

(No. Model.)

C. R. MENGEL.
PACKING BOX.

No. 503,976.

Patented Aug. 29, 1893.

Fig. 1.

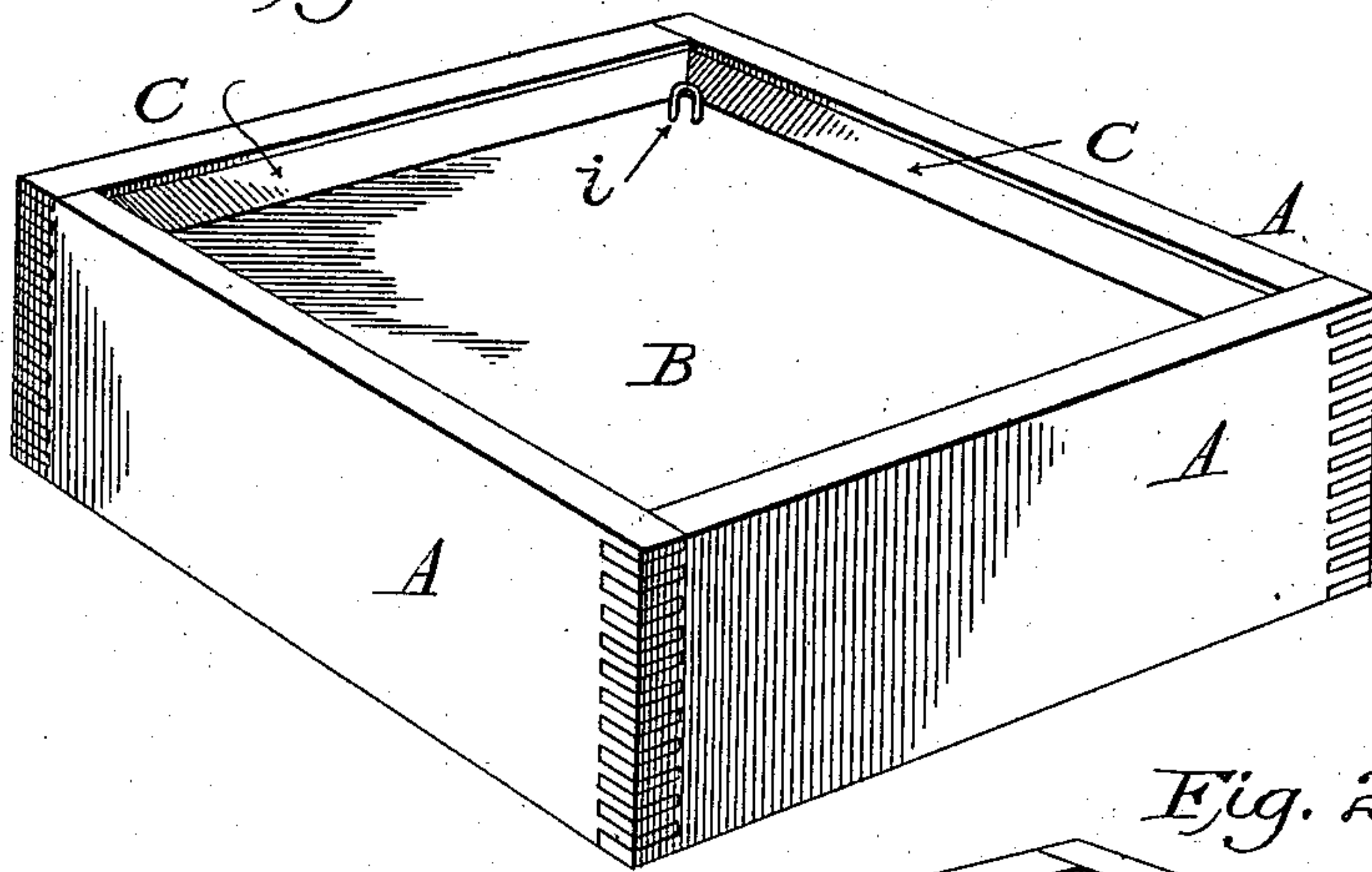


Fig. 2.

