

(No Model.)

2 Sheets—Sheet 1.

H. JOHNSON.

COMMERCIAL OR PACKING BOX.

No. 261,929.

Patented Aug. 1, 1882.

Fig 1.

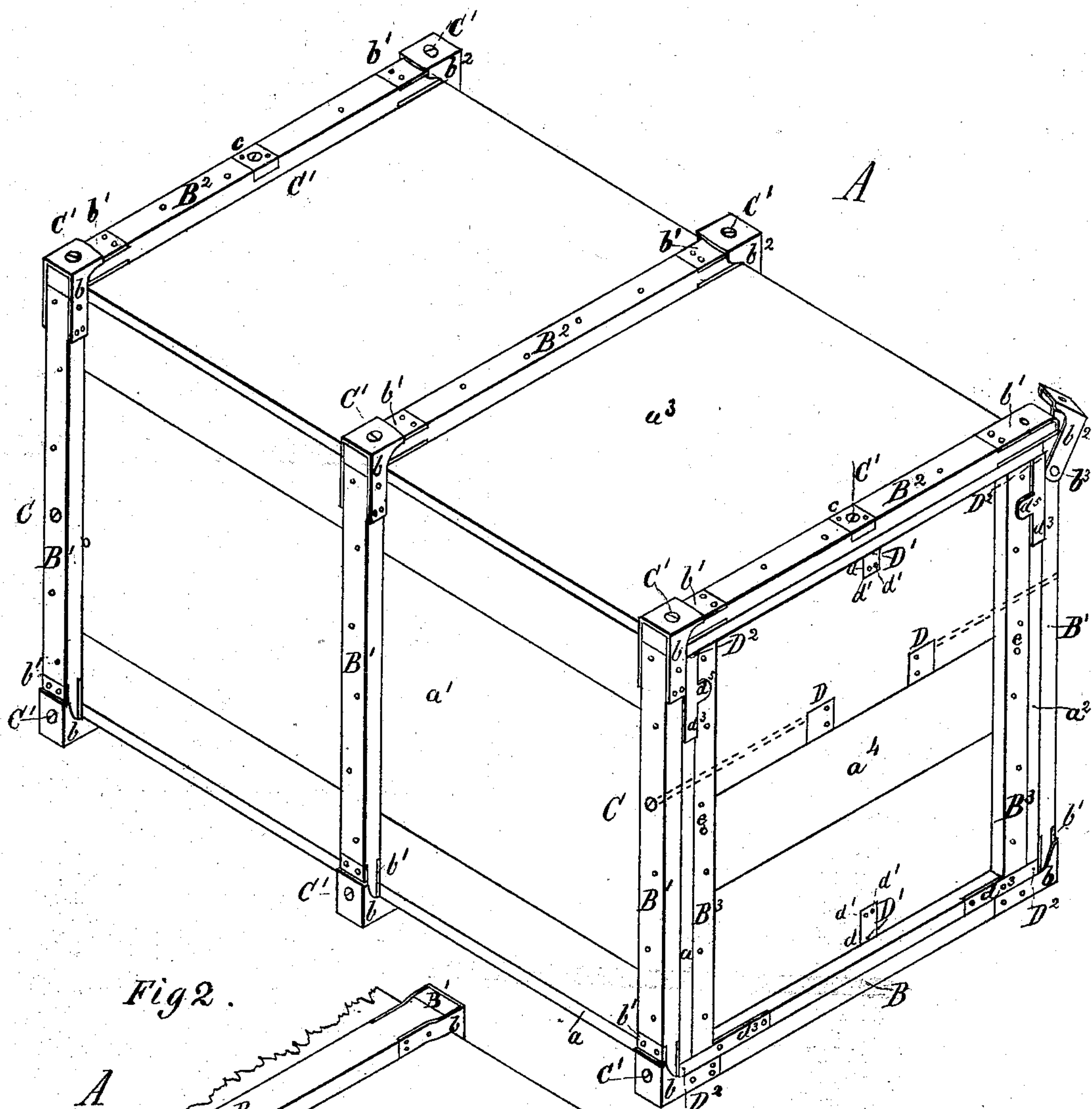
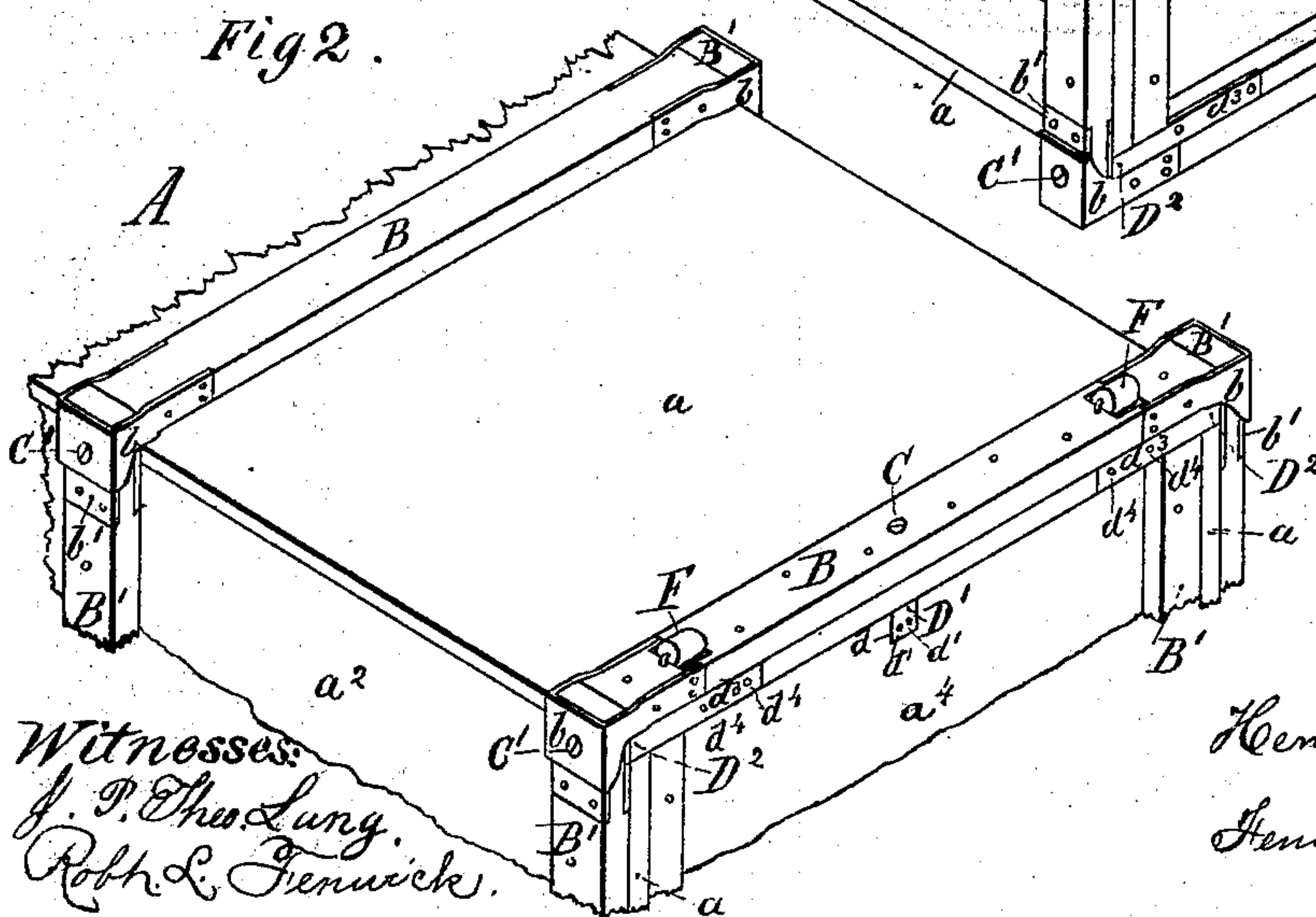


