

(No Model.)

A. T. LINDERMAN.

PACKING BOX.

No. 379,652.

Patented Mar. 20, 1888.

Fig. 1.

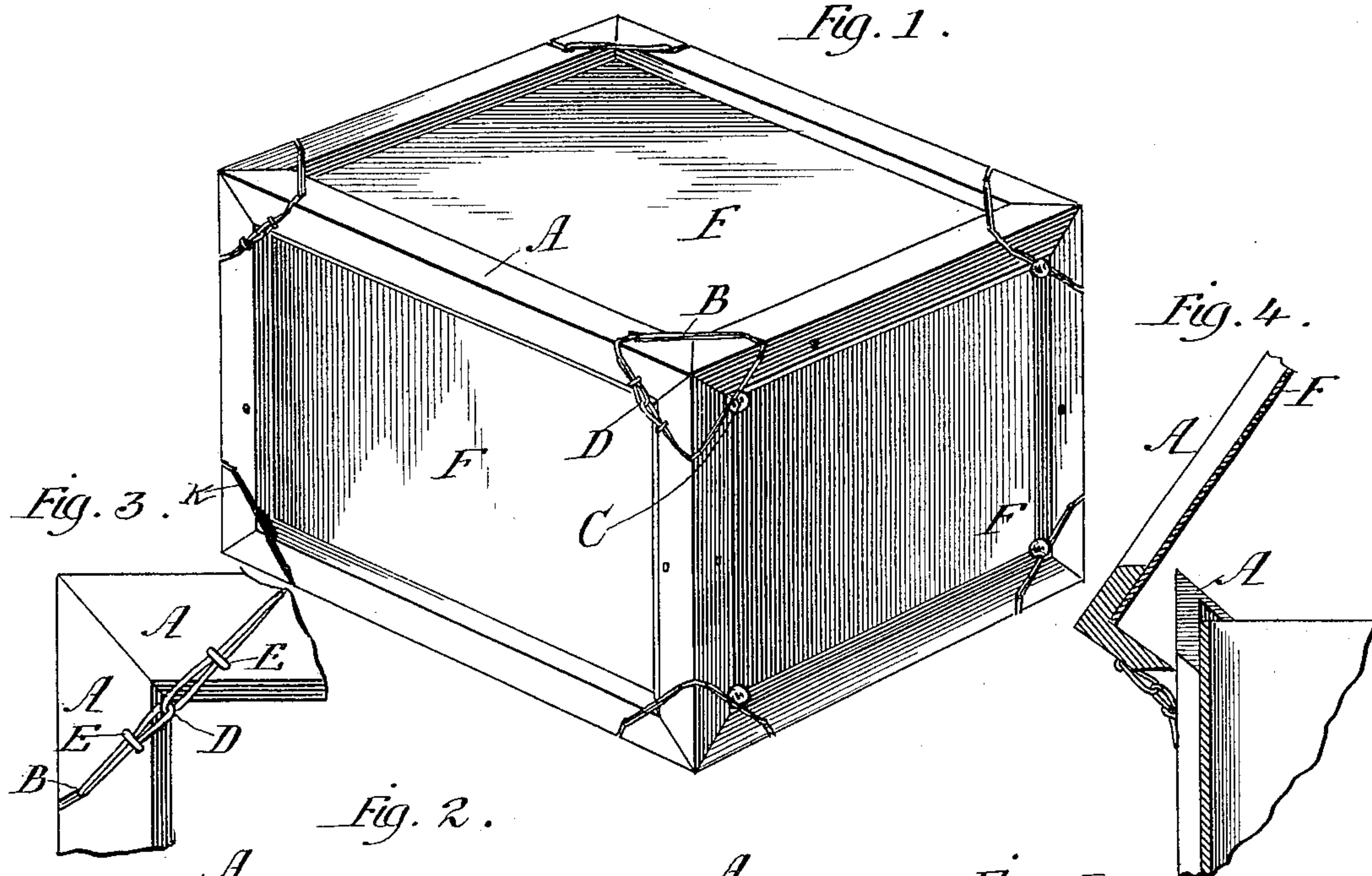


Fig. 3.

