E. E. FLORA.

BOX.

APPLICATION FILED FEB. 26, 1909.

921,603.

Patented May 11, 1909.

2 SHEETS—SHEET 1.

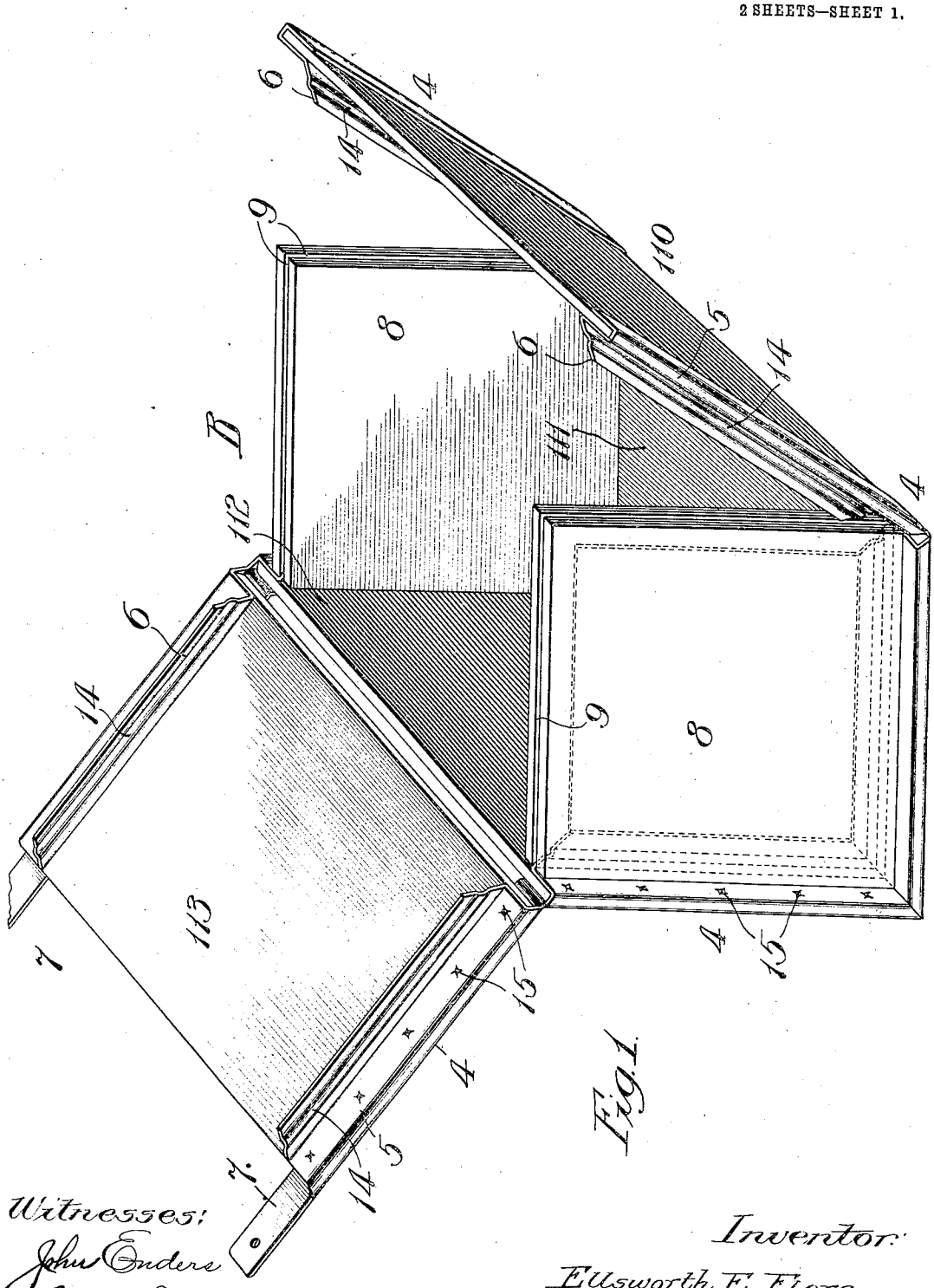


Fig. 1.

Witnesses:
John Enders
Chas. H. Buell.

