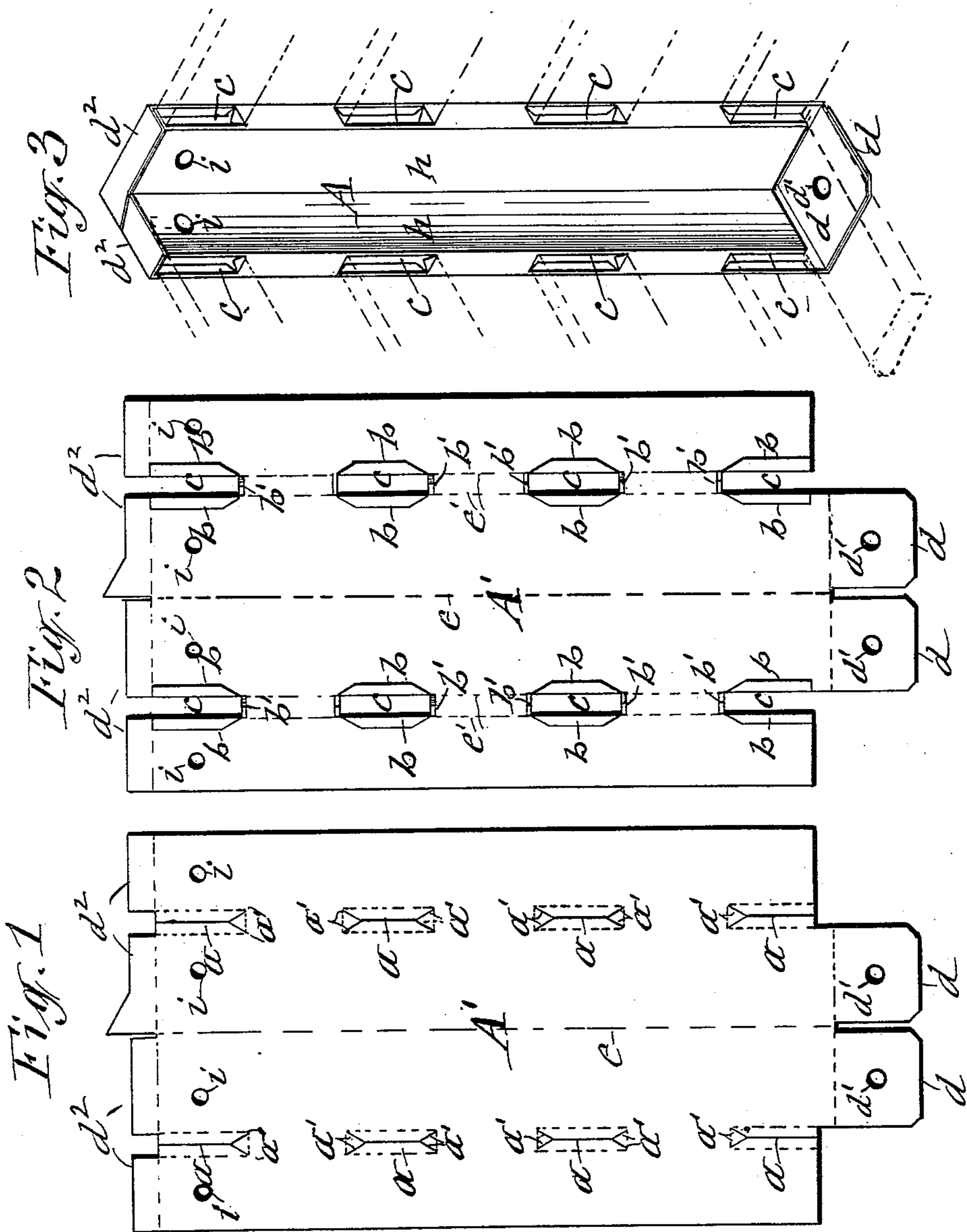


M. C. RYAN.
CRATE CORNER.

No. 602,409.

Patented Apr. 12, 1898.