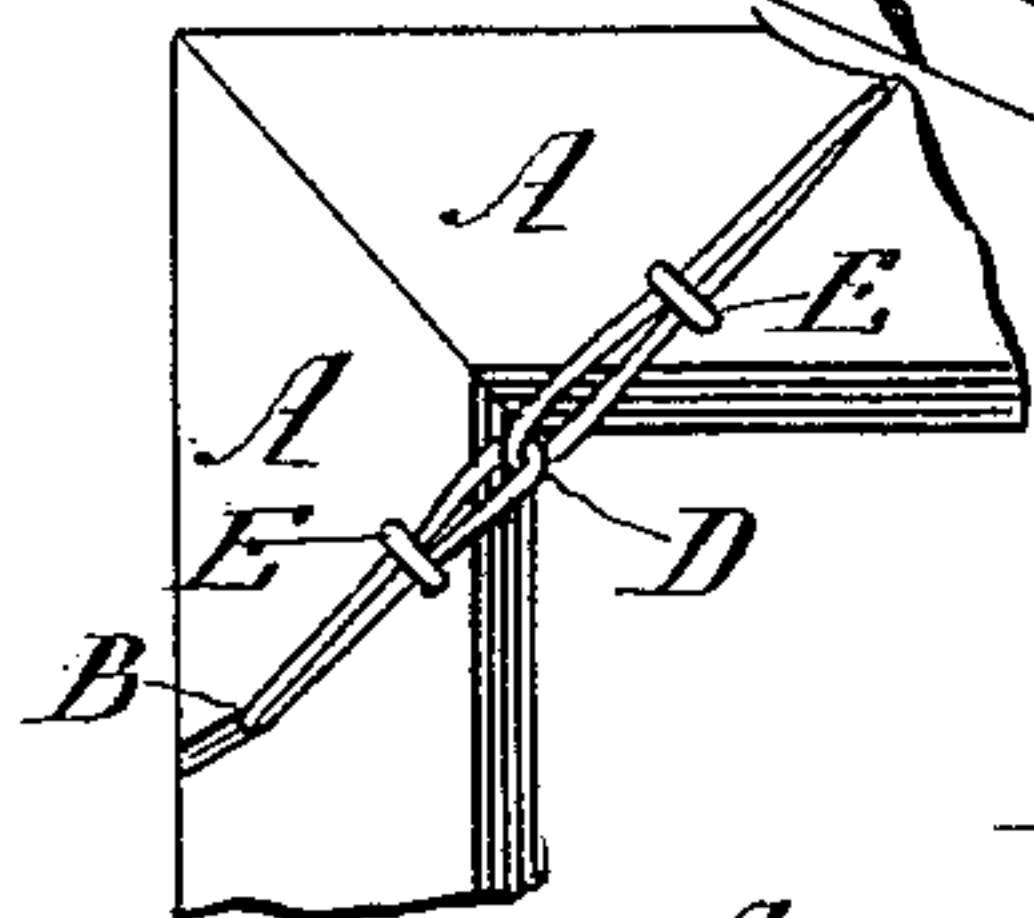


Fig. 2.

