

No. 759,961.

PATENTED MAY 17, 1904.

C. A. BEEMS.
KNOCKDOWN BOX.

APPLICATION FILED MAY 16, 1903.

NO MODEL.

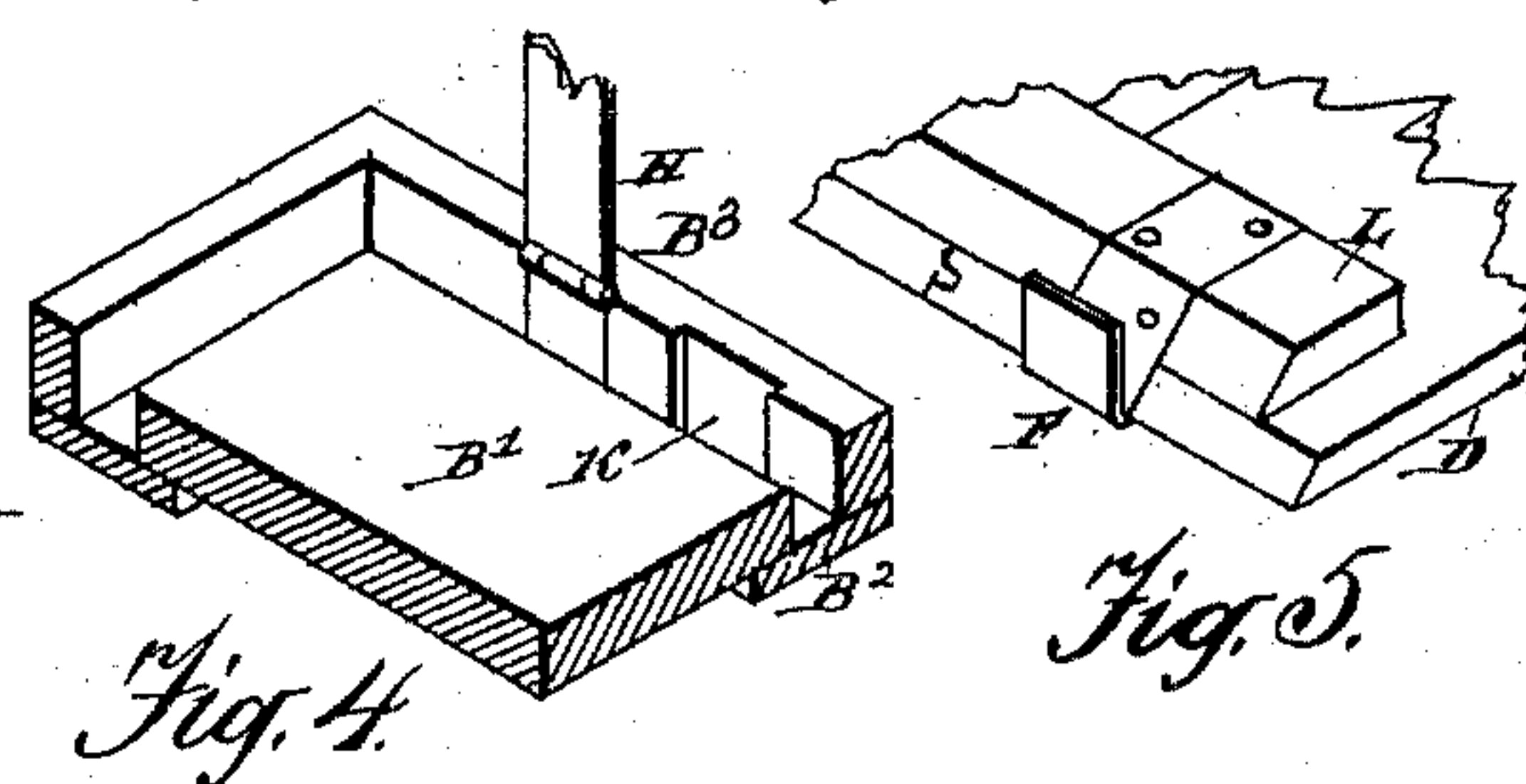