WITNESSES:
H. B. Smith
M. A. Leyden

INVENTOR
Michael C. Ryan
By E. Laess
his ATTORNEY

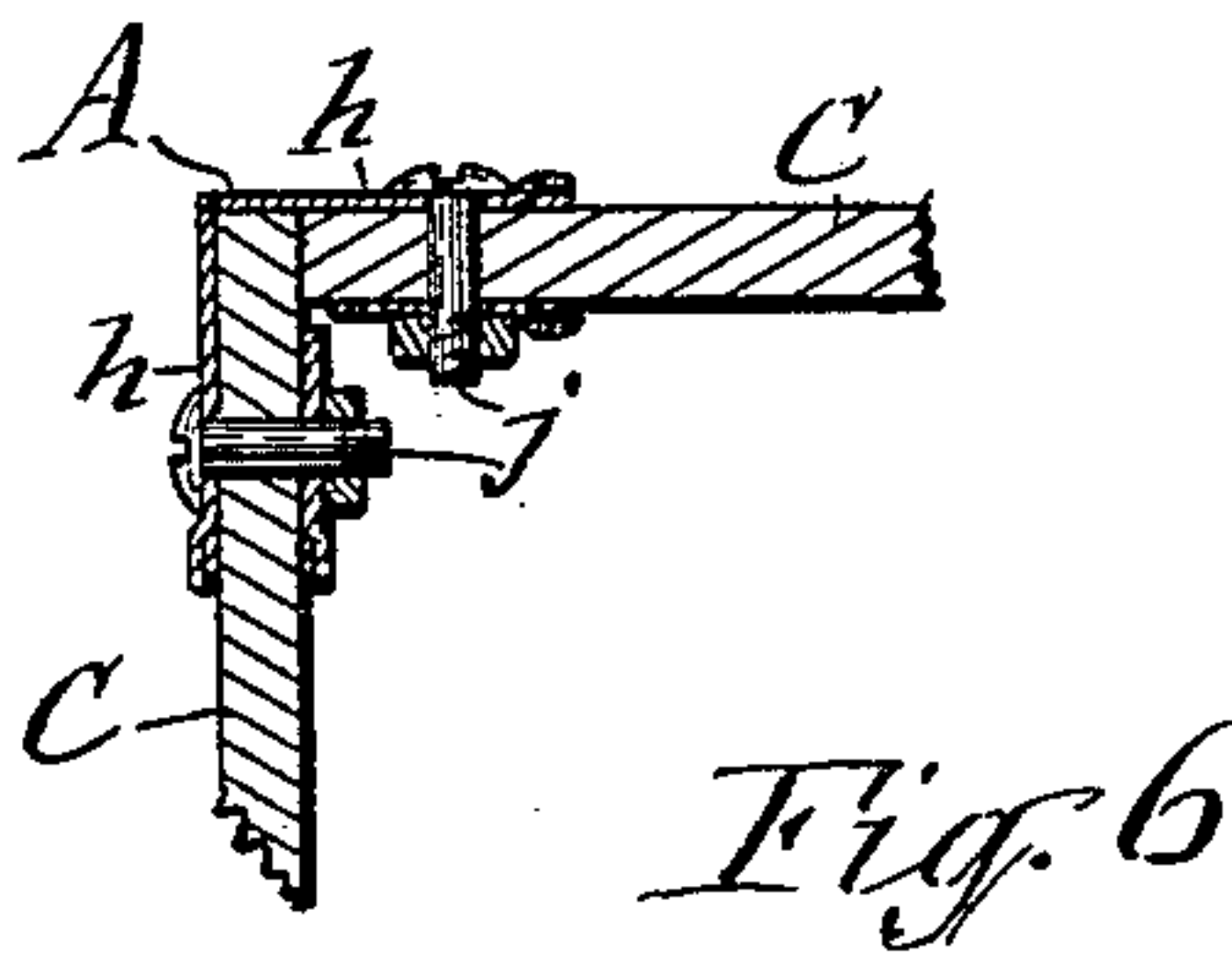
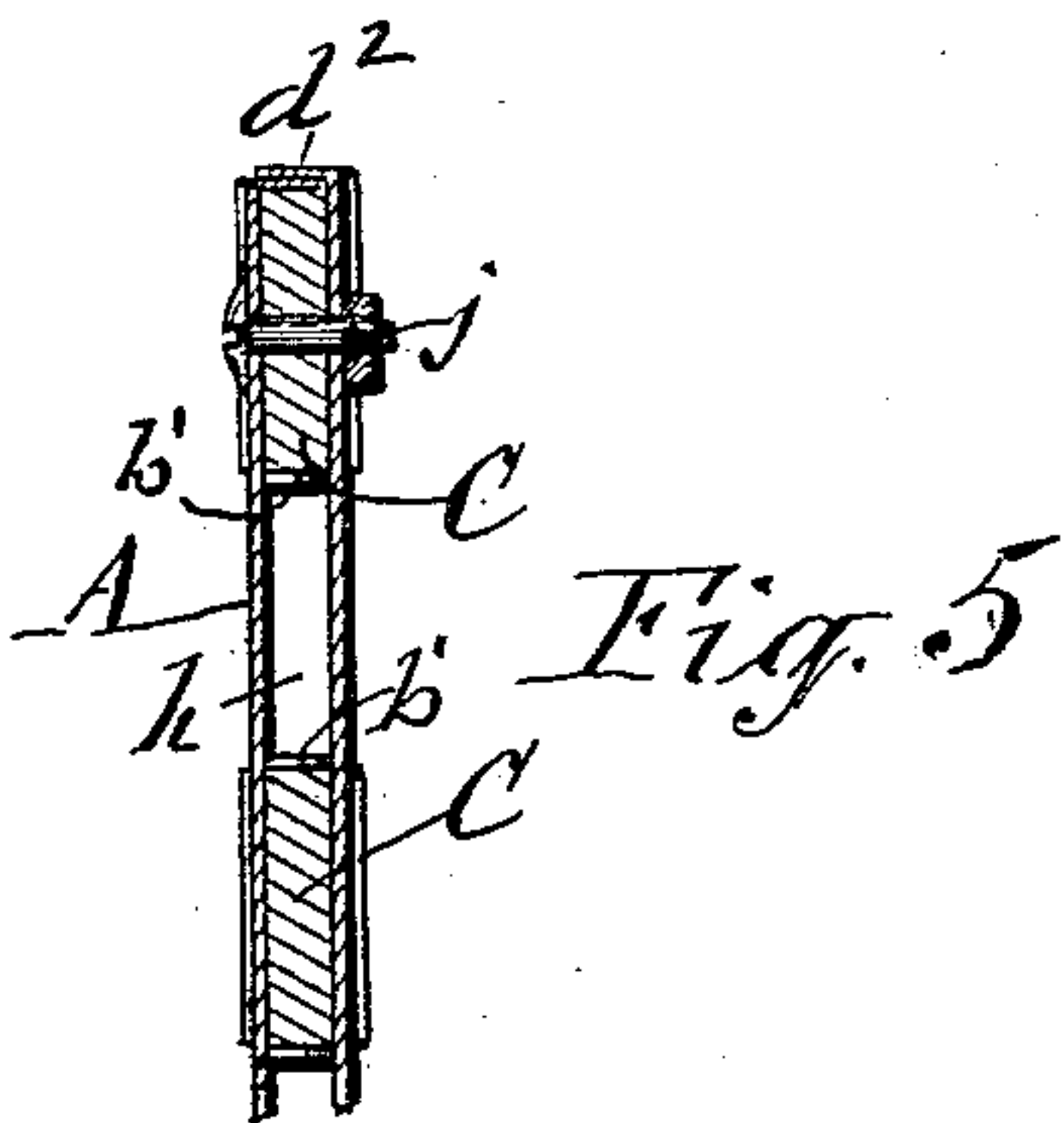
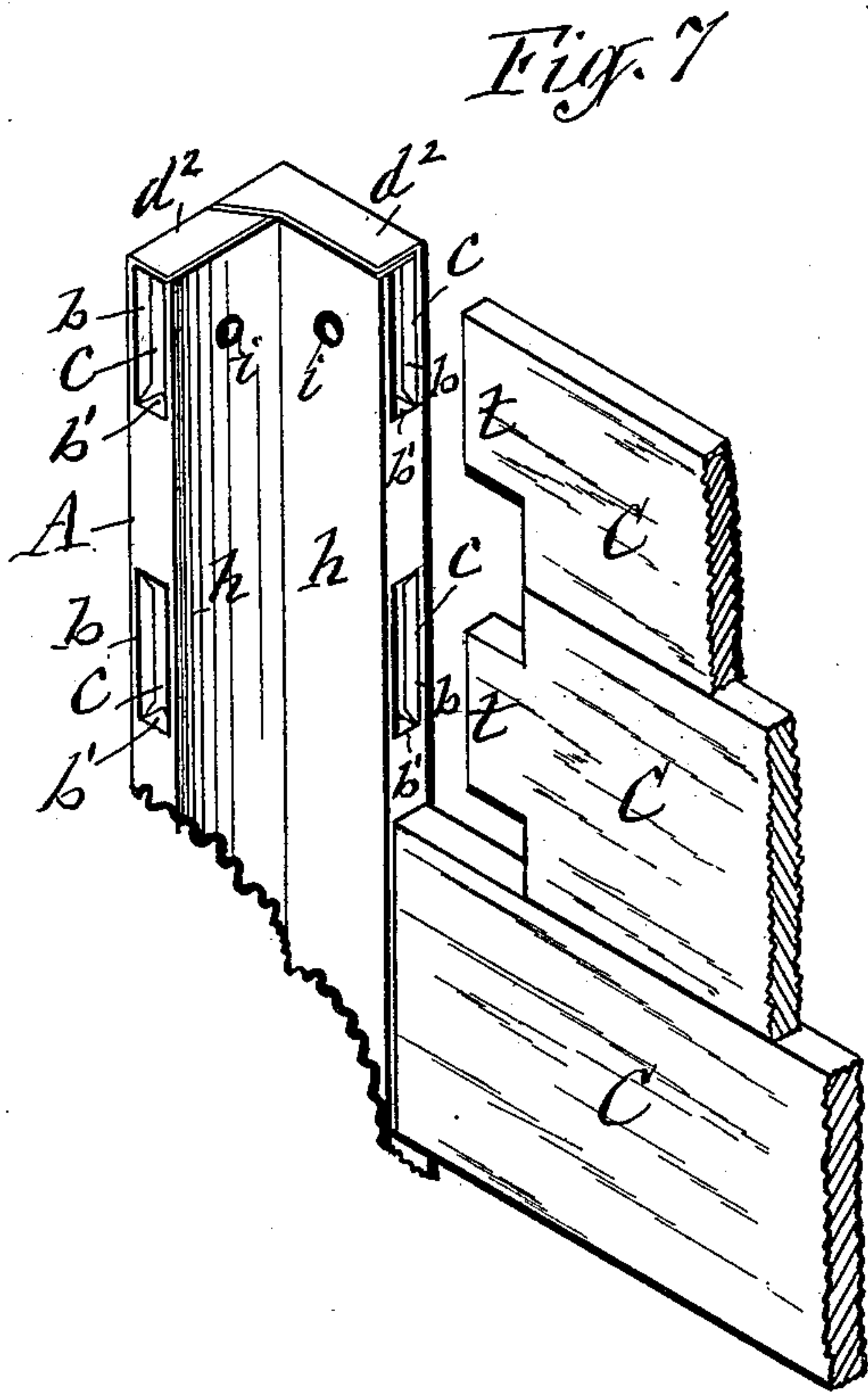