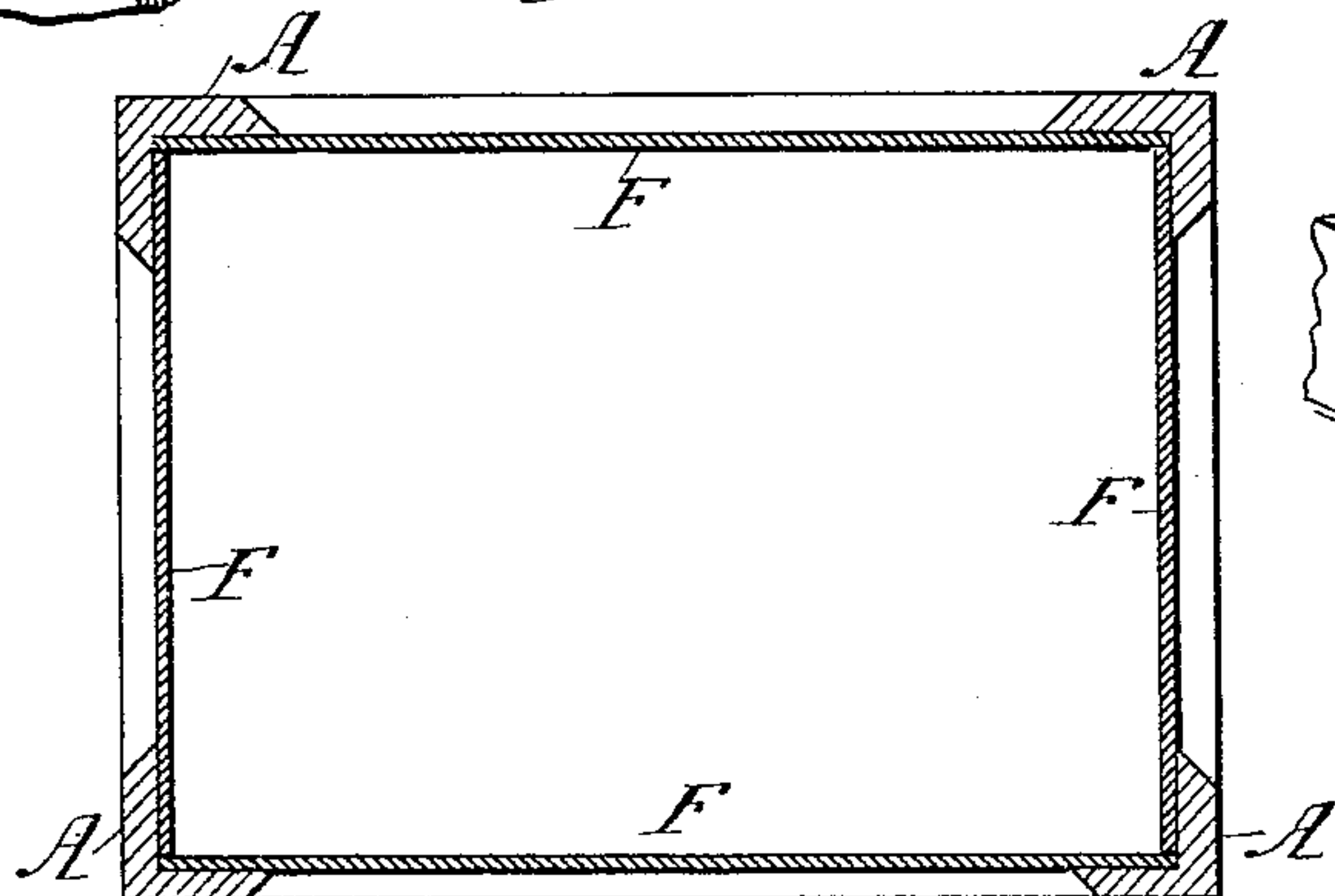


Fig. 4.