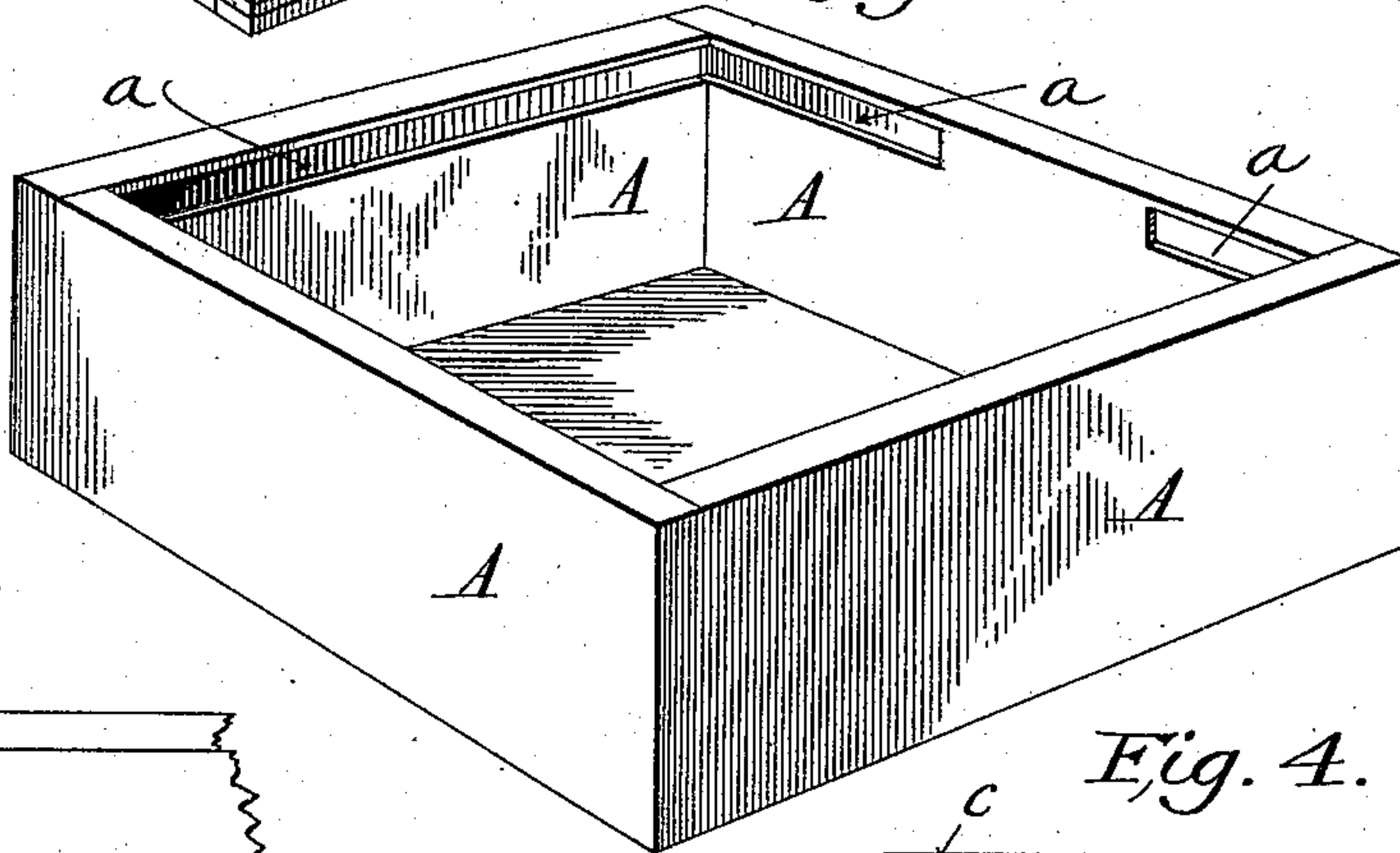


Fig. 3.