Fig 2.



Witnesses:
J. P. Theo. Long.
Robt. L. Fenwick.

Inventor:

Henry Johnson
by his attys
Henwick & Lawrence

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Fig 3.

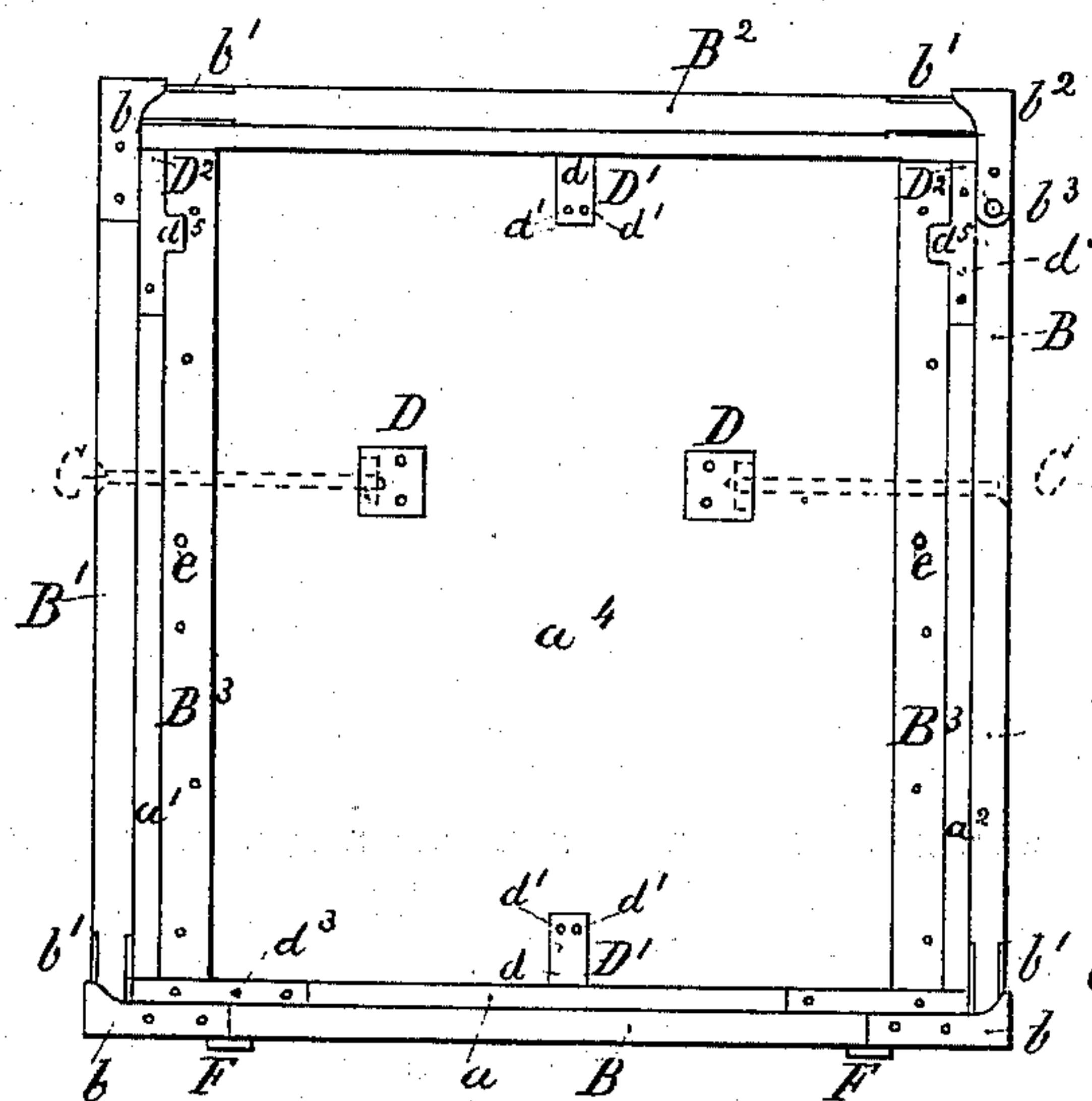


Fig 4.

