May 15, 1951 E. O. BODKIN 2,552,929

CORNER REINFORCING MEMBER AND BAIL EAR

Filed April 25, 1946 2 Sheets-Sheet 1

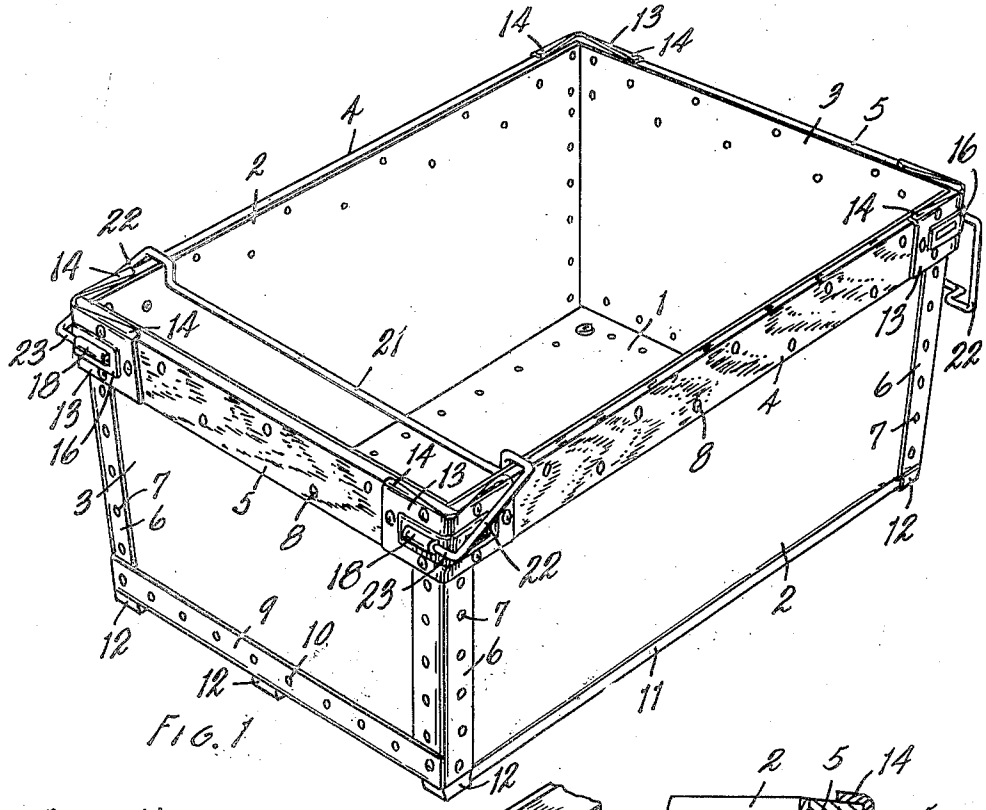


FIG. 1

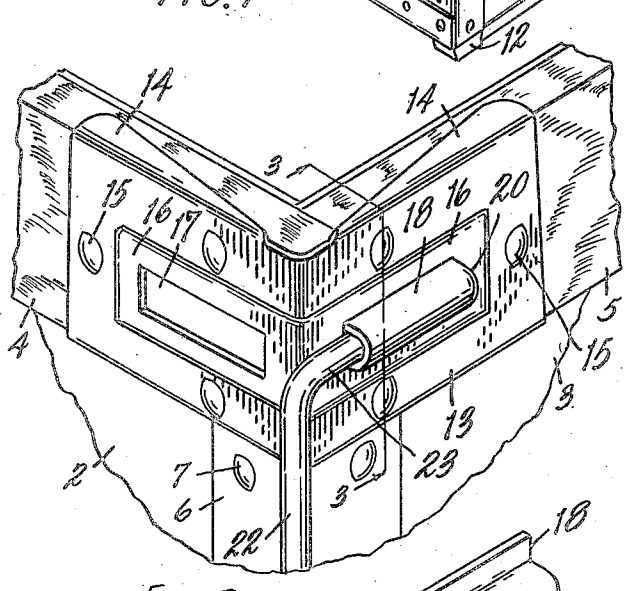


FIG. 2

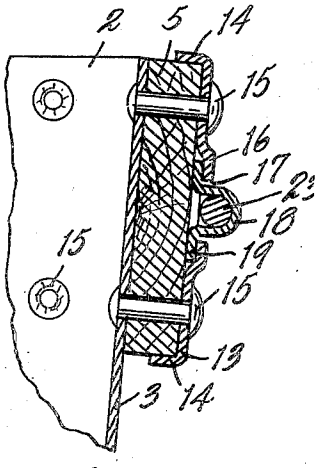


FIG. 3

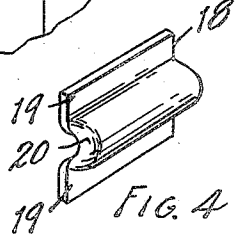


FIG. 4

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CORNER REINFORCING MEMBER AND BAIL EAR