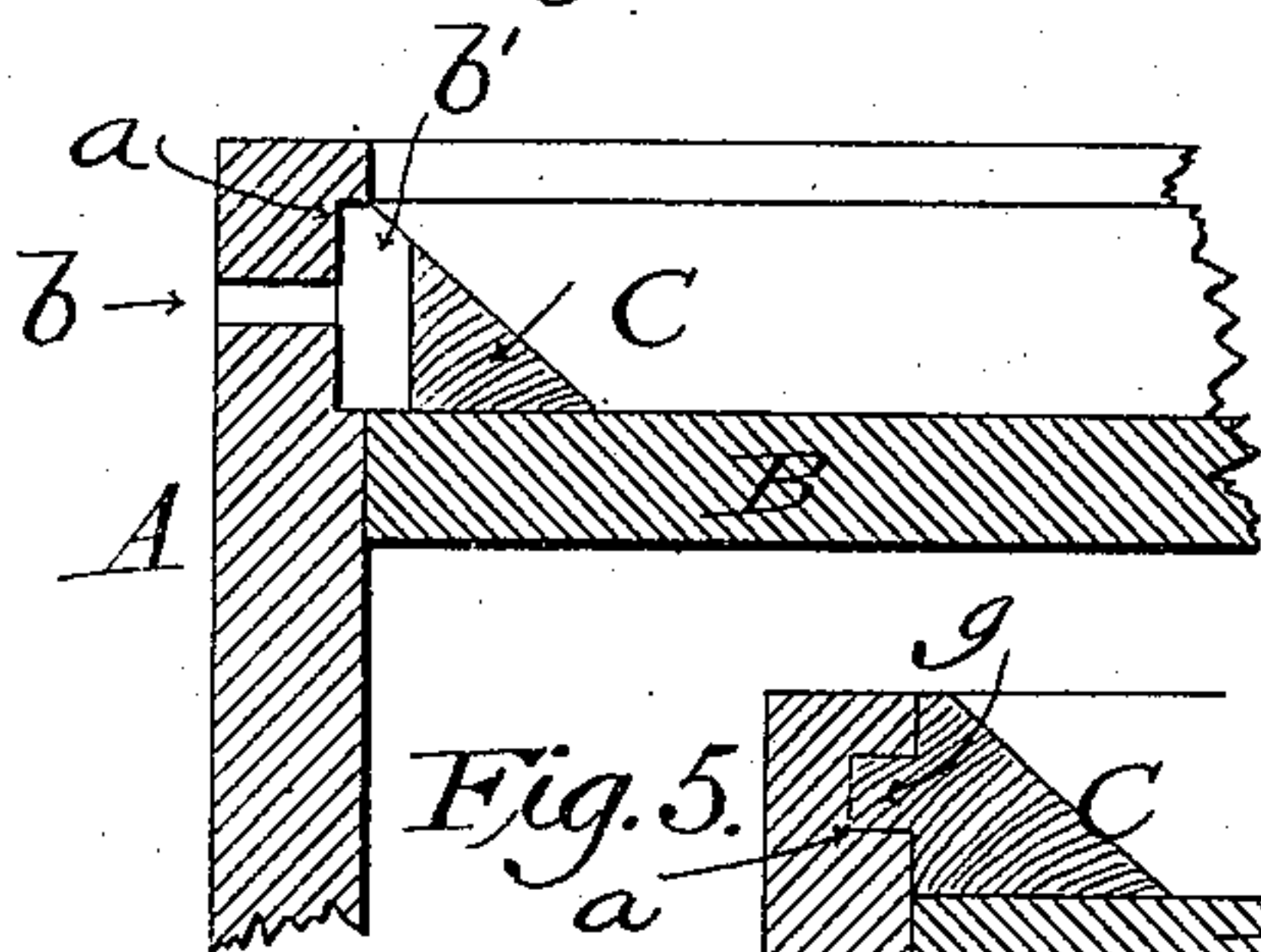


Fig. 4.

