H. B. COLLINS.

BOX, CRATE, AND LIKE CONSTRUCTION.

APPLICATION FILED SEPT. 13, 1915.

1,189,542. Patented July 4, 1916.

Fig. 1.

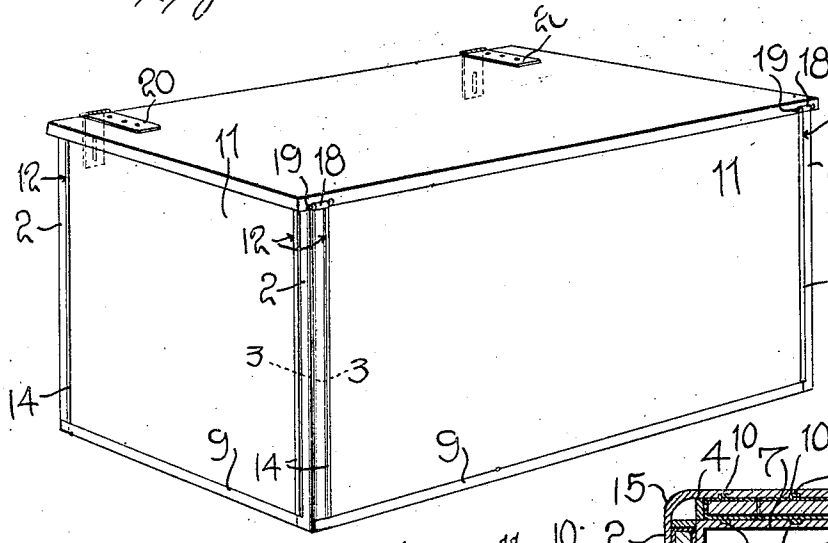


Fig. 2.

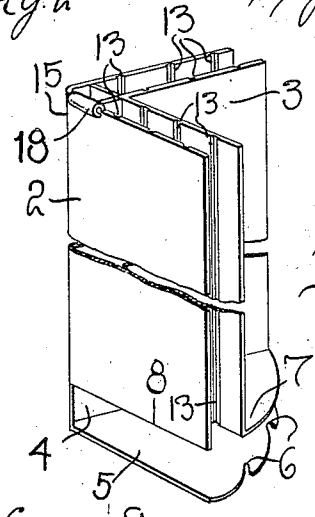


Fig. 3.

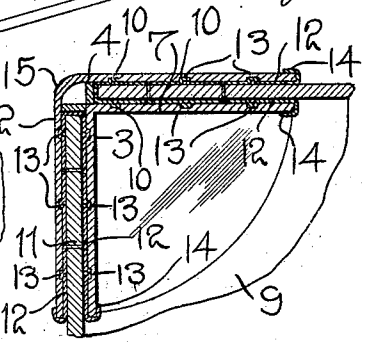


Fig. 5.

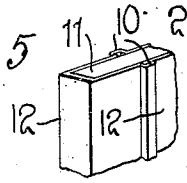


Fig. 4.

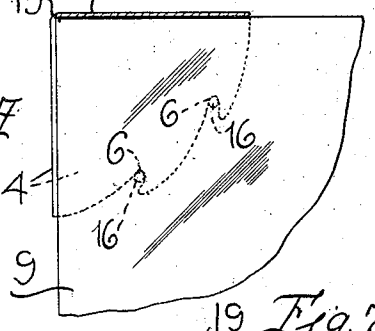


Fig. 6.

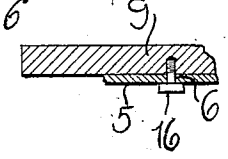
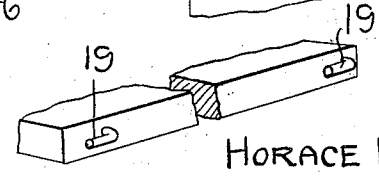


Fig. 7.



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BOX, CRATE, AND LIKE CONSTRUCTION.

