet 8, which thus constitutes an effective hinge pintle. Thus the crate cover 3 can be opened upon the hinge, thus formed, as seen in Figure 2, or closed as seen in Figure 1.

These corners and hinge irons are box-like structures bent up from sheet metal, in the manner to be set forth. Referring to Figure 10, a blank is formed from sheet metal, of rectangular form, as shown in the figure. This blank is slit, as at 9 and perforated as at 11 for the pintle. The metal is then bent upward upon the dotted lines 12, and down upon the dotted line 13, thus producing one member of the box-like device shown per se in Figure 7. This box structure, which has two open sides at right angles to each other, is slipped over the bars 1 and there secured by any suitable means, as by pins at 14, driven through the metal and into the wood. It will be observed that owing to the box-like form of the device, it may be fastened by a single such pin.

Referring to Figures 8 and 9, which represent the blanks for the corner and hinge iron 5, the blanks are of approximately square form, and are slit at 15 and 16, and perforated at 17. The metal is then bent up at right angles on the dotted lines 18, and down at right angles on the dotted lines 19, thus producing the two open face boxes with two open sides, shown in Figures 4 and 5, respectively. These members are then faced and interlocked producing the device shown in Figure 3, which may then be applied to the bars 3 and secured by the single pin at 20.

The blanks may be cut from the same die but the holes for the hinge pintle are in different positions as disclosed in Figs. 8 and 9, so as to register when the blanks are bent to final form.

The hinge and corner members thus formed are very cheaply and quickly manufactured and require no complicated or expensive apparatus for their production, and I have found them very effective in practical use.

Having thus described my invention, and an embodiment of it, in the full, clear and exact terms required by law, and knowing

that it comprises novel, useful and valuable improvements in the art to which it pertains, I here state that I do not wish to be limited to the precise construction and arrangement  
5 of the several parts, as herein set forth, as the same may be variously modified by a skilled mechanic without departing from the spirit of the invention.

10 What I claim and desire to secure by Letters Patent of the United States, is the following to-wit:—

A hinge for a shipping box, comprising two complementary parts adapted to fit one in the other, each of said parts being com-

posed of a single metal piece bent up to form a right angle edge, said edge being bent out at right angles to form an ear, and means engaging said ears of said complementary parts adapted to bind them together.

In testimony that I claim the foregoing I have hereto set my hand in the presence of two witnesses, this 25th day of March, 1918.

IANTHUS E. MARSHALL.

Witnesses:

LOUISE BEARDEN,  
FLORENCE L. WOLFE.