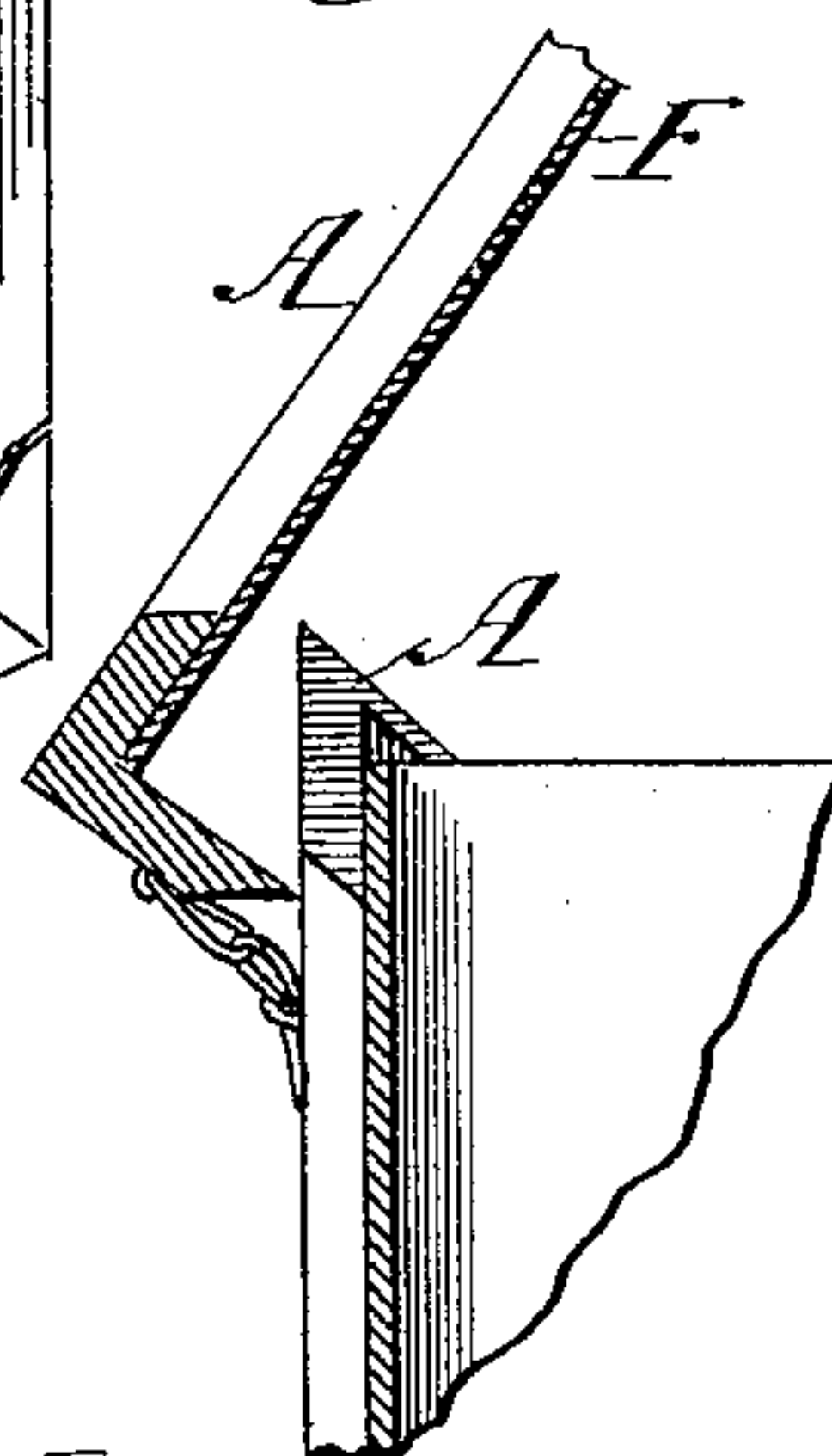


Fig. 5.