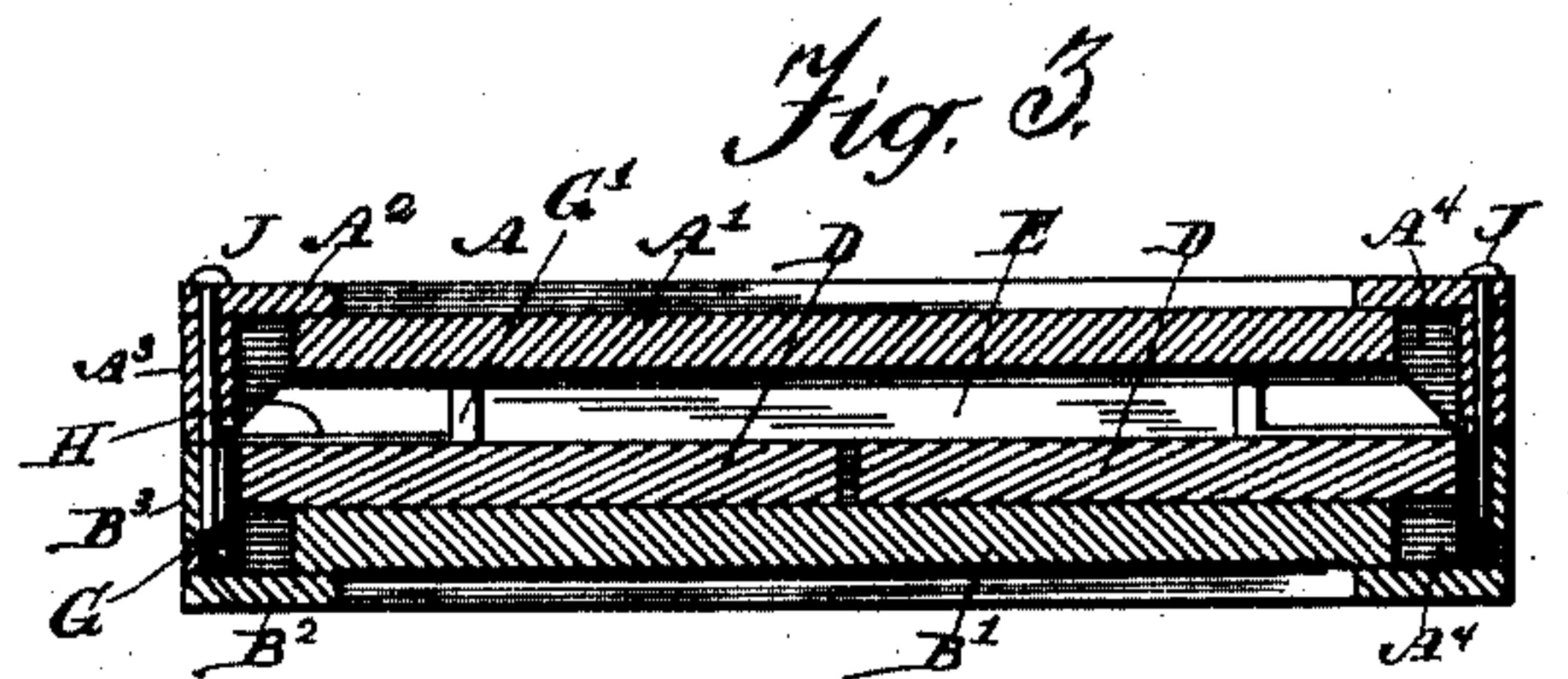