Inventor:
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By Dyrenforth, Lee, Chritton & Wiles
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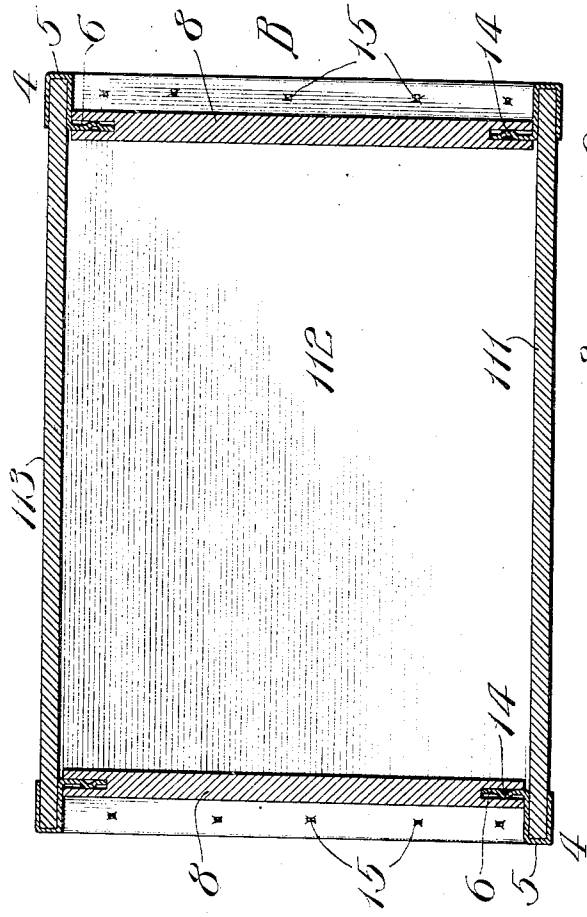


Fig. 2.

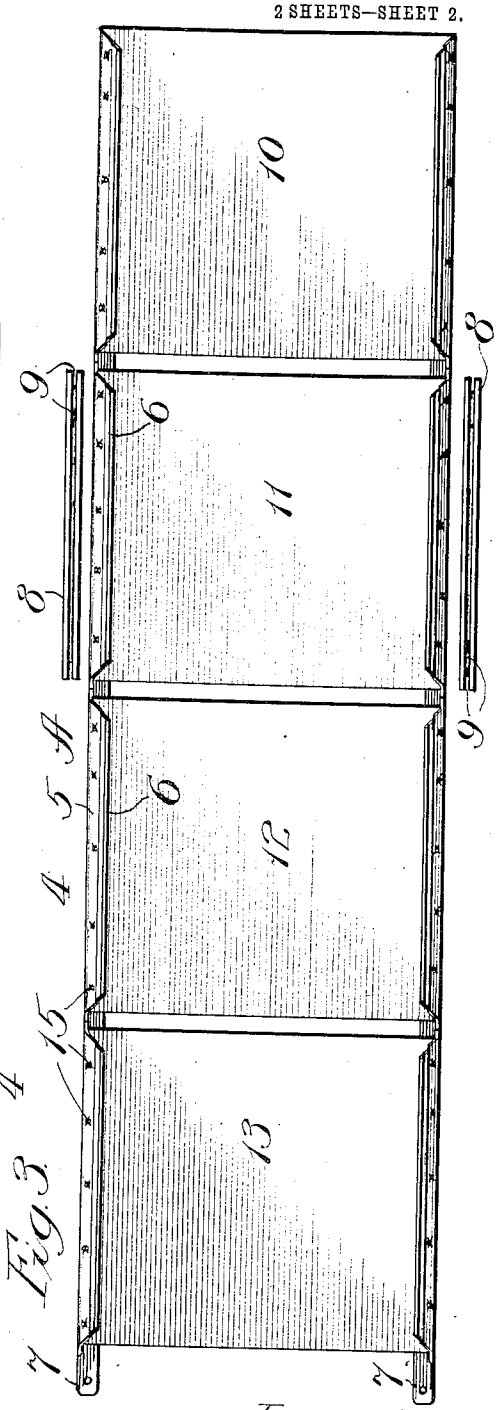


Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

ELLSWORTH E. FLORA, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO W. E. ROTHERMEL, OF CHICAGO, ILLINOIS.

BOX.

No. 921,603. Specification of Letters Patent. Patented May 11, 1909.

Application filed February 26, 1909. Serial No. 480,269.

To all whom it may concern:

Be it known that I, ELLSWORTH E. FLORA, 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 on the box of reissued Letters Patent, No. 12,800, granted to me May 26, 1908, and involving, as the essential construction, a body with inset or sunken heads or ends and metal binding-strips for the end-portions of the box, having trough-shaped members to receive the extremities of the body and flanges projecting from the inner-ends of the trough-members affording abutments for the heads which are secured thereto.

The object of my present invention is to provide a modified way of securing together box-heads and abutting members of the binding-strips, which shall both cheapen the cost of manufacturing the box and at the same time adapt the flanges of the binding-strips to present abutments to the sunken heads against their displacement both inwardly, as heretofore, and outwardly. This object I accomplish by recessing the edges of the heads to form grooves therein adapted to receive the flanges of the binding-strips.