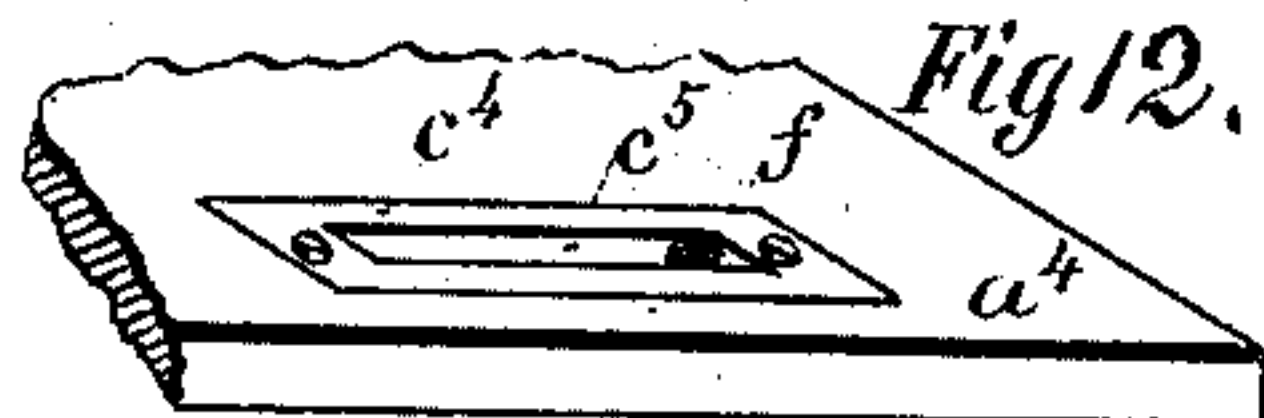
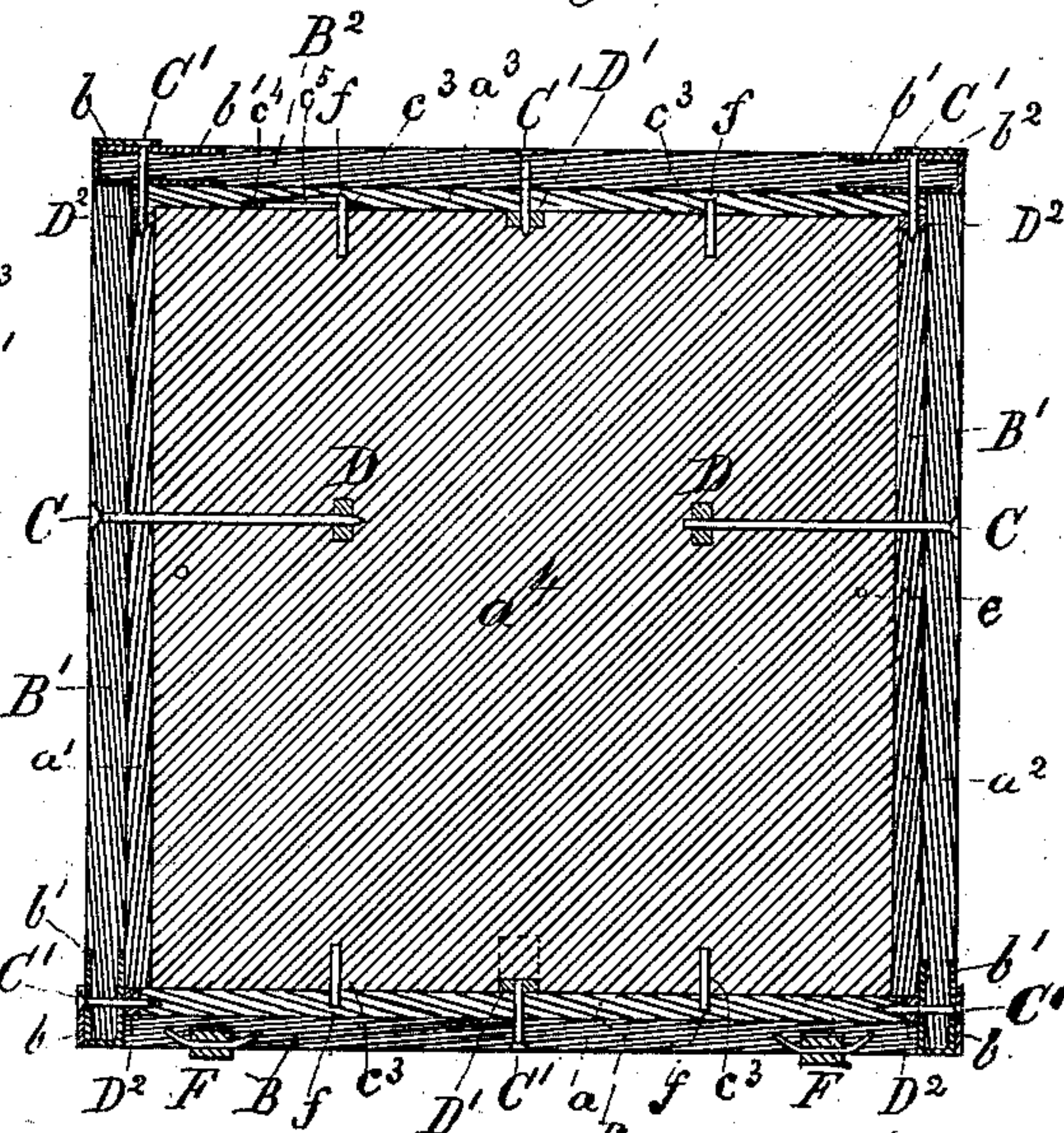


Fig 12.

Fig 5.

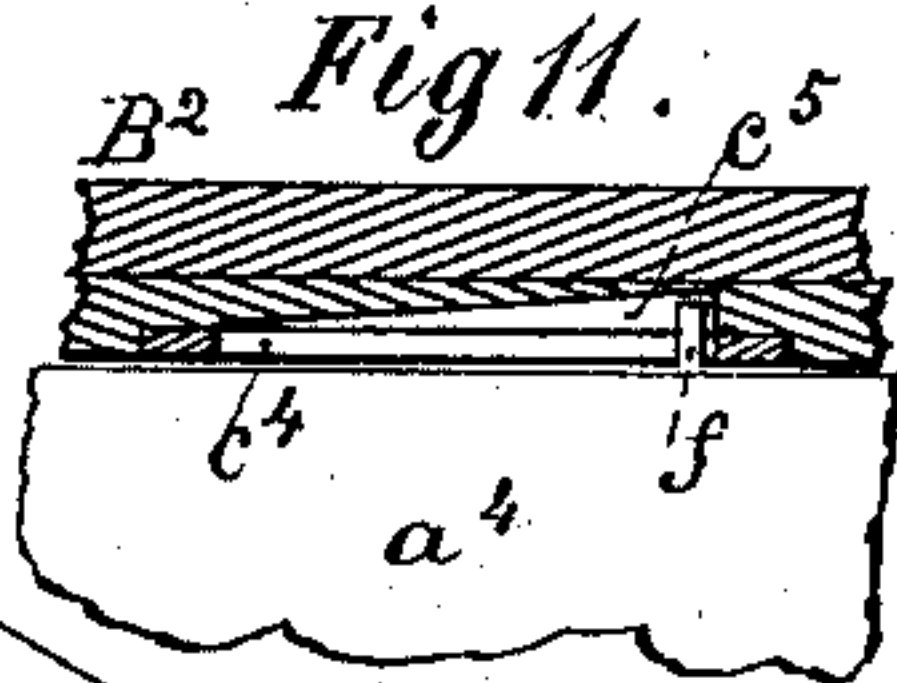


Fig 11.