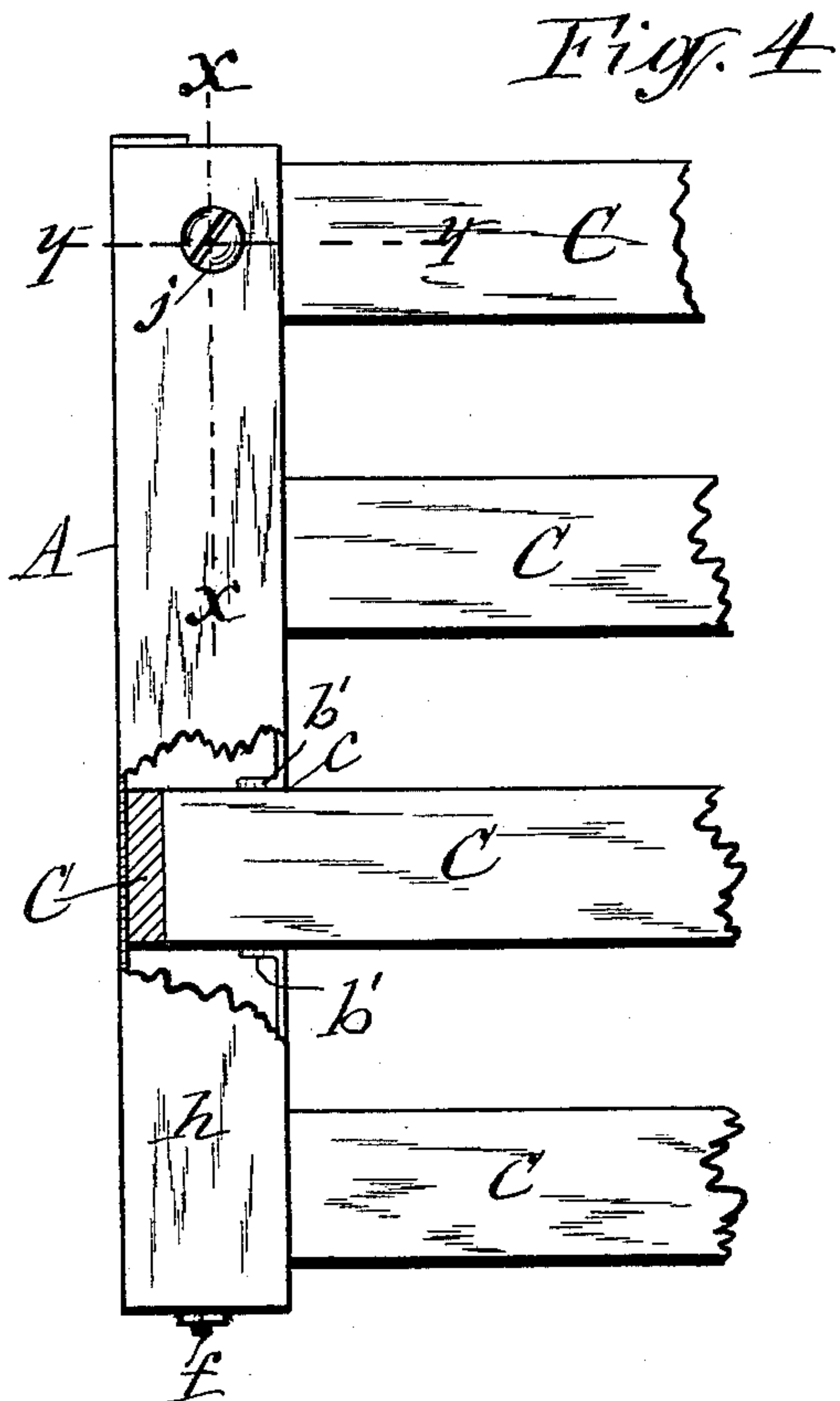
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