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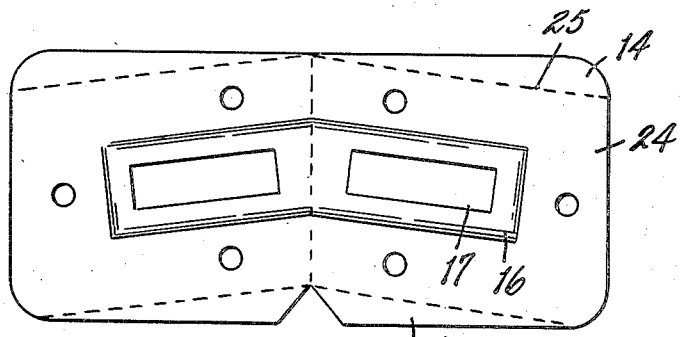


FIG. 5

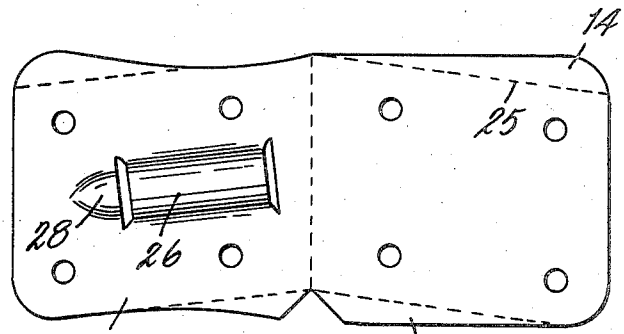


FIG. 6

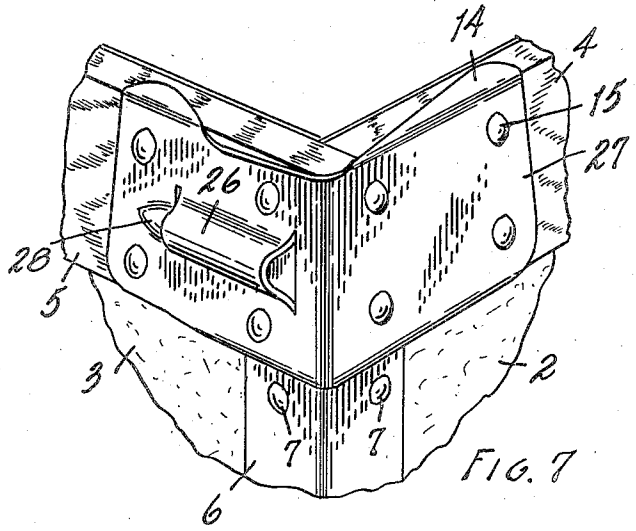


FIG. 7

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Patented May 15, 1951

2,552,929

UNITED STATES PATENT OFFICE

2,552,929

CORNER REINFORCING MEMBER AND BAIL EAR

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Application April 25, 1946, Serial No. 664,917

4 Claims. (Cl. 220—91)

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This invention relates to improvements in corner reinforcing member and bail ear.

The main objects of this invention are:

First, to provide a stacking and nesting box which may be formed of relatively light stock and at the same time one which is very strong and rigid and capable of withstanding severe uses and carries heavy loads.

Second, to provide a stacking and nesting box in which the reinforcing corner irons or members also constitute nesting stops.

Third, to provide a stacking and nesting box in which the corner irons constitute reinforcing elements and also means for pivotally supporting the stacking bails.

Fourth, to provide a stacking and nesting box in which the walls and bottom formed of light veneer or fiberboard are reinforced to provide a very rigid structure and one capable of carrying heavy loads without distortion.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

Preferred embodiments of the invention are illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a structure embodying my invention with one of the stacking bails in erected position and the other in collapsed position.

Fig. 2 is an enlarged perspective view showing structural details of the corner irons or members of the embodiment shown in Fig. 1, the stacking bail being shown in collapsed position.

Fig. 3 is an enlarged fragmentary view in section on line 3—3 of Fig. 2.

Fig. 4 is a perspective view of one of the pintle bearing members removed from the corner member.

Fig. 5 is an elevational view of one of the corner members in the flat prior to the forming of the flanges thereon.

Fig. 6 is a plan view of a modified form of the corner member of my invention.

Fig. 7 is a perspetive view of a structure embodying the corner member of Fig. 6.

The stacking and nesting boxes of my invention are adapted for a wide variety of uses such as the handling of merchandise in stores and warehouses and in delivering, and they are also adapted for use in factories particularly where small articles or parts are handled. In these uses, strength and relative lightness are very desirable factors.

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The embodiment of my invention shown in Figs. 1 to 4 inclusive comprises a bottom 1, side walls 2, 2, and end walls 3, 3. The terms "side" and "end" walls are used herein for convenience in description but they do not necessarily imply that the box is longer in one dimension than the other although that is the common practice for convenience in handling. The bottom and side walls are desirably formed of fiberboard or of relatively light veneer.

The side and end walls are provided with top side and end rim members 4 and 5, these being formed of wood in this embodiment.