1,189,542. Specification of Letters Patent. Patented July 4, 1916.

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To all whom it may concern:

Be it known that I, HORACE B. COLLINS, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented certain new and useful Improvements in Boxes, Crates, and like Constructions, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the construction of boxes, crates or like constructions wherein it is necessary to connect the sides to a top and bottom piece, and the primary object of the invention is to so construct the box, crate or like article that it may be readily shipped in a knocked down or disassembled condition and then readily put together when desired to be used, the construction being such that the box, after it has been set up and shipped, may be again knocked down to be returned to the original sender.

A further object of the invention is to provide corner pieces for the box or crate, so constructed that the sides, bottom and top of the crate may be readily connected at any time or disconnected therefrom without the use of bolts, nails, screws, or other fastening devices.

A further object of the invention is to provide improved means for engaging the margins of a box wall with the corner pieces 1.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a box constructed in accordance with my invention; Fig. 2 is a perspective view of one of the corner posts; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is a sectional view through one of the corner posts looking down upon the bottom of the box, the upper web 7 not being shown; Fig. 5 is a detailed perspective view of one of the side walls of the box and its metallic binding; Fig. 6 is a fragmentary sectional view of the bottom of the box, showing the stud whereby the box bottom is connected to the web 5; Fig. 7 is a perspective view of the top of the box, showing the pintles.

I will first describe one of the corner pieces used by me for connecting the bottom and sides of the box together, and will then describe the construction of the box as a whole.

Referring to Fig. 2, it will be seen that my corner piece, which is used on all four corners of the box, consists of an outer transversely angular sheet designated 2 and an inner transversely angular sheet designated 3, disposed in spaced relation to the sheet 2. One side 4 of the sheet 2 is extended down below the lower edge of the sheet 3 and is angularly bent as at 5 to form a shoe or end web. The edge of the sheet which would form the hypotenuse of the approximate triangle defined by the sheet is notched as at 6 for a purpose which will be later stated. The lower end of the sheet 3 is also angularly bent as at 7 parallel to the angular bend 5. It will be seen that there is a space between the bent portion 5 and the lower edge 8 of one of the side walls of the corner post. The bottom 9 of the box is adapted to be received between the bent portion 5 and the bent portion 7 and rotated into place therein as will be hereafter described, and locked by means of certain studs in the bottom of the box as will be later stated. The side walls of the angular webs 3 and 4 are longitudinally grooved as at 13. I do not wish to be limited to the number of these grooves or to the exact character, but preferably the grooves will be two or three in number for each of the wings of the corner post and preferably these grooves will be rectangular in form, as illustrated clearly in Fig. 3. Each of the side boards forming the side walls of the box and designated 11 is covered at its margin with a sheet of metal 12 held upon the board in any suitable manner, this sheet of metal 12 being formed with corrugations 10 mating with the grooves 13 and received in these grooves when the margin of the board is forced into the space between the web 3 and the web 4. Preferably the inner margins of the sheet 12 are outwardly bent and preferably re-turned as at 14 to engage over the margins of the webs 3 and 4. Thus the side walls of the box or other article are held firmly in place within the corner posts without the use of nails, screws, or like devices. Yet they may be readily removed from this engagement by pulling the boards out from between the webs 3 and 4. It is to be understood that these webs 3 and 4 are preferably made of relatively thin sheet metal, stamped, pressed, or otherwise formed and connected to each other in any suitable manner at the corners of the webs. Preferably also the corner of the corner post is rounded as at 15.