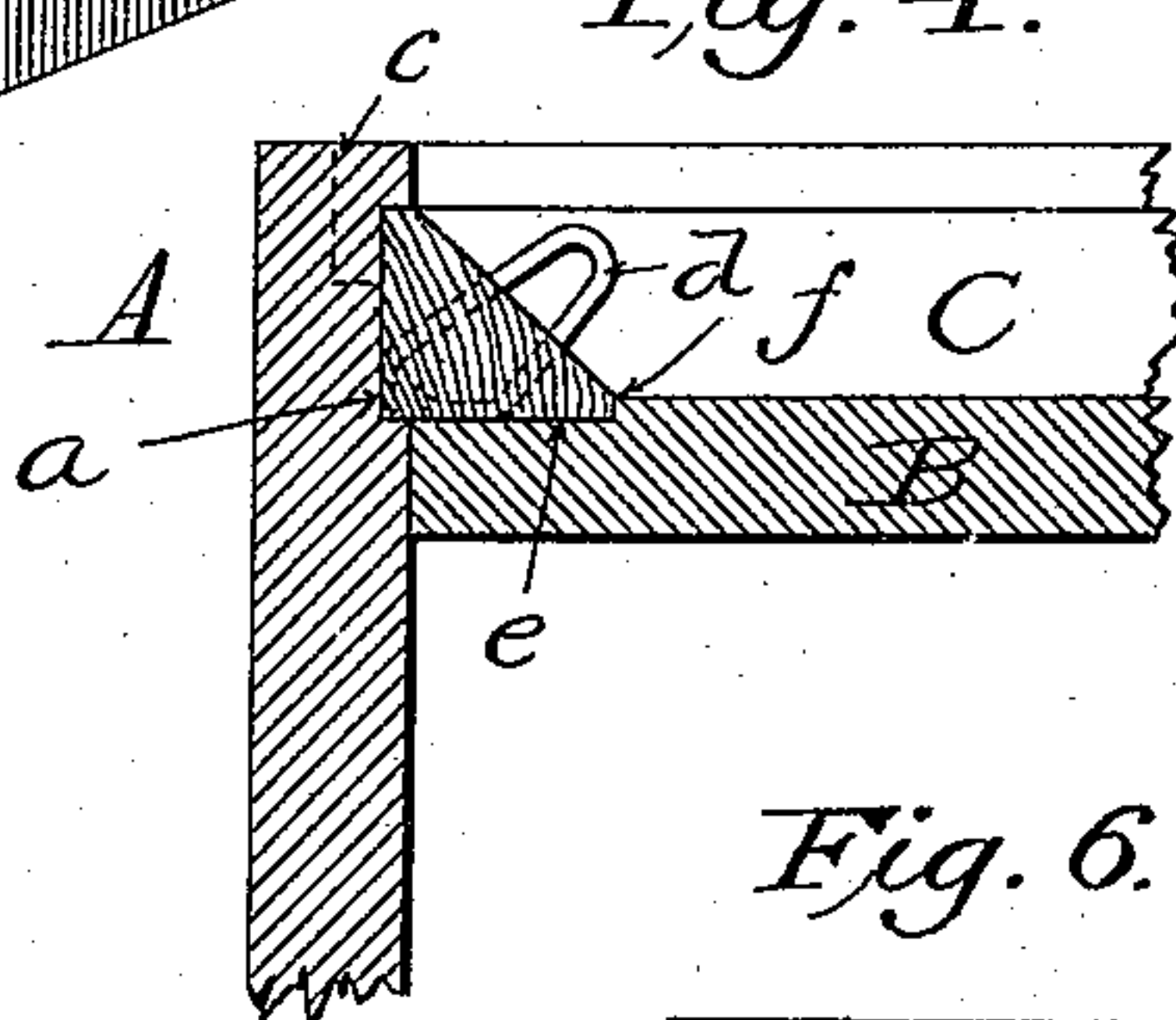


Fig. 5.

