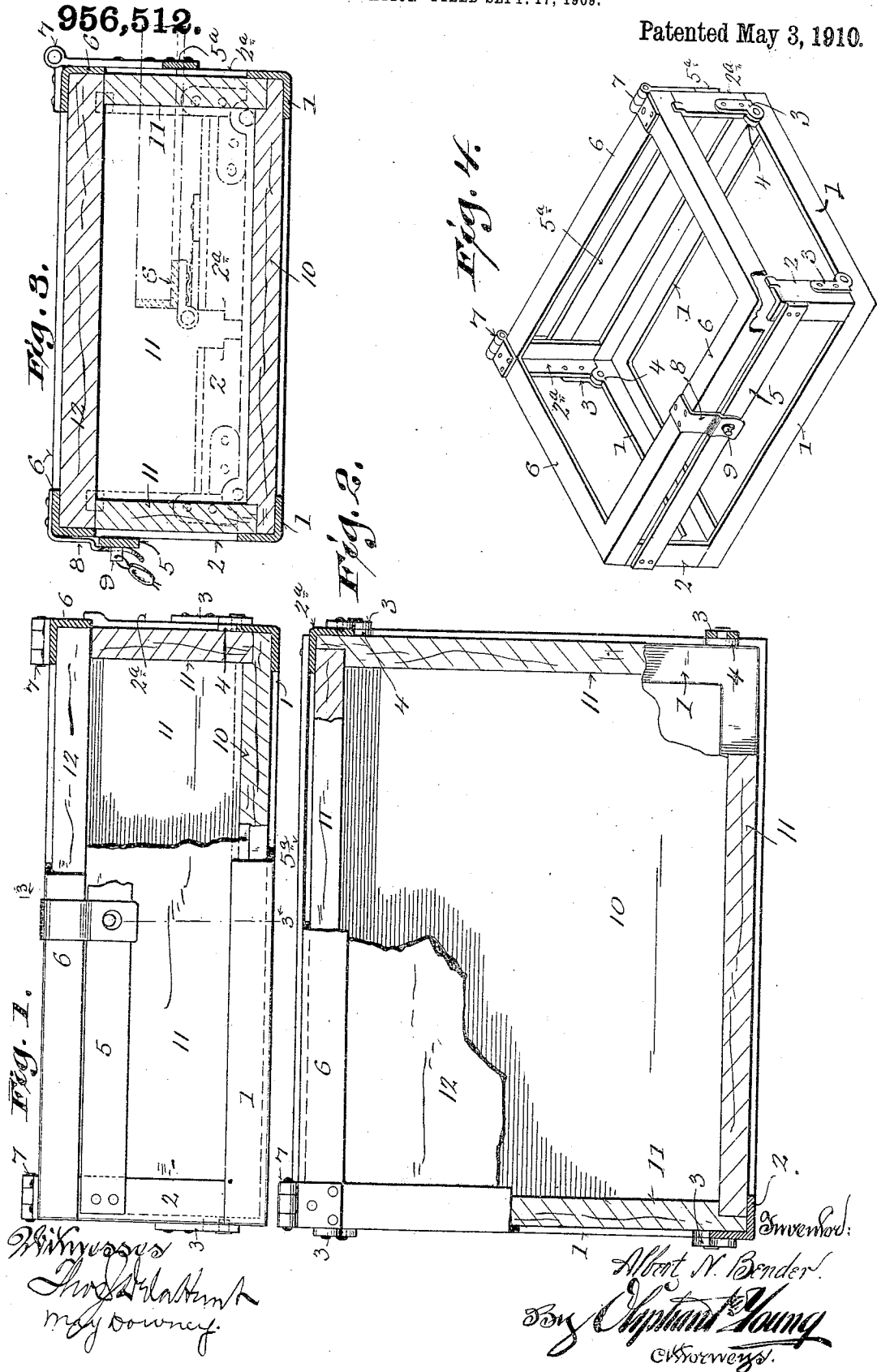


A. N. BENDER.
KNOCKDOWN BOX.

APPLICATION FILED SEPT. 17, 1909.

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UNITED STATES PATENT OFFICE.

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KNOCKDOWN BOX.

956,512.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT N. BENDER, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Knock-down Boxes, and do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to provide simple, economical and effective knock-down boxes, its construction and arrangement being such that the side wall strips, top and bottom, may be assembled and secured by interlocking within a metallic skeleton frame, which frame is capable of being collapsed for return shipment, the side walls top and bottom being removed and secured in the flat for this purpose.

The invention therefore consists in certain peculiarities of construction and combination of parts as fully set forth herein-after, with reference to the accompanying drawings and subsequently claimed.