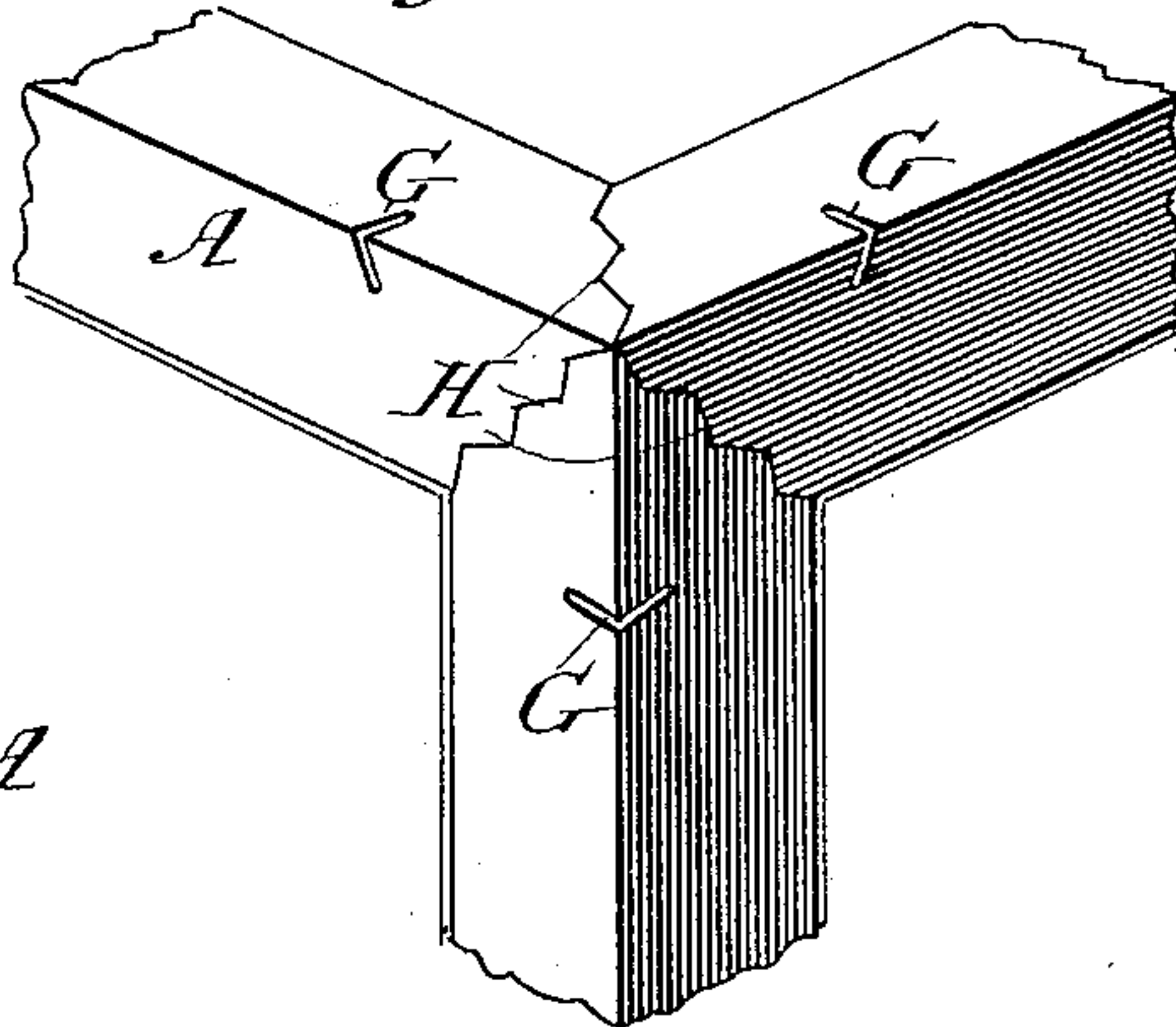


Fig. 7.