As illustrated in Fig. 4, the inwardly bent plate or web 5 is approximately triangular in form, and the hypotenuse of this triangle defined by the plate is preferably curved on an arc struck from the corner of the corner post formed by the intersection of the sides of the outer web 2 and formed with a plurality of peripheral slots 6 or notches opening upon the edge of the web. The bottom 9 of the box is formed with the studs or pins 16 which are adapted to engage with these notches 6. Thus the bottom board of the box may be inserted between the plates 5 and 7 and then given a half turn so that the pins 16 will engage in the notches and lock the bottom in place. After the bottom has been inserted, the side walls 11 of the box are forced in between the webs 3 and 4, and locked by the corrugations as previously described. The top or cover of the box is preferably detachably hinged to one of the side pieces and preferably to the corner pieces at the back of the box. To this end each of the rear corner pieces 2 at its upper end is formed with a bead 18 while the cover is provided with pintles 19 (Fig. 7) adapted to engage said bead upon a lateral movement of the cover. The cover is held from detachment by means of hasps 20, or other suitable devices.

It is to be understood that my construction is particularly adapted to boxes or crates wherein the sides, ends, bottom, top, etc., are made of manufactured or composite board. The construction, however, may also be applied to boxes or crates of openwork construction or of perforated board or sheet metal.

Having thus described my invention, what I claim is:

1. As an article of manufacture, a corner post for crates, boxes, or like articles having transversely L-shaped outer and inner webs held in spaced relation to each other, the outer web at the lower end extending beyond the inner web, both of said webs being inwardly bent at their lower ends, the edge of the lowermost inwardly bent portion of the outer web being peripherally notched.

2. A corner stay for crates, boxes, or like articles having outer and inner webs L-shaped in cross section and held in spaced relation to each other, the outer web at the lower end extending beyond the inner web, both of said webs being inwardly bent at their lower ends, the edge of the lowermost inwardly bent portion of the outer web being arcuate, the center from which the arcuate edge is struck being coincident with the corner formed by the intersection of the sides of the outer web and said edge having notches extending inward from the edge at an angle thereto.

3. In a box or like construction a connecting member having outer and inner spaced webs the confronting faces of which are formed with a plurality of grooves, walls insertible into the space between said webs, and binding members extending around the inserted margins of said walls and formed of sheet metal having corrugations interlocking with the grooves on the webs, the margins of the binding members being re-bent upon themselves to extend over the side edges of the webs.

4. In a box or like construction a corner post angular in cross section and having outer and inner webs spaced from each other, the confronting faces of the webs being grooved, box walls insertible between the webs, and members covering the margins of the walls and having corrugations interlocking with the grooves on the webs, said members having re-turned marginal portions which engage over the side edges of the webs.

5. In a box or like construction, a plurality of corner posts each angular in cross section and having outer and inner webs spaced from each other, the confronting faces of said webs being grooved, the outer web of each post at the lower end thereof extending beyond the inner web and both of said webs being inwardly bent at their lower ends to receive a board between them, means for interlocking a bottom board with the inwardly bent portion of one of said webs, said means permitting the bottom board and the corner post to be rotated with relation to each other in one direction to disengage the bottom board from between the webs, but preventing radial movement of the bottom board relative to the corner of the post, side walls or boards inserted between the webs, and means for interlocking said side walls with the corner pieces.

6. In a box or like construction, a plurality of corner posts each angular in cross section and each having outer and inner webs adapted to receive between them the side boards of the box, the outer web at the lower end extending beyond the inner web, both of said webs being inwardly turned at the ends to provide a socket at the bottom of the box, said socket being closed at one side, the inwardly turned portion of the outermost web having a curved edge formed with inwardly inclined peripheral slots, a bottom board inserted between the inwardly turned portions of the webs and having pins engaging with said slots, and side boards insertible between the webs of the corner pieces and having interlocking engagement therewith.

7. In a box or like construction, a plurality of corner posts each angular in cross section and each having outer and inner webs adapted to receive between them the side boards of a box, the outer web at the

lower end extending beyond the inner web and both of said webs being inwardly turned at their ends to provide a socket to receive the bottom of the box, said socket being closed on one side but open on its other side, a bottom board inserted between the inwardly turned portions of the webs, and means for interlocking the bottom board with the inwardly turned portions of the webs and preventing movement of the bottom board relative to the webs in all but one direction.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HORACE B. COLLINS.

Witnesses:
M. N. SMITH,
A. C. BAXTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."