

No. 612,287.

Patented Oct. 11, 1898.

W. E. VANANDE.
FOLDING CRATE.

(Application filed June 25, 1897.)

(No Model.)

2 Sheets—Sheet 1.

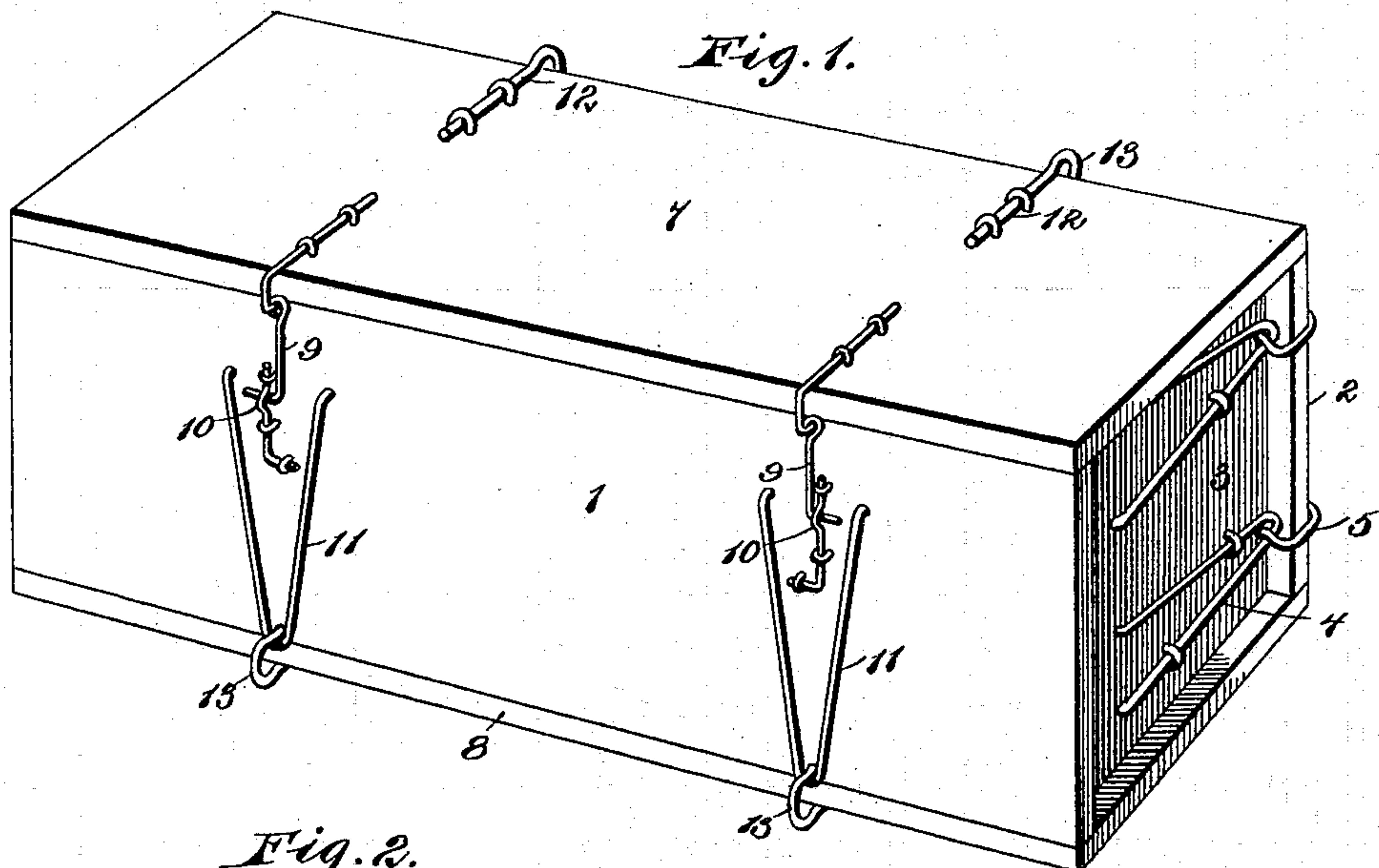


Fig. 2.