Fig 6.

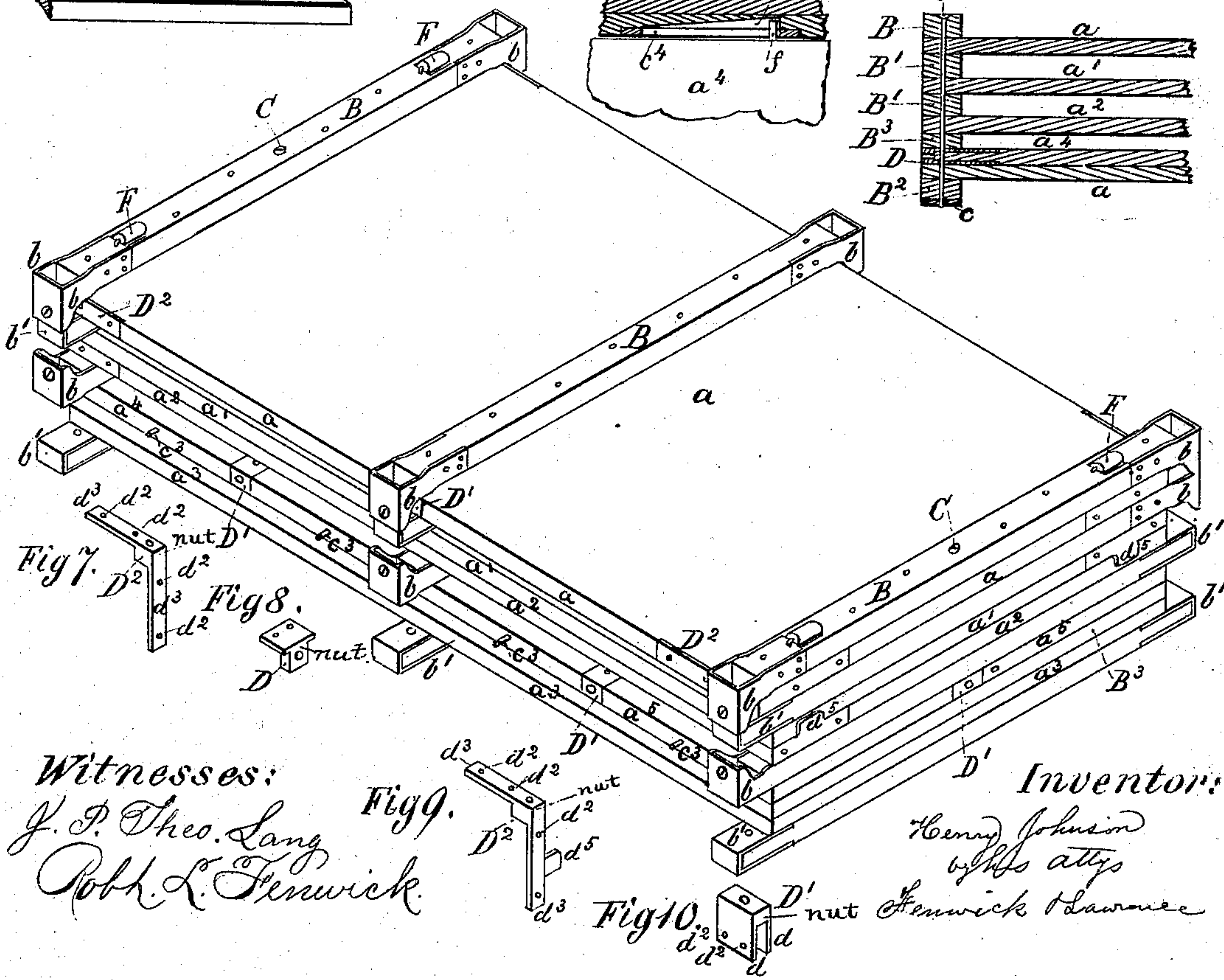
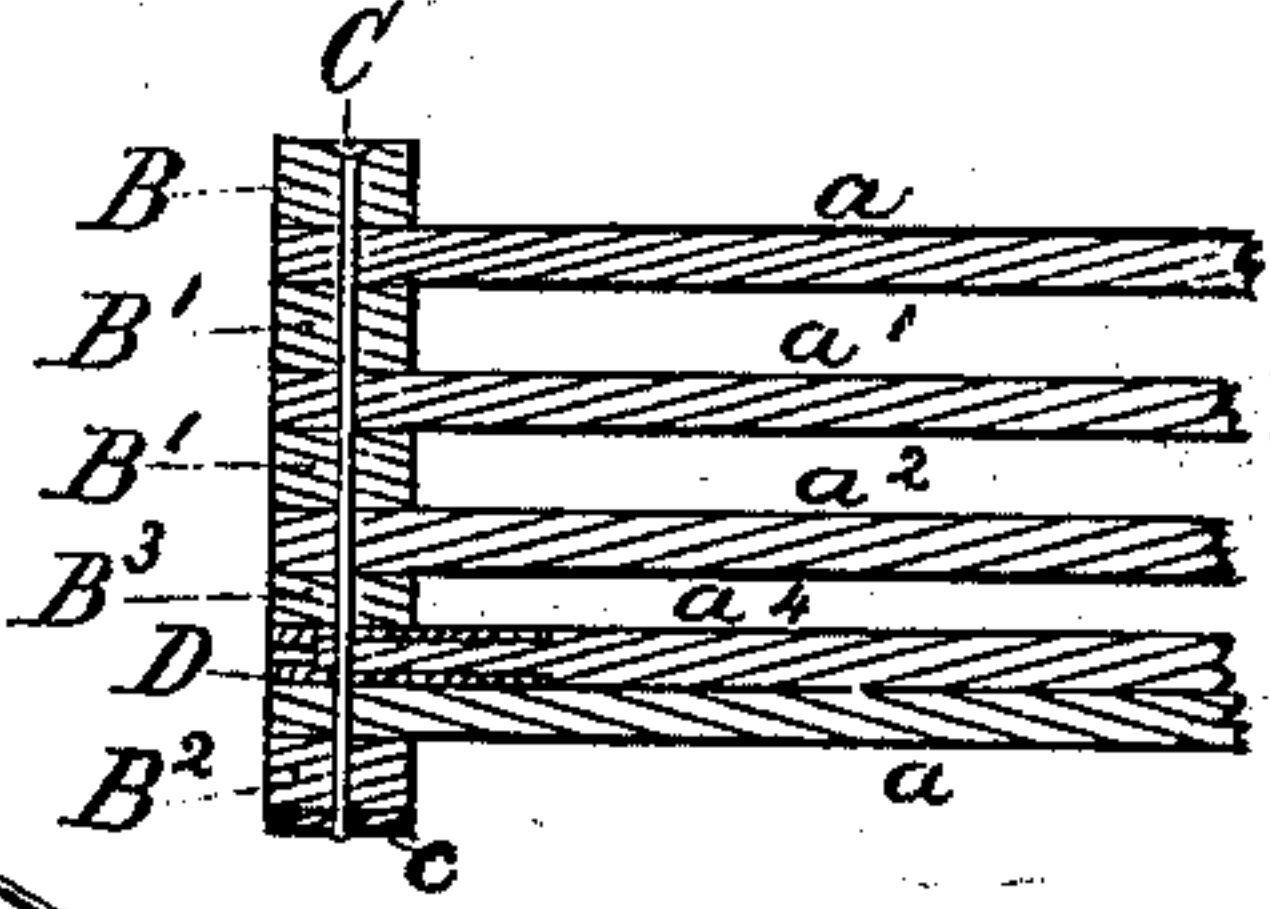