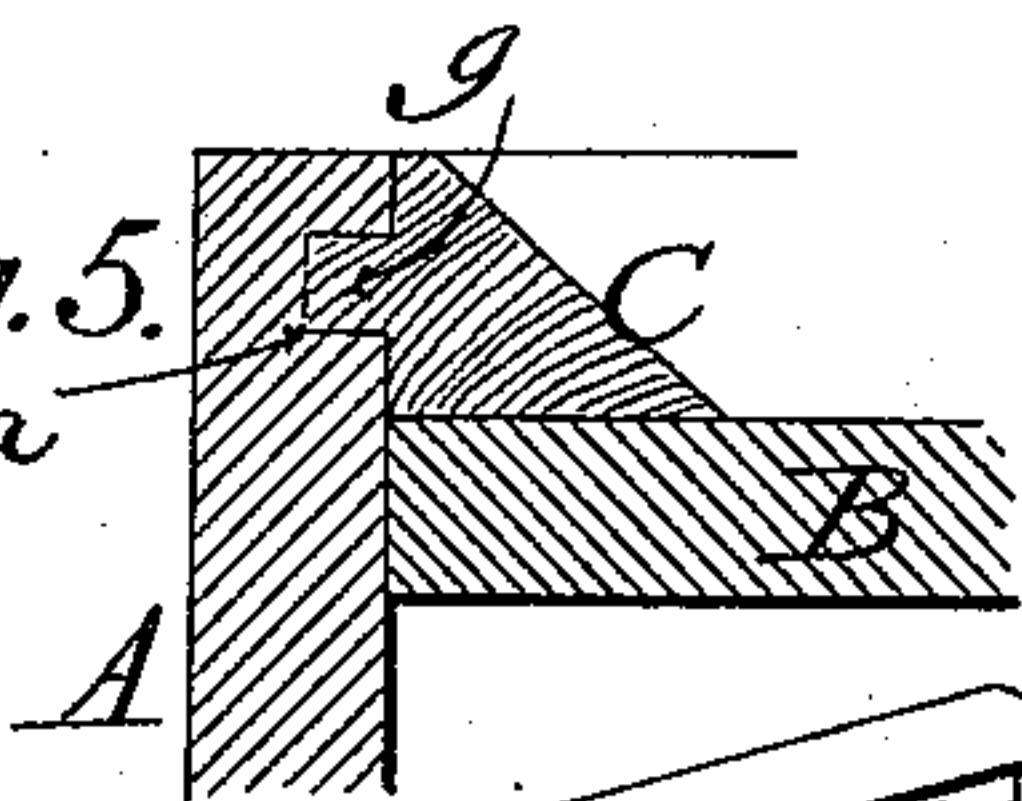


Fig. 7.