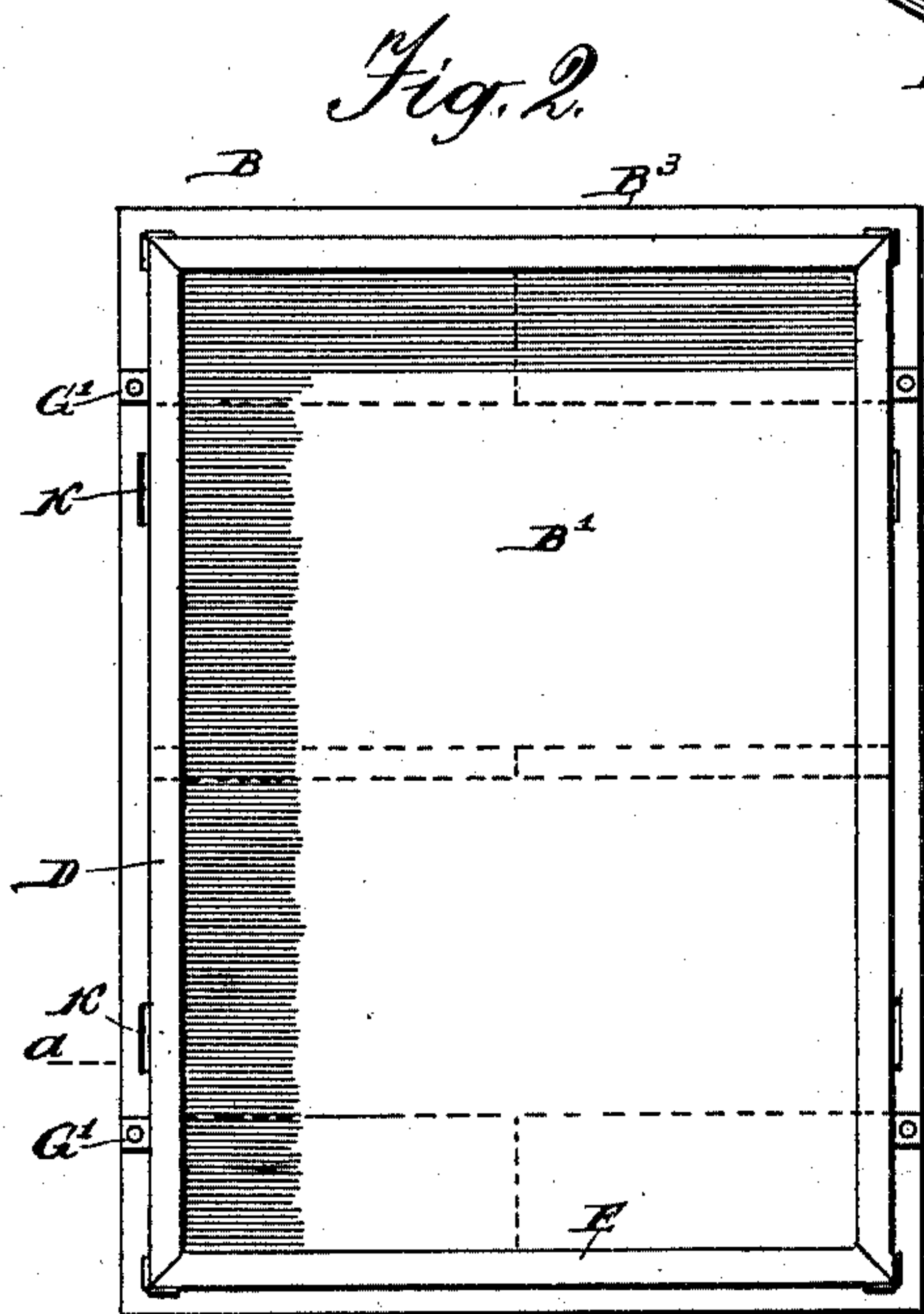
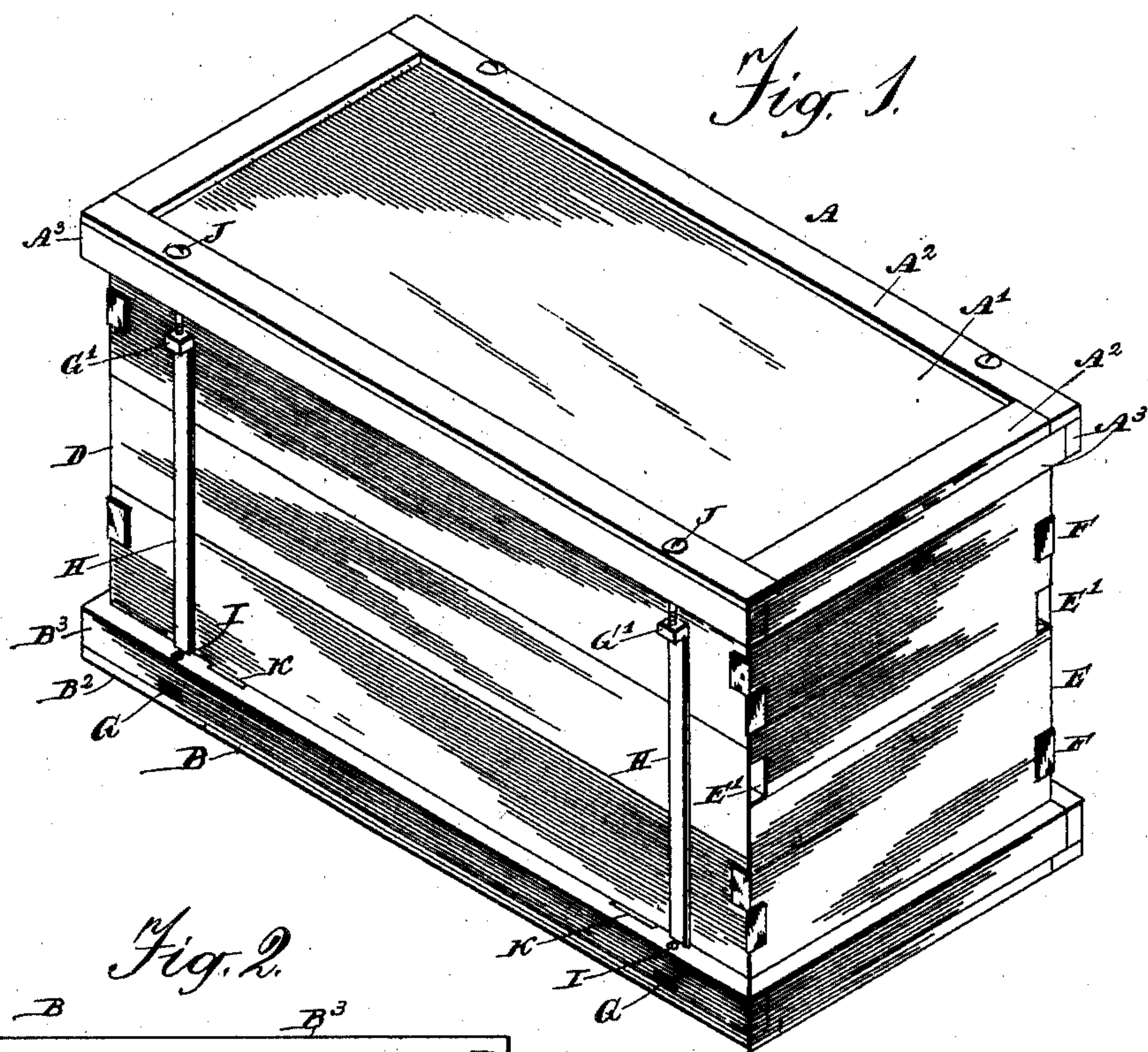