Fig 7.

Fig 8.

Fig 9.

Fig 10.

Witnesses:
J. P. Theo. Lang
Robt. L. Fenwick

Inventor:
Henry Johnson
by his attys
Fenwick Lawrence

UNITED STATES PATENT OFFICE.

HENRY JOHNSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

COMMERCIAL OR PACKING BOX.

SPECIFICATION forming part of Letters Patent No. 261,929, dated August 1, 1882.

Application filed June 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY JOHNSON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Commercial or Packing Box for Transportation of Goods, of which the following is a specification.

My invention relates to a novel construction of strong and durable commercial or packing boxes, in which merchandise may be packed and transported, and which can be easily taken to pieces without breaking or injuring the parts, again put together and refilled with other merchandise to be sent to the owners of the boxes; or the parts may be separated and placed together in a compact bundle for return transportation and reused, in case it is not desired to repack them with merchandise; and the object of the improvement is to avoid the great expense now incurred in the use of temporary and insubstantial packing-boxes, which are generally so much injured in the transportation, and in the opening and unpacking of the goods contained in them as to render a second use thereof almost impracticable, and hence they serve only as kindling-wood or waste lumber.

My invention will be fully understood from the following specification, the accompanying drawings, and claims.

Figure 1 is a perspective view of a box constructed in accordance with my invention as it appears when packed with goods and closed up ready for transportation. Fig. 2 is also a perspective view of the same, the box having been inverted, so as to exhibit supporting-rollers which are applied to its bottom battens. Fig. 3 is an end view of the packed and closed box. Fig. 4 is a vertical transverse section taken in the line of fastening screw-bolts, which enter nuts embedded into wood of the end of box. Fig. 5 is a perspective view of the parts of the box as they appear when the box is taken apart, and they are packed into a bundle for return transportation. Fig. 6 is a broken vertical longitudinal section in the line of one of the bolts used for fastening together the parts of the box when they are placed in a bundle, as shown in Fig. 5. Figs. 7, 8, 9, and 10 are perspective views, showing combined clasps and nuts used to strengthen certain parts of the box and to receive the fastening

screw-bolts. Fig. 11 is an enlarged sectional detail view of a dowel-pin connection seen in Fig. 4. Fig. 12 is a perspective bottom view of a part of the top, showing the dowel-pin in section, the dowel-pin groove protecting-plate.