Fig. 3.

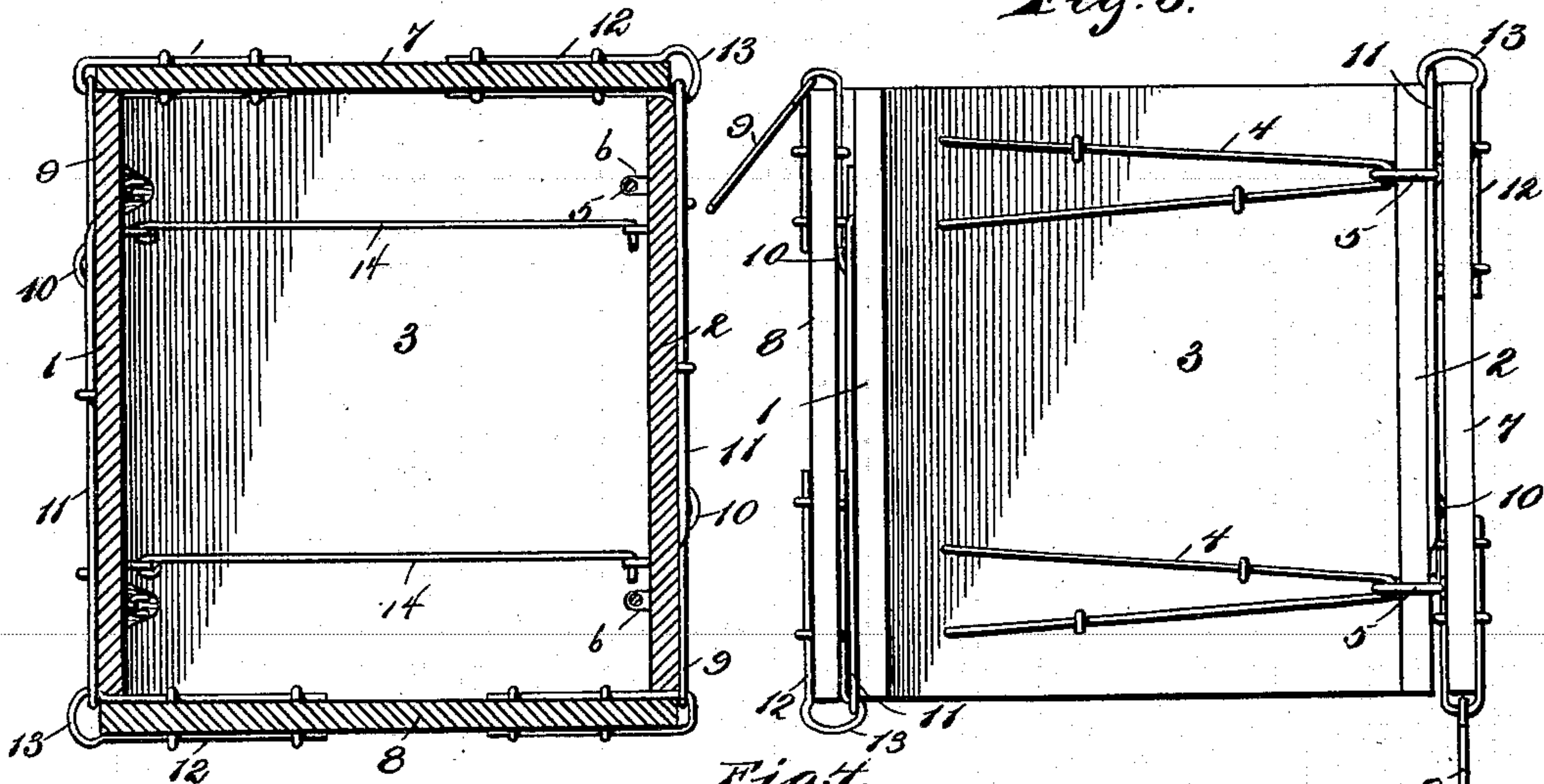
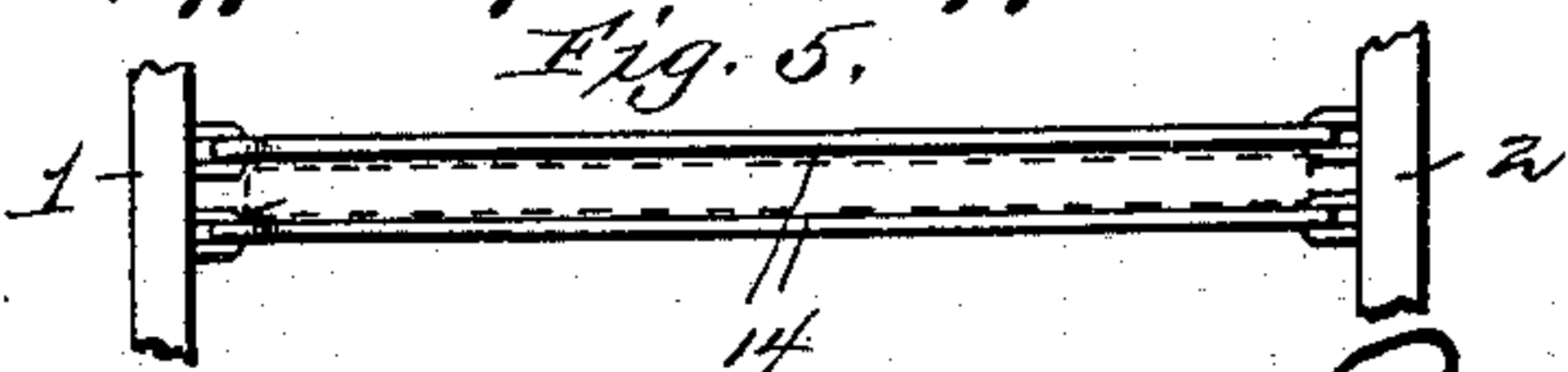