The corner uprights 6 are formed of angle iron and secured with their angles facing inwardly in overlapping relation to adjacent side and end walls and secured thereto as by means of the rivets 7. The rim members are secured on the outer sides of the respective walls by means of rivets 8. The bottom end cross-pieces 9 are secured to the bottoms of the uprights and to the bottom of the end walls by means of the rivets 10. Slat-like runners 11 are secured to the bottom and are preferably provided with end sockets 12.

The structure is further reinforced by means of angled corner irons or members 13 which are angled to fit the corners and provided with flanges 14 lapping the edges of the rim members, the corner members being fixedly secured by rivets 15. These corner members have longitudinal bosses 16 struck outwardly therefrom, the bosses having longitudinal slots 17 therein. These bosses or slots are preferably provided on both arms of the corner members so that identical corner members may be used at all four sides.

The loop-like pintle bearing members 18 are arranged through selected slots, commonly in the arms of the corner members overlapping the end rim pieces, these bearing members having laterally projecting flanges 19 which fit within the offsets or bosses as shown in Fig. 3, being supported against inward movement by the rim pieces. The bearing members preferably have inturned flanges 20 at their ends.

The stacking bails 21 are provided with arms 22 terminating in inturned pivots or pintles 23 which are engaged in the bearings. It will be noted that these pintles are in supported bearing engagement with the outer sides of the corner members. This provides a very effective pivotal support for the stacking bails so that they may be swung to an erected position extending across the box and resting upon the side members thereof or to a collapsed position at the ends of the box or to a position clearing the top of the box.

In this embodiment, the rim pieces constitute nesting stops.

The corner members are very economically formed from pieces of sheet metal, the blanks 24 being shown in Fig. 5, the folding lines of the flange portions 14 being shown by dotted lines 25.

In the embodiment of my invention shown in Figs. 6 and 7, the loop-like bearing members 26 are struck outwardly from the stock of the corner members 27, otherwise the structure is the same as that described except that a pintle stop 28 is provided at the outer end of the pintle bearing. In this structure, the outer surface of the corner member serves as a bearing surface for the pintle the same as in the previously described structure.

I have not attempted to illustrate or describe other embodiments or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A corner reinforcing member for a tapered stacking box having a sloping rim around the top thereof, formed from a rectangular stamping, said member having arms symmetrical about a central upright vertical fold line and said arms having top and bottom parallel edges defined by fold lines inclined downwardly from said central fold line, top flange portions on said arms tapering to zero width at said first named fold line, bottom flange portions on said arms tapering to zero width near the outer edges thereof, the lower edge of said stamping being notched between said bottom flange portions, and forwardly embossed outwardly and downwardly inclined portions on said arms and defining slots adapted to receive a double flanged U-shaped pintle bearing member with the flanges of the bearing member retained in the embossed portion and with the bearing portion projecting through a slot and arranged to receive the end of a stacking bail.

2. A corner reinforcing member for a tapered stacking box having a sloping rim around the top thereof, formed from a rectangular stamping, said member having arms symmetrical about a central upright vertical fold line and said arms having top and bottom parallel edges defined by fold lines inclined downwardly from said central fold line, top flange portions on said arms tapering to zero width at said first named fold line, bottom flange portions on said arms tapering to zero width near the outer edges thereof, the lower edge of said stamping being notched between said bottom flange portions, and a forwardly embossed portion on one of said arms defining a slot and adapted to receive a double flanged U-shaped pintle bearing member with the flanges of the bearing member retained in the embossed portion and with the bearing portion projecting through the slot to receive the end of a stacking bail.

3. A corner reinforcing member for a tapered stacking box having a sloping rim around the top thereof, formed from a rectangular stamping, said member having arms extending oppositely from a central upright vertical fold line and said arms having top and bottom parallel edges defined by fold lines inclined downwardly from said central fold line, top flange portions on said arms tapering to zero width at said first named fold line, bottom flange portions on said arms tapering to zero width near the outer edges thereof, the lower edge of said stamping being notched between said bottom flange portions, and a U-shaped pintle bearing portion struck out from one of said arms and adapted to receive the end of a stacking bail.

4. A corner reinforcing member for a tapered stacking box having a sloping rim around the top thereof, formed from a rectangular stamping, said member having arms extending oppositely from a central upright vertical fold line and said arms having top and bottom parallel edges defined by fold lines inclined downwardly from said central fold line, top flange portions on said arms tapering to zero width at said first named fold line, bottom flange portions on said arms tapering to zero width near the outer edges thereof, the lower edge of said stamping being notched between said bottom flange portions, and a U-shaped pintle bearing portion on one of said arms and adapted to receive the end of a stacking bail.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
192,121	Johnson	June 19, 1877
199,899	Dunham	Feb. 5, 1878
919,360	Kamenstein	Apr. 27, 1909
967,211	Long	Aug. 16, 1910
1,874,629	Rollason	Aug. 30, 1932
1,968,042	Johnson	July 31, 1934
2,087,944	Brown	July 27, 1937
2,105,179	Best et al.	Jan. 11, 1938
2,121,944	Best	June 28, 1938
2,224,818	Hovorka	Dec. 10, 1940
2,338,082	Brewton	Jan. 4, 1944

FOREIGN PATENTS

Number	Country	Date
181,258	Great Britain	June 15, 1922