The box A consists of a bottom, a , two sides a' a^2 , a top, a^3 , and two ends, a^4 a^5 , all of which are provided with cross-battens in order to strengthen them, prevent the wood from warping, and to provide means for fastening the box together, as will be seen.

The bottom a is provided with three battens, B B B, extending over the whole width of the box, and being provided at their ends with metal clasps b , into which the projecting ends of the battens B' B' B' of the sides a' a^2 are inserted. The said ends of these battens are provided with suitable metal coverings, b' , in order to prevent wear, while their other ends (which are flush with the edges of the sides) are on one side, a' , provided with rigid clasps b , and on the other side, a^2 , the battens B' are provided with movable clasps b^2 , swinging on pivots b^3 .

The top a^3 is provided with battens B^2 , projecting beyond the edges of said top, and being there protected by means of suitable metal coverings, b' .

The two extreme battens B^2 are provided at their centers with nuts c for the reception of threaded bolts C' , as will be described, in the bundling up of the parts of the box for reshipment.

The end pieces, a^4 a^5 , are provided with end battens, B^3 , and dowel-pins c^3 , which enter into suitable socket-holes, f , in the top and bottom of the box.

The wood around the socket-holes near the rigid clasps of the sides of the box is protected against wear by means of a slotted plate, c^4 , and the socket-hole f itself is provided with an inclined gutter, c^5 , formed in the wood of the top a^3 , in order to allow the dowel-pin to enter the said socket-hole gradually while the respective ends of the top battens are being inserted into the rigid clasps b of the side a' of the box. The slotted plate c^4 keeps the dowel-pin in place and prevents wear of the wood right and left of the gutter c^5 , and thus is the means of steadying the end boards of the box in their normal position, while the dowel-pins serve, in connection with the cor-

ner-clasps, for preventing a displacement of the ends of the box when subjected to longitudinal strain or pressure.

The end board a^4 is provided with two flanged nuts, D, into which the threaded ends of two long bolts, C, are screwed. These bolts C are passed through the battens B' and the end board a^4 , and thus hold the side boards, $a' a^2$, firmly to the end board a^4 .

The bottom and top boards are secured to the end board a^5 by means of stout bolts C', screwed into nuts D', which latter are provided with parallel flanges d , (see Fig. 10,) and fastened flush to the center portions of the respective edges of the end board by means of rivets d' , passing through apertures d^2 in the flanges d and through the material of the end board.

The center portions of the edges of the end board a^5 are also provided with nuts D', into which bolts C' are screwed, in order to fasten the bottom, sides, and top of the box to the said end board.

Opposite the central clasps, $b' b^2$, the edges of the sides and the top of the box are provided with nuts D', in the manner hereinbefore described, and the bolts C' are passed through the said clasps and therein inserted battens, and are screwed into the said nuts, thereby serving as central fastenings at each corner of the box. The end fastening of the said corners are provided in a similar way with bolts C', but the nuts D², into which said bolts are screwed, are provided with angular flanges d^3 , having apertures d^2 in them, through which the fastening nails or screws d^4 are inserted. These flanges d^3 are laid upon the horizontal and vertical portions of the respective corners of the side boards and bottom, and, thus placed, are suitably fastened to them so as to present flush surfaces with the said boards.

The vertical flanges d^3 of the nuts D² may be provided with gage and stop lugs d^5 , in order to facilitate the putting together of the box.

The extreme battens B of the bottom of the box are suitably provided, as shown, with supporting-rollers F, whereby the box may be easily moved from place to place.

The box is put together by first laying down the bottom, next inserting the projecting portions of the battens B' B' of the sides $a' a^2$ into clasps b of the bottom a , next inserting the dowel-pins c^3 of the ends $a^4 a^5$, next inserting the bolts C' through the clasps b and end battens of end boards a^5 and screwing them tight into the nuts D' D² of the bottom of the box, and also inserting screw-bolts C through the center portions of the end battens and screwing them tight into the nuts D of the end boards a^4 . Thus the fastening of the sides and ends of the box to the bottom is effected, and the box is ready for the packing of merchandise.

To close the top opening of the box the clasps b^2 are thrown back on their pivots b^3 , as shown

at the right-hand corner of Fig. 1, and the projecting portions of the battens B² of one side edge of the top are inserted into the rigid clasps b of the side a' of the box, and then the clasps b^2 on the sides a^2 are turned forward to their original position, in the manner shown at the right-hand off corner and at the middle of the box in Fig. 1; and now screws C' are passed through the clasps and battens and tightly screwed into all of the upper nuts, D' D², similar screws being also passed through the central portions of upper end battens and screwed tightly into their nuts D'. Thus closed the box is ready for shipment.