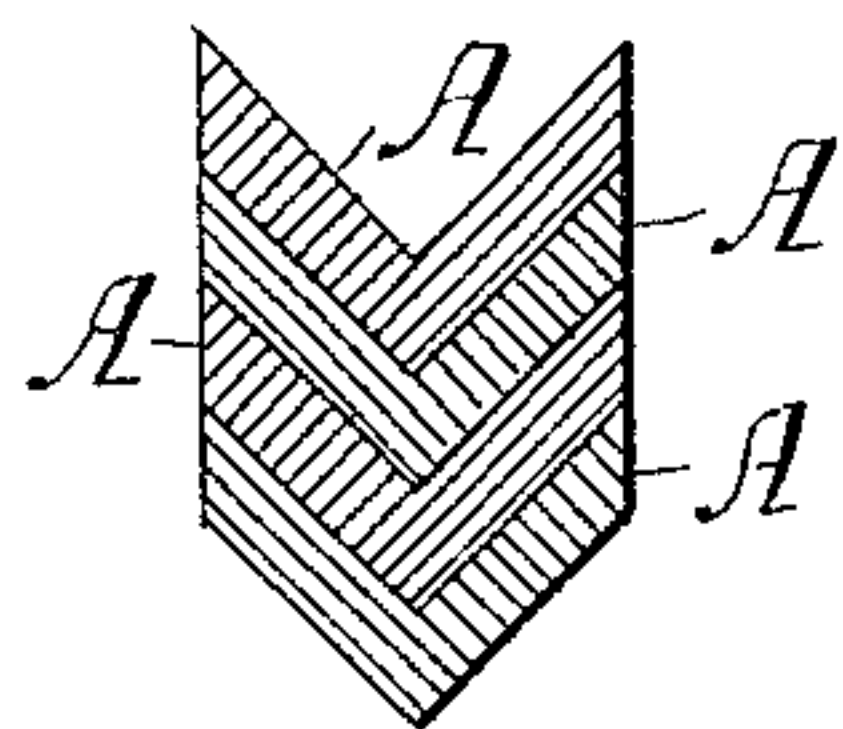
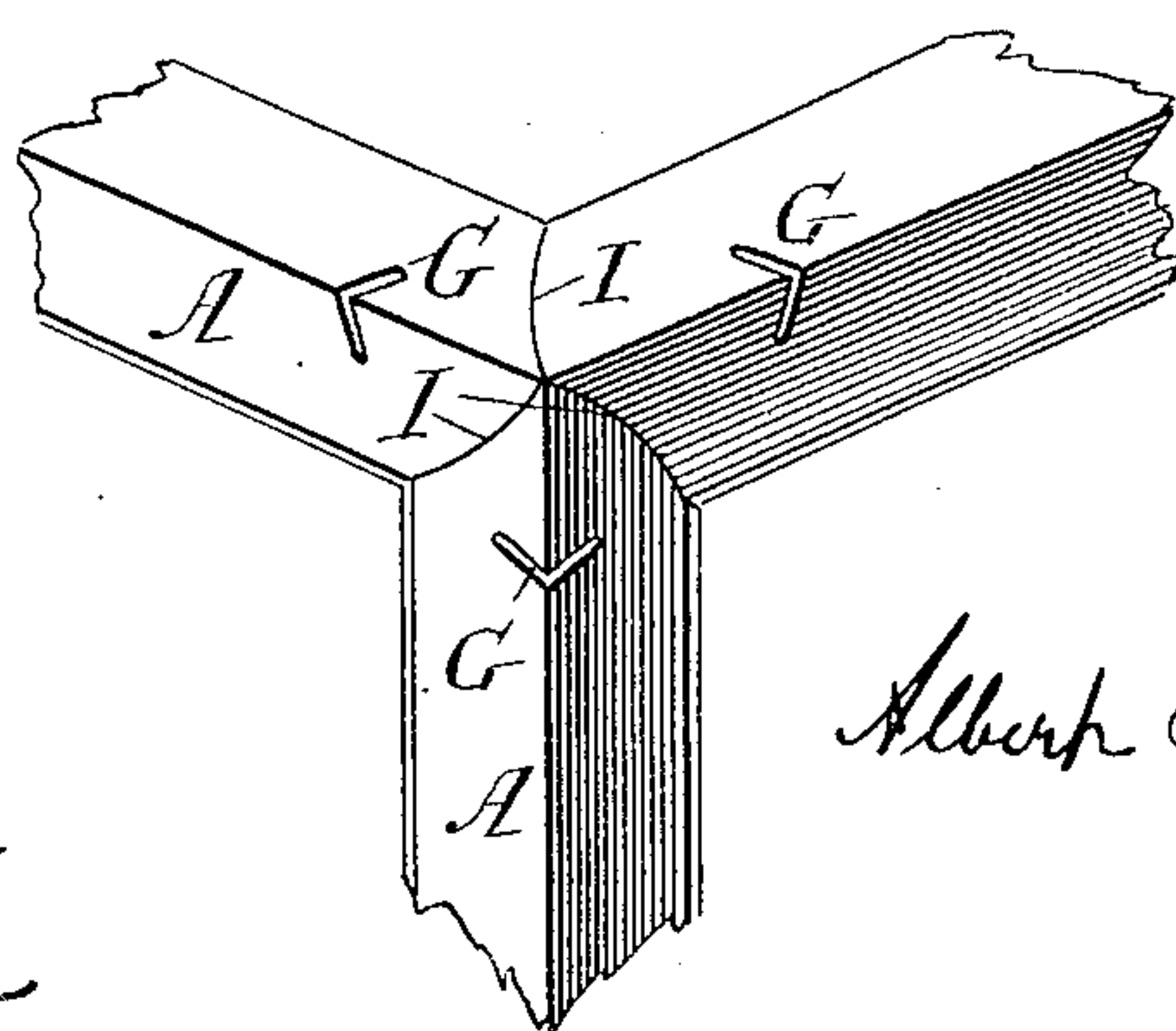


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALBERT T. LINDERMAN, OF WHITEHALL, MICHIGAN.

