D. P. FLEMING.

BOX.

APPLICATION FILED AUG. 20, 1910.

1,022,780. Patented Apr. 9, 1912.

Fig. 1.

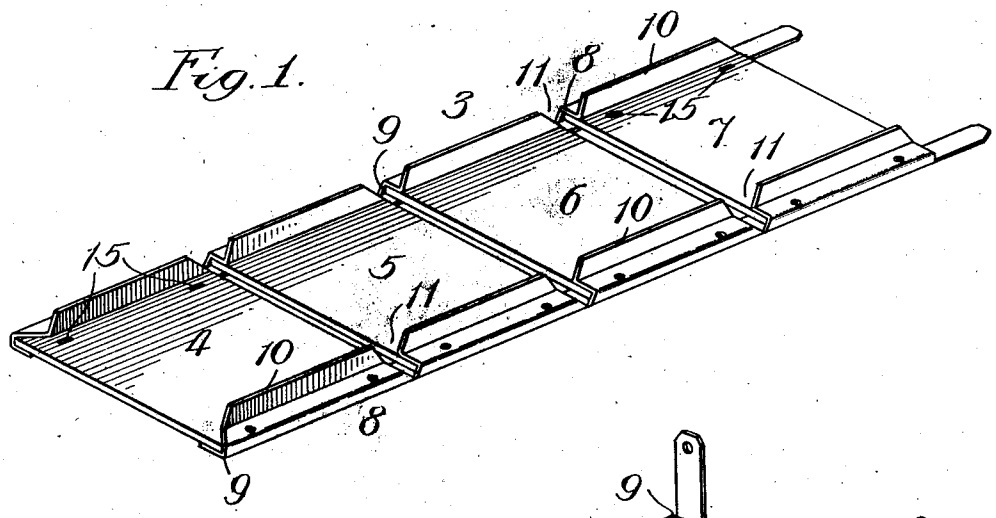
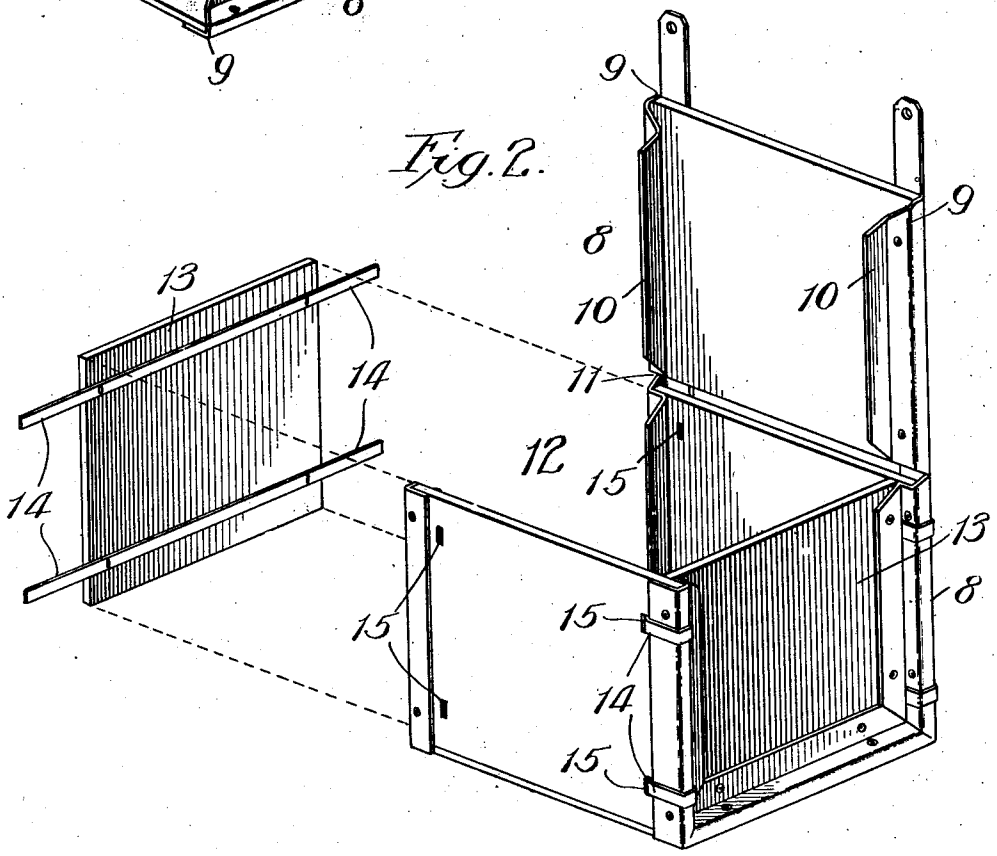


Fig. 2.



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UNITED STATES PATENT OFFICE.

DOUGLAS P. FLEMING, OF CHICAGO, ILLINOIS, ASSIGNOR TO SIMPLEX METAL BOUND BOX COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

BOX.

1,022,780. Specification of Letters Patent. Patented Apr. 9, 1912.

Application filed August 20, 1910. Serial No. 578,081.

To all whom it may concern:

Be it known that I, DOUGLAS P. FLEMING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Boxes, of which the following is a specification.