MICHAEL C. RYAN, OF OSWEGO, NEW YORK, ASSIGNOR TO THE OSWEGO CRATE COMPANY, OF NEW YORK.

CRATE-CORNER.

SPECIFICATION forming part of Letters Patent No. 602,409, dated April 12, 1898.

Application filed September 25, 1897. Serial No. 652,956. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL C. RYAN, of Oswego, in the county of Oswego, in the State of New York, have invented new and useful
5 Improvements in Crate-Corners, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of crates
10 which are designed to be taken apart and packed closely for convenience of transporting the same to the user of the crates and to be readily set up for use when required; and the invention has special reference to the
15 species of crates which are provided with metallic corners to which the slats of the sides and ends of the crate are secured.

The object of this invention is to provide
20 metallic corner-stays which shall possess superior rigidity combined with minimum weight of metal and shall be simple and inexpensive in construction; and to that end the invention consists in the novel construction of a sheet-metal blank and manner of
25 bending the same into its requisite shape to form the corner-stay of the crate, as hereinafter described, and set forth in the claims.

The invention is fully illustrated in the annexed drawings, in which—

30 Figure 1 is a plan view of the blank as stamped out of sheet metal. Fig. 2 is a plan view of said blank, showing the slat-receiving mortises formed therein. Fig. 3 is an isometric perspective view of the corner-stay
35 with the adjacent end portions of the slats shown in dotted lines. Fig. 4 is a side view of one of the corner-stays with the slats attached thereto. A portion of the corner-stay is broken away to show the inserted end of
40 one of the slats. Fig. 5 is a vertical transverse section on line X X in Fig. 4. Fig. 6 is a horizontal transverse section on line Y Y in Fig. 4, and Fig. 7 is a perspective view illustrating a modification of the form of the slats
45 by which the crate is provided with tight walls.

Similar letters of reference indicate corresponding parts.

50 A represents one of the corners or corner-stays of the crate, and C C the slats which form the sides and ends of the crate.