PACKING-BOX.

SPECIFICATION forming part of Letters Patent No. 379,652, dated March 20, 1888.

Application filed July 11, 1887. Serial No. 243,966. (No model.)

To all whom it may concern:

Be it known that I, ALBERT T. LINDERMAN, a citizen of the United States, residing at Whitehall, in the county of Muskegon and State of Michigan, have invented a new and useful Improvement in Packing - Boxes, of which the following is a specification.

My invention relates to improvements in packing-boxes which can be easily taken apart and reshipped in the knockdown position; and the objects of my improvement are, first, to provide a strong corner upon all sides of the box with angle-wood; second, to fasten these several pieces of angle-wood strongly together at their juncture; third, to provide means for sealing the angle-wood fastenings, thereby sealing the box; fourth, to provide fastenings for the angle-wood which can be used as such while the box is being transported and then be easily converted into hinges for the lid of the box; fifth, to provide a box which will render possible the use of veneer and other light material for the sides, ends, tops, and bottoms of boxes; sixth, to provide a box having the appearance on the outside of panel-work; seventh, to furnish a packing-box which shall at the same time be lighter in weight, neater in appearance, stronger, and cheaper in cost than packing-boxes heretofore made; and, eighth, to provide such a box as can easily be taken apart and reshipped in the knockdown position. I accomplish these objects in the manner shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a complete box as it appears when filled and ready to ship. Fig. 2 is a sectional end view of my box. Fig. 3 is a broken side view of a corner of two pieces of angle-wood joined with wires, so as to form a hinge. Fig. 4 is a sectional end view of the same, showing the cover raised. Fig. 5 is a broken view in perspective of the angle-wood corner of my box, in which the miter-joint is made toothed. Fig. 6 is a perspective of the same, in which the miter-joint is made curved. Fig. 7 is an end view of several pieces of angle-wood, showing how they pack closely for shipment in the shook.

Similar letters indicate like parts throughout the several views.

To make my box, twelve pieces of angle-wood

are required. Four of these pieces are of the proper length to furnish the length of the box, four pieces of the right length to furnish the width of the box, and four pieces sufficiently long to give the required depth to the box. Each end of these twelve pieces of angle-wood is cut at a miter, either plain, as shown in Fig. 1, notched, as shown in Fig. 5, or curved, as shown in Fig. 6, or any similar way. The notched or curved miter-joint I call an "irregular interfitting miter-joint." Each end of these angle-wood pieces is also notched at the angle, as shown at G, Fig. 6, to furnish a slot to hold the wire or string fasteners in place. Creases or grooves may also be cut, as shown at K, Fig. 1, so that the wire or string will be recessed in them.

To form my improved box, two of the length-wise angle-wood pieces and two of the width-wise angle-wood pieces mitered and prepared as directed are laid upon a table and brought together at right angles at their mitered ends. This forms a frame into which a piece of veneer cut to fill this frame is put. This forms the bottom of the box. The four corner-post angle-woods may now be placed in position and wired to the bottom pieces in the notches cut for that purpose. The side and end pieces of veneer should now be put in place inside of the angle-wood posts, to which they may be tacked or not, as desired. The box may now be filled, after which the veneer cover can be put on, the four remaining pieces of angle-wood be put about it, and fastened by string or wire, as before, to the angle-wood posts.

If it is desired to knock down the box for reshipment, the wire or string fastenings can be easily cut off, when the box will fall apart.

If it is desired that the box shall be perpetually used as a box and the knockdown feature of it be of no consequence, then the bottom, side, and end veneer may be tacked or glued, or both, to the angle-wood frame as the box is being made, the cover being fastened to the four top pieces of angle-wood in the same way. If it is desired that the cover be hinged to the box, the wire fastening it to the back side of the box may be put on with loops, as shown at D, Fig. 3, and the staples be driven into the angle-wood on each side of the loop in the wire, thus forming a hinge

when the box is opened. To render this hinge operative, the front wires of the cover are removed and the back wires cut at the end of the box. The cover can then be raised on its hinges, as shown in Fig. 4.