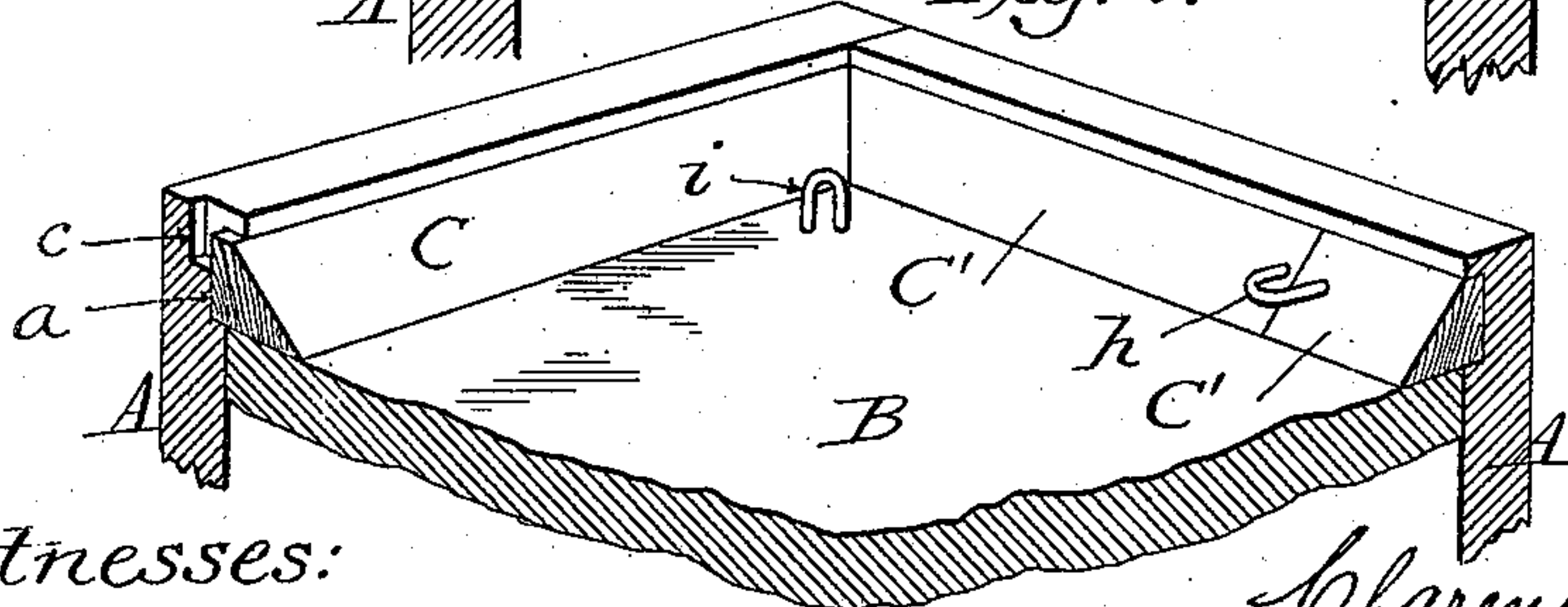
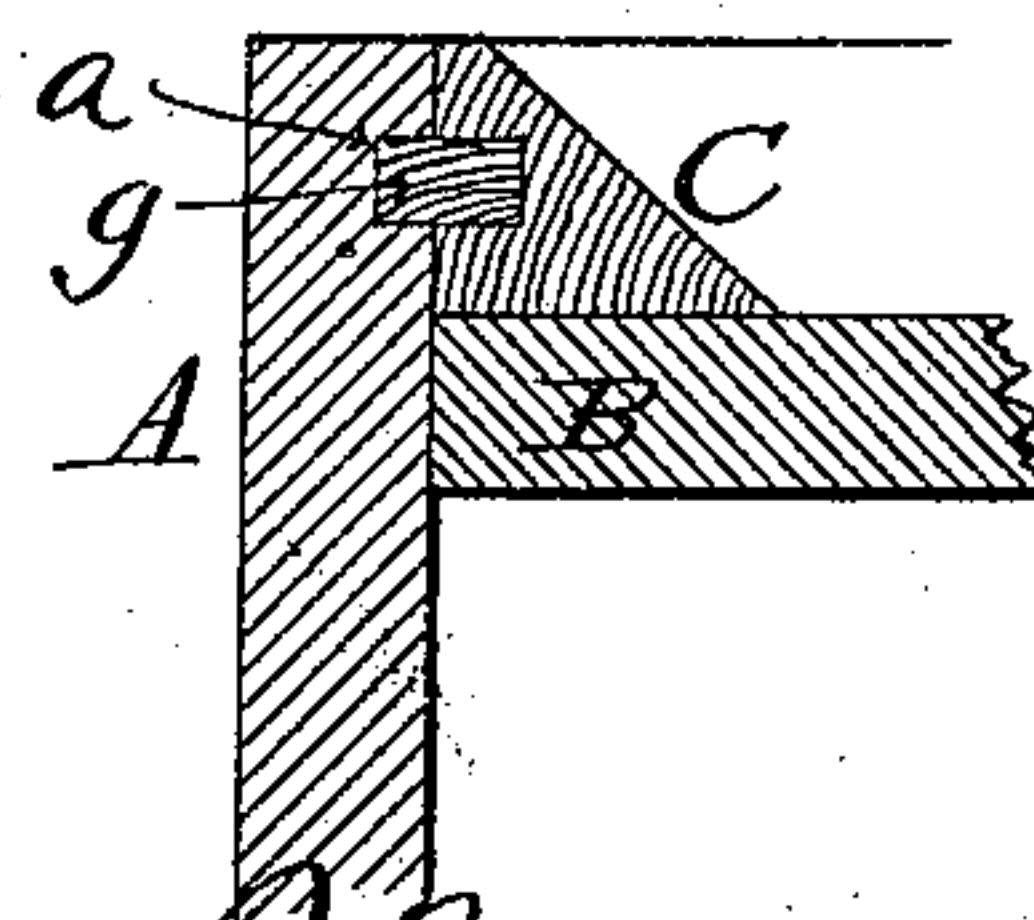


Fig. 6.



Witnesses:

James F. Duhamel
Horace A. Dodge.

Clarence R. Mengel
INVENTOR
by Dodge & Sons
Attys.

UNITED STATES PATENT OFFICE.

CLARENCE R. MENGEL, OF LOUISVILLE, KENTUCKY.

PACKING-BOX.

SPECIFICATION forming part of Letters Patent No. 503,976, dated August 29, 1893.

Application filed December 6, 1892. Serial No. 454,264. (No model.) Patented in Canada April 7, 1893, No. 42,492.

To all whom it may concern:

Be it known that I, CLARENCE RUDOLPH MENGEL, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Packing-Boxes, (for which I have received Canadian Letters Patent No. 42,492, dated April 7, 1893,) of which the following is a specification.