It is the construction of the corner-stay A which constitutes my present invention. Said stay I form of a blank A', which is elongated and has parallel longitudinal edges and is
55 stamped out of suitable sheet metal, preferably of the grade of sheet-iron from which stovepipe is manufactured. In this blank are cut a series of slits *a a*, arranged lengthwise in straight lines parallel with the longitudinal
60 edges of the blank, as shown in Fig. 1 of the drawings. Each of said slits terminates with diverging slits *a' a'* and forms two side flaps *b b* and two end flaps *b' b'*, which are bent up from the plane of the blank to form the side
65 and end walls around the aperture or mortise *c*, as shown in Fig. 2 of the drawings.

One end of the blank is formed with extensions *d d* on its central portion. The described blank I bend at a right angle along a
70 line *e* in the center of the width of the blank and parallel with the longitudinal edges thereof, and each half of the blank at opposite sides of the line *e* I bend twice at right angles and in the same direction along lines *e' e'*,
75 parallel with the central line *e* and even with the longitudinal edges of the apertures *c c*. The end extensions are perforated, as shown at *d' d'*, and are bent up at right angles and made to lap one upon the other and with
80 the apertures *d' d'* coinciding. The opposite end of the blank is also formed with extensions *d²*, which are likewise bent up so as to lap one upon the other when the entire blank is bent in the manner aforesaid. The blank
85 then is of the shape shown in Fig. 3 of the drawings, in which shape it is retained by a small bolt *f*, passing through the perforations *d' d'* of the extensions *d d*, which constitute the bottom of the corner-stay thus
90 formed of the desired blank. It will be observed that in this manner I obtain a corner-stay composed of the hollow walls, each of which is formed of continuous side plates *h h*, extending from the bottom to the top of
95 the crate and forming between them pockets which are closed at the top and bottom and inclose the ends of the slats C C, which are inserted through the apertures or mortises *c c*. The upper end portion of the blank is pro-
100 vided with perforations *i i*, arranged two in each half of the blank and in position to come

in range with each other when the blank is bent up to form the hollow walls *h h*. Through these perforations and ends of the upper slats inserted into said walls pass suitable bolts, such as stove-bolts, provided with the usual nuts, which bolts serve to tie the top portions of the crate together. The bottom portions of said crate may be tied together by the bolts *f*, passing through bottom slats placed on the tops and bottoms of the portions *d* of the four corner-stays.

The described corner-stay may be used for forming a knockdown box having solid or closed sides and ends by using slats of sufficient widths to cause them to lie with their longitudinal edges contiguous to the adjacent slats and forming said slats with tenons *t*, entering into the mortises *c c* of the corner-stay, as represented in Fig. 7 of the drawings.

What I claim as my invention is—

1. A metallic corner-stay for a crate formed of two hollow walls united at a right angle and each of said walls composed of continuous plates extending from the bottom to the top of the crate and forming between them pockets inclosing the ends of the slats, and a vertical strip uniting the free edges of said plates and provided with apertures for the insertion of the ends of the slats, as set forth.

2. A corner-stay for a crate formed of a prolonged parallel-edged sheet-metal blank bent at a right angle along a line at the center of its width and parallel with the longitudinal edges of the blank, and each half at opposite

sides of said line bent twice at right angles in the same direction and on lines parallel with the aforesaid central line, and apertures between the two bends of each half for the insertion of the slats, as set forth.

3. As an improved article of manufacture, a corner-stay for a crate formed of a prolonged parallel-edged sheet-metal blank having extensions on its ends, said blank bent at a right angle along a line extending the entire length of the blank central of its width and parallel with the side edges, and each half at opposite sides of said central line bent twice at right angles in the same direction along two lines parallel with the central line and provided between said two lines with apertures for the reception of the ends of the slats and the aforesaid end extensions of the blank bent up at right angles and lapping one upon the other, as set forth and shown.

4. A corner-stay for a crate formed of a sheet-metal blank, and slat-receiving mortises formed by longitudinal slits terminating with divergent slits and the free slitted portions bent at right angles to the plane of the blank and forming the walls of the aforesaid mortises.

In testimony whereof I have hereunto signed my name this 14th day of September, 1897.

MICHAEL C. RYAN. [L. S.]

Witnesses:

L. C. ROWE,

F. D. CULKIN.