If it is desired to seal the box, this may be easily done by using a soft-metal seal upon the ends of the wire, as shown at C, or by using sealing-wax, labels, or other well-known devices. The corners being thus sealed, it cannot be entered without breaking these seals or demolishing the box. This feature is valuable in determining who is responsible in case the box be pilfered of its contents. Thus, if common carriers receive the case in good order with the seals unbroken and should not so deliver it, their responsibility for shortage could easily be fixed. With the common box the lid is often raised and put back neatly after the box is pilfered, and the responsibility cannot be placed easily. Heretofore heavy ends have been necessary in common boxes, in order to hold nails. This is expensive and adds to the weight of the case, while in my improved box only the thickness of timber necessary for the requisite stiffness need be used, as no nails are required.

My box, when made of veneer, which is well adapted to the use, can be all one piece—sides, tops, bottoms, and ends—thus making a very tight as well as handsome package, the panel effect produced adding to its neat appearance. A groove may be cut in the side of the angle-wood, into which the wire or string used for fastenings may be recessed to prevent wear or catching to obstacles over which the box may be slid. This groove is shown at K, Fig. 1.

I do not wish to confine myself to the precise use of wire or string in fastening the corners of angle-wood here shown and described alone. Wire staples having points well separated might be used, one point being driven into the angle-wood and the other point into the next angle-wood; or the staple may reach farther and go around the next angle-wood, or even around the next two angle-woods, and come back to the first and be driven into that. Other similar devices might be used and still be within the province of my invention.

In case extra strength may be required, two or more sheets of veneer, with the grain preferably crossed, may be used in place of the single sheet shown in the drawings. If desirable, the two sides and two ends of the veneer part of the box may all be made of one continuous piece of veneer scored so as to readily break around the corners and yet not come apart, or the two side and bottom pieces may be similarly made of one piece.

I am aware that prior to my invention angle-wood has been used for eaves-spouts, also nailed upon the four corners of a crate; but

I do not know, neither do I believe, that prior to my invention it has ever before been used as I employ it to form a complete crate-frame for supporting a box-body in such a way as to render the inside and outside surfaces of the crate-frame even at the point of juncture at the cubical corners of the crate.

I have herein shown and described a box or package with pieces of right-angular angle-woods applied on the outside of the corners and means for holding them in place. Such a box I do not claim herein, as it forms the subject of another application for patent filed by me on May 13, 1887, and bearing Serial No. 238,092.

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A package comprising a body having sides, ends, top, and bottom, and a supporting crate of angle-woods embracing all the corners of the body, mitered at the corner joints, and there fastened together by inclosing-bands, as set forth.

2. In combination with the veneers F, the angle-woods A A A, having mitered ends and slots or grooves, or both, to retain the wire B in place, and the wire fastener B, to hold the angle-woods together at the corner of the box, substantially as shown and described.

3. In combination with the box-body F, the angle-woods A A, formed at the ends with an irregular interfitting miter-joint to prevent slipping of the angle-woods at such joint, and means for holding the angle-woods together at such juncture to form a supporting crate for the box-body, substantially as set forth.

4. The box-body veneers F, the outside supporting angle-woods, A A, the wire fastener B, which holds the several angle-woods, and thereby the box, together at the corners, in combination with the seal C, attached to the wire fastener B, for sealing the box, substantially as shown and described.

5. In combination with the veneers F and angle-woods A, the wire fastener B, joined by loops D and fastened by staples E E, whereby are formed fasteners for the box in shipment and afterward hinges to the cover of the box, substantially as shown and described.

6. An independent supporting crate-frame of angle-woods so joined at the cubical corners as to render the inside and outside surfaces of the joining-pieces of angle-woods smooth or even at the point of juncture, and means at or near the juncture for fastening the several pieces of angle-woods to each other in this position to form a crate, substantially as set forth.

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Witnesses:

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