Fig. 4.



Fig. 5.



Witnesses
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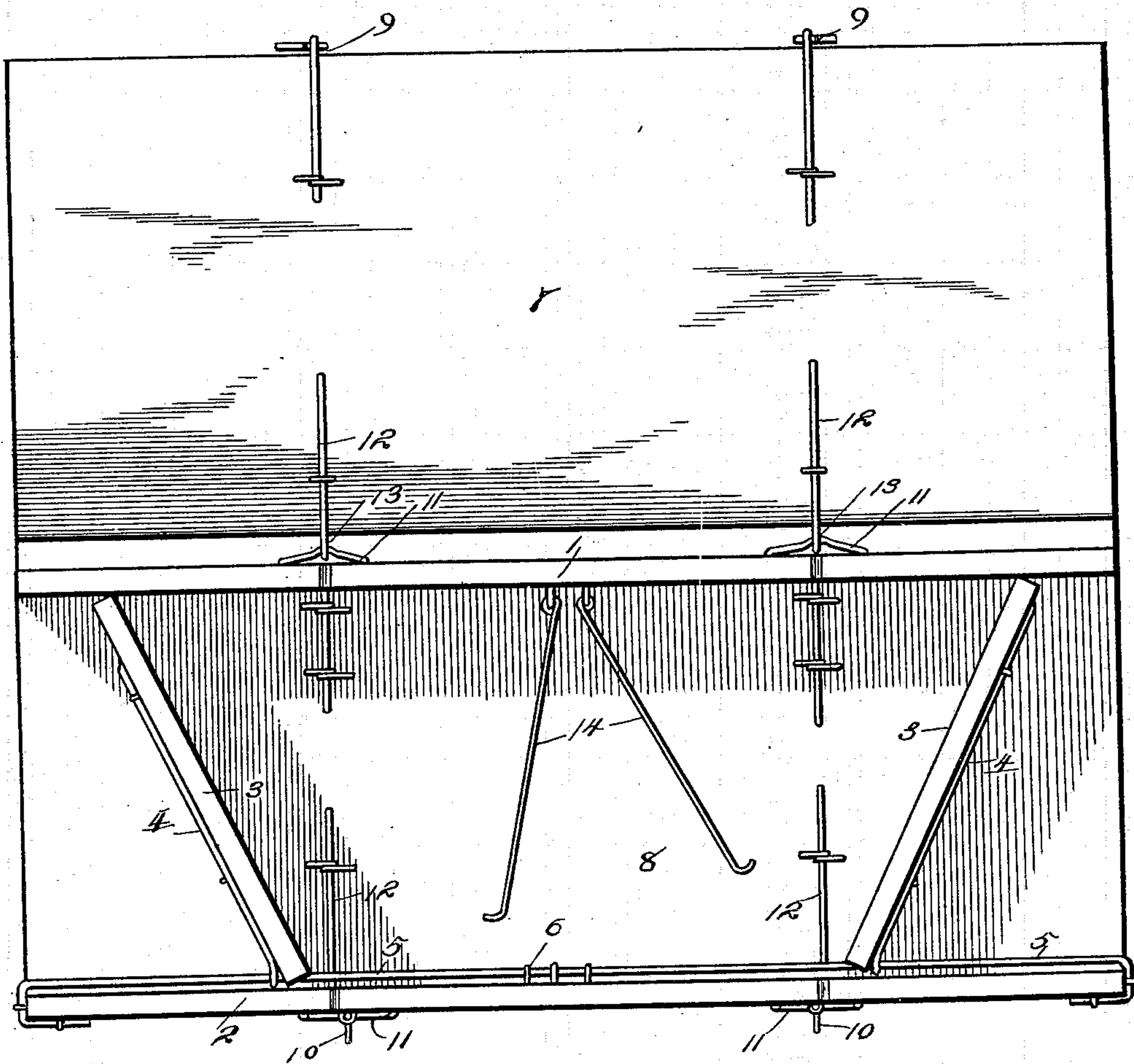
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2 Sheets—Sheet 2.

Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM E. VANANDE, OF HOYTVILLE, MICHIGAN.

FOLDING CRATE.

SPECIFICATION forming part of Letters Patent No. 612,287, dated October 11, 1898.

Application filed June 25, 1897. Serial No. 642,284. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. VANANDE, of Hoytville, in the county of Eaton and State of Michigan, have invented certain new and
5 useful Improvements in Folding Crates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to improvements in folding crates; and the object of the same is to provide a crate which may be quickly and readily folded for shipment after the articles contained therein have been removed and
15 when desired for use may be as readily assembled.

The invention consists in certain novel features and details of construction, as will be hereinafter more fully described and claimed.

20 In the accompanying drawings, Figure 1 is a perspective view of the crate ready for use. Fig. 2 is a vertical cross-section. Fig. 3 is an end elevation showing the top and bottom folded. Fig. 4 is an elevation showing
25 the crate folded. Fig. 5 is a detail plan view, and Fig. 6 is a plan view of the crate with the lid or cover open and the crate in a partially-collapsed condition.

Referring to the accompanying drawings,
30 1 and 2 indicate the sides of the crate, and 3 the ends thereof, said ends being hinged at one edge to the side 1 and provided on their exterior surfaces with the wire loops 4, the looped ends of the wires being curved out-
35 ward slightly from the surface of the ends, as illustrated, said loops receiving the longitudinally-extending rods 5, which are secured to the side 2 and pass through said loops, the extremities of said rods being turned
40 over the edges of the side 2 and secured to the outer surface thereof. The ends are slotted to receive these longitudinally-extending rods, and by means of the above construction the end pieces may be moved toward each
45 other and folded flat upon the side, as illustrated in Fig. 4, the staples 6, which confine the rods to the side piece, forming the stops against which the ends of the end pieces abut.

50 The top 7 and bottom 8 are hinged to the opposite edges of the respective side pieces and at their opposite edges are provided with

hooks 9, which engage wire loops or keepers 10, carried by the opposite side pieces, whereby the top and bottom are secured in position.