My invention relates to an improvement in boxes of the kind constructed of light and cheap material, such as veneer or fiber-board, which are reinforced with metal binding strips, such as wire, in some cases and sheet-metal in others.

I have more immediately devised my improvement for use on the metal-bound box which forms the subject of reissued Letters Patent of the United States No. 12,800, dated May 26, 1908, to E. E. Flora, and therefore herein describe it in that particular connection with reference to the accompanying drawing, in which—

Figure 1 is a perspective view of the metal-bound blank; and Fig. 2 is a similar view showing the box-body made by folding the blank, with the lid raised and one head secured in place and the other in unassembled relation to the body, both heads being provided with my improved securing means in the preferred form thereof.

Boxes of the patented construction referred to are, like different other boxes, shipped with advantage, to the trade or user, in knock-down or collapsed condition for assembly of the parts by the user. To that end the box is formed at the factory with the bottom and side sections as a blank, with those sections, as also the lid, when desired, (that is if it be designed to be a hinge-lid) united along their edges by the sheet-metal binding-strips, thereby adapting the blank to be folded into condition to form the body of the box by properly bending the metal binding between sections, and at the same time wrapping these sections about the box-heads, placed in position for the purpose. To enable the user, after thus assembling the parts, to pack or fill the box with material to be shipped in it, the assembled parts must be retained in their box-forming relation. This might be done by confining the box, until the parts are secured together by fastening down the lid, in a suitable frame, which, however, is not a practically desirable way, or by stapling, riveting, or indenting the flanges of the metal binding-strips to the box-heads, which abut outwardly against them, for which operations, though, the user is not ordinarily equipped.

The object of my invention is to provide simple and effective means on the box-heads which may be readily and conveniently caused to secure the assembled parts of the box together under the conditions referred to, and which shall, moreover, serve the further purpose of materially strengthening the structure.

Referring to the drawing, the blank 3, for a box-body of rectangular cross-section, is shown to consist of sheets 4, 5, 6 and 7, of veneer, fiber-board or analogous box-stock, joined together along their opposite edges by similar sheet-metal binding strips 8, each strip being provided, by preference, in a continuous length and provided with a trough-like section 9 to embrace the ends of the strips, to which it is permanently fastened, as by stapling, riveting, indentation, or the like, and a flange 10 extending at an angle from an edge of the trough-section. The strip is shown to be divided through the flange and inner side of the trough-section, as represented at 11, at intervals coinciding with the spaces provided between successive edges of the sheets, to adapt the blank to be readily folded to form a box-body 12. The similar box-ends or heads 13, which may, because of my improvement, be formed of stock as light as that of the body, are assembled with the latter, in forming the box from the knock-down condition of the parts, by bending and folding the blank about the heads which are caused to occupy the position, for the assembling operation, at the inner sides of the flanges 10, thus causing the latter to present abutments against displacement of the heads outwardly.

For fastening the parts of the box together in their assembled relation, my improvement is employed consisting of tongues 14 of flexible sheet-metal secured to the box-heads to protrude beyond their edges and pass, in assembling the parts, through the box-body, near the ends thereof, when the projecting ends of the tongues are bent outwardly and engaged with the metal binding. For projecting the tongues through the box-body the latter is shown to be provided with slots or openings 15 located to

register with the tongues, though when the body is formed, as it sometimes is, of spaced slats, like a crate, the tongues may protrude through the spaces. Only two of the tongues are required on each head for projecting one beyond each lateral edge thereof, although two are shown in the drawing to be thus provided in the preferred form of parallel strips of flexible metal secured to the inner face of the head to extend entirely across it, and cause their protruding ends to constitute four fastening tongues; and if desired the tongues may be provided to project at more than two of the edges of the box-heads for their fastening purpose, and when constituting the projecting ends of strips, as suggested, the number of strips employed on each head would be provided accordingly in proper relative position. Such amplification is too obvious to require illustration.

As will be seen, my improvement not only subserves the described fastening purpose most desirably, but, particularly when the tongues are provided as the ends of flexible-metal strips, it materially strengthens the box by reinforcing the structure, so that when rendered heavy by its contents, carrying the load at the metal-bound edges will not cause the weight to warp the binding and thus bulge the respective sections of the box-body, because of the resistance of the tongues in their engagement with the metal binding.

It is to be understood that my improvement is applicable with advantage to any box of the type herein specified whether the metal binding be that herein shown and described or of other form or construction, including a wire binding.

What I claim as new and desire to secure by Letters Patent is:

In combination, a box formed of box-stock and having openings formed adjacent to the ends of its sides, sheet metal binding-strips having trough-shaped sections in which the end portions of the box structure are confined, flanges projecting from said trough sections forming box-end abutments, box-ends abutting against said flanges and held from outward movement thereby, and flexible metal tongues secured to the inner faces of the box-ends and extending beyond the edges thereof and through the openings in the ends of the box sides, and bent outwardly around said binding strips to secure said box-ends against inward displacement, for the purpose set forth.

DOUGLAS P. FLEMING.

In presence of—

A. U. THORIEN,

R. A. SCHAEFER.