Fig. 5.

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UNITED STATES PATENT OFFICE.

CLARK ALVAN BEEMS, OF ANAMOSA, IOWA.

KNOCKDOWN BOX.

SPECIFICATION forming part of Letters Patent No. 759,961, dated May 17, 1904.

Application filed May 16, 1903. Serial No. 157,498. (No model.)

To all whom it may concern:

Be it known that I, CLARK ALVAN BEEMS, a citizen of the United States, residing at Anamosa, in the county of Jones and State of Iowa, have invented certain new and useful Improvements in Knockdown Boxes, of which the following is a specification.

This invention relates to boxes used in the shipment of merchandise; and the object of the invention is to produce a serviceable box for this purpose adapted to be easily and quickly taken apart and packed in small compass to be returned to the consignor and as easily set up for packing with merchandise and closed securely when so packed.

The nature of the invention will fully appear from the description and claims following, reference being had to the accompanying drawings, in which—

Figure 1 is a view of my improved box in perspective as in use. Fig. 2 is a plan view of the same with the cover removed in position for packing. Fig. 3 is a cross-section in the line *a b*, Fig. 2, showing the box knocked down and packed together for reshipment. Fig. 4 is a detail of one corner of the bottom. Fig. 5 shows a corner of one of the side boards.

In the drawings, A designates the top of the box, and B the bottom. These are practically the same in construction, and a description of one will serve for both, with exceptions that will be noted hereinafter.

To the main board A' are secured parallel strips A² at the sides and ends, and to these at a distance from the main top board equal to the thickness of the side boards are secured side and end strips A³, thus leaving a marginal recess A⁴ all around the main top board to take the edges of the side boards. The construction of the bottom board is the same, the reference-letter B and exponents being used to designate corresponding parts.

The side boards D and end boards E are mitered, and the mitered edges are provided with alternating angle-plates F, which serve mutually to lock the box at the corners. In the case of a comparatively shallow box a single pair of angle-plates at each corner is suf-

ficient; but if the box is deep it is desirable to use more, as shown in Fig. 1.

In the side strips of the bottom are seated nuts G, connected to a hinged tie H, having similar nuts G' at their free ends. Holes I, registering with these nuts, are bored in the side strips of both the bottom and cover to take screws J. When set up and packed with merchandise, the screws enter the nuts G' and hold the box securely together. When emptied and packed together for reshipment, the upper or free nuts are folded inwardly, and the screws enter the nuts G, thus holding the knockdown box securely.

To set up the box, the bottom is placed on the floor with the ties folded outwardly. The side boards are then set with their lower edges in the recesses formed in the box bottom, which recesses assist in holding the side boards upright until the end boards are slipped in place. If the corners have but a single pair each of angle-plates, the end boards may be slid straight down, the angle-plates of the end board being above those of the side boards; but if provided with two or more pairs of angle-plates at each corner it would be impossible to slide the end board down from the top, so notches E' are made to allow the upper angle-plates of the side board to pass through. The end board may now be brought flatwise into proper position to interlock with the side boards and be then slid down to final position. When packed, the box-cover is put in place and screwed down, as above described.

In packing for reshipment the box cover and bottom serve as a container for the side and end boards, as shown in Fig. 3. As the thickness of the angle-plates adds a little to the length of the side and end boards, notches K are made to take them in the side strips and end strips, respectively.

When a side board is made of two or more pieces, they are connected by a cleat L, preferably shorter than the whole width of the side board, so that the edge thereof may enter the recesses in the top and bottom. The cleats take the same miter as the side boards.

The box may be taken apart and packed to-

gether for reshipment in less time than is ordinarily required to draw the nails in a common shipping-box, while the value of the box for repeated shipment is usually much more
5 than the return freight on it.

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

1. In a knockdown box, the combination
10 of interlocking but separable side and end boards, cover and bottom adapted to contain them, hinged ties connecting with the bottom, with nuts set in said bottom and at the free ends of the ties, holes in the cover and bottom
15 to register with said nuts, and screws adapted to hold the box closed either in position for use or knocked down, substantially as described.

2. In a knockdown box, the combination with cover and bottom, substantially as de-

scribed, of side boards mitered at the meeting 20 corners, and provided with mutually-engaging and alternating angle-plates external to and interlocking the boards at the corners.

3. In a knockdown box, mitered side boards having each a plurality of angle-plates to em- 25 brace the companion board at the corner, and notches to allow angle-plates to pass through, whereby the boards may be set in proper position by bringing their corners together flatwise, and are locked by pressing edgewise, as 30 described.

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

CLARK ALVAN BEEMS.

Witnesses:

Z. H. GURLEY,

S. DRUET.