The hinges by means of which the top and
55 bottom are hinged to the sides are constructed of two members, one of said members consisting of the doubled wire 11, which is secured to the side piece, and the other member consisting of the doubled wire 12, the legs
60 of which are secured to the upper and lower sides, respectively, of the top or bottom, with the double portion projecting beyond the edge thereof forming the loop 13, which is elongated, said elongated portion extending
65 on the outer side of the top or bottom. The object of this peculiar hinge is that the top and bottom may rest flat upon the side pieces when the crate is folded, and this is accomplished by reason of the elongated loop, which
70 permits the pivotal point of the top or bottom to be shifted from the under side of the loop to the upper side thereof as the top or bottom is unfolded. The edges of the side pieces are notched, as illustrated, to receive the loop of
75 the hinge. Wire rods 14 are pivoted at their lower ends to the side piece 1 and at their opposite ends are formed with hooks to engage staples in the opposite side piece, there being a pair of these rods at each side of the
80 side piece, so that when they are engaging the opposite side piece they form a slideway between them in which a removable partition may be inserted. When the crate is folded, they rest on the inner surface of the side piece
85 between the meeting ends of the end pieces.

The end pieces are so arranged with relation to the side pieces that they are perpendicular thereto when the crate is unfolded, so that a substantial crate is provided. The
90 same hooks which secure the top and bottom to the side pieces when the crate is unfolded and assembled for use also secure the parts in a folded position by engaging the elongated loops 13 on opposite sides of the top and bot-
95 tom, respectively.

When my improved crate is in its operative position, as shown in Fig. 1 of the drawings, it is necessary in order to collapse the
100 same to first remove the hooks 9 on the top 7 and bottom 8 from the keepers 10 on the sides 1 and 2, respectively. The hooked ends

of the wire rods 14 are then released and arranged to lie loosely within the interior of the crate. The free ends of the end pieces 3 3 are then folded inwardly upon their pivotal connection with the side 1, this action moving the side 2 bodily in toward the side 1. The top 7 is then turned rearwardly and downwardly upon its pivotal connection with the side 2, and the bottom 8 is moved forwardly and upwardly, so that it lies in contact with the outer surface of the side 1. The hooks 9 are then attached to the elongated loops 13, as clearly illustrated in Fig. 4 of the drawings, and the device is thus held locked in its collapsed condition. To restore the crate to its original operative position, a reverse operation to that just described should be performed.

Having thus described the invention, what is claimed as new is—

1. A folding crate comprising side sections, end sections hinged at one edge to one of the side pieces and at their opposite edges slidably secured to the opposite side piece, and top and bottom sections hinged to opposite edges of said side sections, substantially as specified.

2. A folding crate comprising side sections, end sections hinged to one of said side sections, longitudinally-extending rods upon the inner face of the opposite side section upon which the opposite edges of the end sections are adapted to slide, and top and bottom sections hinged to the opposite edges of the respective side sections, substantially as described.

3. A folding crate comprising side sections, end sections hinged to one of said side sections, longitudinally-extending rods carried by the inner surface of the opposite side section, loops carried by the end sections which engage the rods so that the end sections slide thereon when it is desired to fold the crate, and top and bottom sections hinged to oppo-

site edges of the respective side sections, substantially as described.

4. A folding crate comprising side sections, end sections hinged to one of said side sections and slidably secured to the opposite side section, loops carried by the side sections and forming one member of the hinge by which the top and bottom sections are pivoted to said side sections, top and bottom sections, loops carried at the edges thereof which are engaged by the loops of the side sections, said loops being elongated on their outer edges and constituting the other member of the hinge for the top and bottom sections, substantially as described.

5. A folding crate comprising side sections, end sections hinged at one edge to one of the said sections and slidably secured at their opposite edges to the other side section, pairs of rods pivoted to one of said side sections and provided with hooks at their opposite ends for engaging the opposite side section to form ways to receive a removable partition, and top and bottom sections hinged to the opposite edges of the respective side sections, substantially as described.

6. A folding crate comprising side sections, end sections hinged at one edge of the side section and at their opposite edges slidably secured to the opposite side section, top and bottom sections hinged to the opposite edges of the respective side sections, and coacting securing devices carried by the top and bottom sections and the side sections for securing the former in position when the crate is folded or unfolded, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM E. VANANDE.

Witnesses:

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