In the drawings Figure 1 represents a front elevation of a box made in accordance with my invention, parts being broken away and parts in section to better illustrate the details. Fig. 2, a plan view of the same, with parts broken away and parts in section, Fig. 3, a cross-section of the box as indicated by line 3, 3 of Fig. 1, and Fig. 4, a perspective view of the metallic skeleton frame of the box, with side, bottom and top board removed.

Referring by numerals to the drawings, 1 indicates an angle-iron rectangular bottom frame, to the corners of which bottom frame are secured angle-iron standards 2, 2^a by means of hinged members 3 that are pivotally connected to ears 4 extending from the vertical web of the frame 1. The front standards 2 and rear standards 2^a are respectively connected by means of brace-bars 5 5^a, being arranged to fold inwardly upon the bottom frame 1, and when said standards assume an upright position, their lower ends abut the vertical webs of the bottom frame 1, forming a rule-joint connection therewith, whereby said standards are held from folding outwardly.

An angle-iron top-frame 6, similar in dimensions and form to the bottom frame, is secured to the top edges of the rear standards 2^a, by means of hinges 7, one set of leaves of which hinges are riveted to the

standards, the opposite set being similarly secured to the adjacent upper face of the top-frame, whereby the axis of the hinge is positioned at the corner and above the plane of the top-frame in either direction, to permit said top-frame to be folded back upon the standards when the box is collapsed. This top-frame constitutes the lid portion of the box and carries a suitable spring latch 8, an aperture of which latch is adapted to engage a locking-stud 9 that projects from the brace-bar of the front standard, it being understood that the latch, as shown, may be provided with a suitable seal when the box is closed, to guard against tampering with the contents thereof. In assembling the box a bottom board 10 is first loosely fitted into the angle-iron bottom frame 1, the board being provided with a routed edge for the reception of side and end boards 11, the edges of the side and end boards being also routed, whereby interlocking joints are formed to prevent said boards from folding in; the angle-iron standards preventing said boards from folding outward. A top or cover board 12 is loosely fitted into the top frame 6. This cover board being arranged to rest against the upper flush edges of the side and bottom boards as best shown in Figs. 1 and 3.

From the foregoing description it will be readily understood that the boards, when assembled, form a practically tight box or receptacle and the angle-iron skeleton frame which binds the edges or corners of the boards, serves as a protector and thereby materially strengthens the structure. In some instances in place of using solid boards for the side walls, top and bottom of the box I may substitute therefor wood strips, which strips may be spaced apart in any suitable manner to form a vented casing for fruits, poultry, vegetables, or the like.

When the box is to be returned for shipment the side walls, bottom and top are removed from the skeleton frame and said frame is then collapsed by folding inward, the top frame being folded back upon the rear standards as shown in Fig. 3. The boards are then nested together and secured to the collapsed frame in any suitable manner and the box can be then shipped in a compact body to thus economize space and thereby reduce the cost of return shipment of the same.

It should be understood that the top frame

of the box may be bowed upward similar to a trunk top or any other suitable form without departing from the spirit of my invention.

5 I claim—

1. A knock-down box comprising rectangular angle-iron bottom frame, angle-iron standards in rule joint connection with the corners of the bottom frame, the standards
10 being flush with the inner vertical webs of said angle-iron frame, brace-bars connecting the front and rear standards, a top angle-iron frame in hinge connection with one pair
15 of the standards, side, end and bottom boards having interlocked joints fitted within the bottom angle-iron frame and standards, and a cover-board fitted within the top angle-iron frame.

2. A knock-down box comprising a pair
20 of duplicate rigid rectangular top and bottom frames, the frames being composed of angle-iron stretches having their horizontal flanges inwardly disposed, front and rear angle-iron corner standards in flush joint
25 connection with the front and rear corners of the top and bottom frames, axially alined pairs of hinge-members carried by the front

and rear corner standards, ears carried by the vertical stretches of the side flanges of the bottom frame which ears are in hinge
30 connection with the hinge-members of the corner standards, the axis of the ears and hinge-members being disposed upon at the intersecting point of the side flanges of said
35 bottom frame and the adjacent edges of the corner standards, a pair of hinge-members extending rearwardly from the top face of the rear stretch of the top frame and other hinge-members extending upwardly from the rear
40 corner standards and above the plane of the top frame, the members being in hinge connection with the aforesaid top frame members whereby the said top frame may be folded
45 back upon the rear corner standards when the box is collapsed, and braces connecting the front and rear pair of corner standards.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

ALBERT N. BENDER.

Witnesses:

GEO. W. YOUNG,
MAY DOWNEY.