When the box is to be opened at top it is only necessary to withdraw the screws which fasten the hinged clasps b^2 and the top battens, B², and to turn back the said clasps and slide off the top by giving it a sidewise and slightly-upward movement away from the clasps b .

When the parts of the box are to be packed together in a bundle for reshipment all of the screws are withdrawn, so as to separate the parts, and the top a^3 is laid down upon its face. Upon the top the two ends $a^4 a^5$ are placed next to each other. Upon the ends the two sides are placed, and upon the sides the bottom a is placed with its lower surface up. This done, all the central holes of all the end battens will be adjusted in line, the two ends $a^4 a^5$ being provided with holes e , in order to preserve the continuity of passages with the central said holes. Now the bolts C are inserted into the said holes and screwed into the nuts e , Fig. 6, whereby the several parts of the box are securely fastened together, and thus are ready for reshipment, the screw-bolts being inserted in the clasps and into suitable holes provided in the top of the box.

Packing-boxes constructed as herein described are, in regard to strength and durability, superior to other constructions, and they can be used and reshipped many times without becoming unsafe by reason of injury from rough handling or wear of the fastenings.

My improved boxes save the loss experienced in using temporary-nailed boxes of the old construction. They save the annoyance and waste due to the breaking open of such boxes, and also avoid the annoyance of providing sufficient room for the storage of a lot of such boxes. Finally, they do away with the great consumption of lumber now experienced from the manufacture of ordinary boxes, which cannot generally be reused.

In the manufacture of my boxes all the parts will be numbered, and certain colors, indicating the exact places for the different parts to occupy, will be painted upon the different parts, and thus in the putting up of the box for packing purposes and bundling the parts of the box for reshipment great convenience will be afforded.

I am aware that boxes have been made for reshipment and repeated use; but the means for fastening together the parts of such boxes are not so reliable as desired, while they are

too expensive and inconvenient for being handled.

My strong elbow-clasps, hinged by the lower end of one arm and confined by screws passed through the other arm, render the box very strong and secure, while the battens give great strength with lightness and also afford means for handling with hooks of hoisting-machines, such hooks taking hold of the projecting battened ends of the top a^3 of the box, and the handling being further facilitated by the rollers on the bottom battens, which enable the merchant to readily and easily roll heavy boxes from one position to another.

The elbow-clasps b , as well as those b^2 , may be pivoted, as at b^3 , if found desirable. In manufacturing the elbow-clasps b b^2 and the combined clasps and nuts (shown in Figs. 7, 8, 9, and 10) either wrought or malleable cast metal may be used.

The elbow-clasps serve all the purposes of corner or end protecting irons for the box without the great expense for strips of metal extending along the entire length and width of the box, and while this is the case the box itself is protected from injury by the projecting battens.

The elbow-clasps, by being pivoted at one end of their arms and confined by screws at the other, serve a much better purpose than corner-strips having a hinged joint at their angle, as such joint is liable to break, and such jointed strips do not afford as much purchase for clamping the parts of the box together as is obtained from the elbow-clasps pivoted, as shown in my drawings, and secured by the screw-bolts.

The improved boxes can be constructed of cheaper lumber, inasmuch as waste pieces may be employed with the battens, which give the boxes all the strength required, and the wear-irons, clasps, and screw-bolts render them

durable and secure and capable of being used over and over again instead of being thrown aside as useless and unsafe after being once used, as is the case with ordinary packing-boxes. The nuts which hold the screws, being strong and durable, render the employment of screws as fastenings practical, however long the boxes may be in use.

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

1. A commercial packing-box for transportation of goods, having its bottom, sides, and top provided with battens, and interlocked and fastened by means of said battens and elbow or corner clasps and screws, substantially as and for the purpose described.

2. A commercial packing-box, A, provided with the removable top a^3 , having battens, and with swinging clasps b^2 , attached to the removable side a^2 , substantially as and for the purpose described.

3. The combination of the flanged nuts D^2 , having angular flanges d^3 , and stop and gage lugs d^5 , with the parts of a packing-box, substantially as and for the purpose described.

4. The top a^3 of a packing-box, having slotted plate e^4 , inclined gutter c^5 , and socket-hole f , in combination with the end boards, a^4 a^5 , having dowel-pins c^3 , and with end or corner clasp devices, substantially as and for the purpose described.

5. In the box A, the combination of the parts a a' a^2 , having central apertures for the fastening screw-bolts at each end, the parts a^4 a^5 , having apertures e , and the top a^3 , having central nuts, c , at each end, and the screw-bolts C, substantially as and for the purpose described.

HENRY JOHNSON.

Witnesses:

B. I. BEHREND,
ROBERT L. FENWICK.