In the accompanying drawings, Figure 1 is a perspective view of a box embodying my improvement and showing the front side of the body-portion as undergoing adjustment into place to complete the structure out of a suitable blank; Fig. 2 is an enlarged cross-section of the box, and Fig. 3 is a plan view of a blank adapted to be folded to form the box-body, the view presenting recessed edges of the heads used with the blank to form the box.

The preferred procedure in manufacturing the box of my aforesaid patent, with or without my present improvement, is to employ the material for the body-portion in separate sheets, one for each side, one for the bottom and one for the top or lid, if the box be of angular shape in cross-section, the material used being wood, fiber-board or other suitable box-material, and bind the ends of a series of said sheets, suitably spaced apart, by applying to their ends, to embrace the latter, the trough-like or U-shaped sections 5 of sheet-metal binding-strips 4, forming the binding-strip for each end of the box in a continuous length. Thus the blank A of Fig. 3 is produced, with the flanges 6 on the inner edges of the binding-strips projecting at right-angles to the inner face of the blank; and the strips terminate at one end in tongues 7 by which to fasten the box B in its closed condition.

While the parts may be assembled in various other ways to form boxes involving my invention in any desired shapes and sizes, the procedure above described is found in practice to be desirable for facilitating the manufacture and enabling the box to be shipped in a knockdown condition adapting it to be more conveniently reduced to box-form.

The box-ends or heads 8 shown of rectangular shape to conform to that of the box in cross-section, are each provided with a longitudinal recess 9 about its edge, which may best be cut with a fine saw though the width of the recess so formed is necessarily greater than that of the thickness of the sheet-metal of the binding-strips because no suitable saw for the recessing purpose can cut a recess as narrow as the sheet-metal used is thin. However, that condition presents an advantage hereinafter explained.

To form my improved box from a blank 4 and ends 8, the binding-strips are bent between the sections defined by the sheets 10, 11 and 12 to bring them at right-angles to each other for the box-sides 110 and 112 and the bottom 111, respectively, the folding being performed about the heads 8 or the latter being subsequently inserted into place, either way introducing the respective flanges 6 into the head-recesses 9; and upon bending the section 113, which is defined by the blank-sheet 13, into position to form the lid or cover, binding-strip flanges of that section enter the grooves 9 of the heads which they encounter, thereby completely forming the box, which may be sealed or firmly held together by bending the tongues 7 and suitably fastening them against the binding-strip sections on the box-side 110.

The greater width of the recesses 9 relative to the thickness of the flanges 6 adapts them to receive the latter when beaded or corrugated longitudinally, as represented at 14, which is advantageous in stiffening the flanges and thus strengthening the binding

against warping or other disfigurement, as from strain in lifting against their resistance in a heavily-laden box.

The binding-strips are fastened upon the ends of the sheet-sections of the blank by any suitable means, as by indenting the metal of the trough-sections of the binding at 15 into the material of the sheets, by stapling, nailing or riveting through the parts, or otherwise; but the flanges 6 require no other fastening to the heads than their confinement in the recesses 9, which saves considerably in material and handling for fastening them, and besides renders the box tight-jointed about its ends, while the engagement of the flanges with the heads presents to the latter abutments on both sides of the flanges, with the advantage of reinforcing the stability of the heads.

It may be suggested that without departure from my invention, the heads 8 can be formed of layers of material secured flatwise together in a manner to produce edge-recesses 9 between them.

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

1. A metal-bound box comprising a body-portion formed of sheet-material, metal binding-strips having trough-shaped sections in which the end-portions of the sheet-material are contained and secured, and flanges projecting from the inner edges of said trough-sections, and sunken box-heads provided in their edges with recesses in which said flanges are contained, for the purpose set forth.

2. A metal-bound box comprising a body-portion formed of sheet-material, a continuous sheet-metal binding-strip for each end of the box having trough-shaped sections in which the end-portions of the sheet-material are contained and secured, and flanges projecting from the inner edges of said trough-sections, and sunken box-heads provided in their edges with recesses extending lengthwise throughout the same and in which said flanges are contained, for the purpose set forth.

3. A metal-bound box containing a body-portion formed of sheet-material, metal binding-strips having trough-shaped sections in which the end-portions of the sheet-material are contained and secured, and longitudinally corrugated flanges projecting from the inner edges of said trough-sections, and sunken box-heads provided in their edges with recesses in which said flanges are contained, for the purpose set forth.

ELLSWORTH E. FLORA.

In presence of—

A. U. THORIEN,

R. A. SCHAEFER.