My invention relates to packing boxes, and consists in a novel construction of the same, as hereinafter set forth and claimed. The present box is designed particularly for the reception of plug tobacco, which is forced into or compressed within the box under pressure. As the tobacco expands somewhat upon the removal of the box from the press, it exerts a considerable strain upon the box, and tends to open the box-joints and permit the entrance of moisture. Now, to overcome this difficulty, various plans have been devised to maintain the integrity of the box, but then, where this is attained, it generally results in the mutilation or practical destruction of the box by the person opening it. To overcome these objections, that is, to make a strong and serviceable box, and to render it possible to easily open the same without mutilating or destroying it, I construct the box as shown in the drawings, in which—

Figure 1 is a perspective view of my improved box; Fig. 2, a similar view with the top removed; and Figs. 3, 4, 5, 6 and 7, sectional views illustrating certain details of construction.

A, A indicate the sides of the box which will be united at the corners, preferably by means of tenons and mortises. These side pieces may be made up either of solid or two or three ply material, as may be preferred, and one or more of them will have on the inner face, near the upper edge, a groove or recess *a*, as shown in Figs. 2 to 7.

B indicates the top or cover, designed to fit within the sides, as shown, and which, when the tobacco has been compressed, has its upper or outer face on line with the lower edge of the groove or grooves *a* in the sides, when the groove is formed as in Figs. 1, 2, 3, 4, and 7.

C, C indicate cleats, strips, or, as they are commonly termed, "linings," which fit within the grooves or recesses *a* and overlap or bear

upon the top or cover when the latter is in place. With the cover and cleats in position, as shown in Fig. 1, the whole is set upside down into a press, where the tobacco is inserted compressed, until the bottom piece of the box is forced to its proper position. The cleats or linings for holding the bottom (not shown) are now fastened in place by nails, as usual, and the box removed from the press. The tobacco on expanding tends to press the head or top upward, but this is resisted by the cleats or linings C, which effectually hold the top in place without the aid of nails or other fastenings.

The avoidance of nails or fastenings in the heads, or its cleats, results in a considerable saving in cost; and permits the use of thinner lumber for the head, top, or cover, than has heretofore been possible.

The cleats or linings C will preferably, but not necessarily, have their ends cut on a bevel or angle of forty-five degrees, and it will be necessary to use force to spring into place the last one put on. It will also be found necessary to employ a corresponding force to remove one of the cleats in opening the box, and to facilitate this, several plans are illustrated.

In Fig. 3, a hole *b* is formed in one of the sides, through which hole a suitable tool may be inserted to push the cleat out of its seat; while in the same figure, I have shown one of the cleats as provided with a hole *b'* to receive a withdrawing tool. The latter construction is preferred, as I secure a better hold upon the cleat without weakening the box.

In Figs. 4 and 7, a hole *c* is formed vertically in one of the sides, to permit a tool to be inserted behind the cleat. In Fig. 4, one of the cleats is shown as provided with a staple *d* to receive a tool to remove the cleat. Under all these plans, the power is applied to the cleat at a point between its ends, preferably at the middle, which results in the bowing or bending of the cleat at the middle, and the withdrawal of its ends from contact with the adjacent cleats. One cleat being removed, the others are readily taken out.

To insure the retention of the cleats in position, the upper face of the top or cover will advisably be depressed or cut away along the

edges, as at *e*, as shown in Fig. 4. This forms a shoulder *f*, which prevents the cleats from getting out of their grooves. It is not essential that all the side pieces be grooved; but inasmuch as it is necessary to cover all the joints, it will be found advisable to groove all the sides, and thus afford a good seat for the cleats. Neither is it essential that the groove *a* extend entirely across the face of the side. For instance, as shown in Fig. 2, the groove may extend from the vertical edges of the sides inward toward the center, with an intermediate plain or ungrooved portion. In other words, I do not wish to limit myself to a continuous groove extending entirely across the face of the side. Nor do I limit myself to a groove which shall be of the same width or height as the cleats, for, as shown in Figs. 5 and 6, the groove may be narrower than the cleat, and adapted to receive a narrow tongue *g* on the back of the cleat. This tongue may be made integral with the cleat, as in Fig. 5, or separate therefrom, as in Fig. 6. So, too, instead of having the cleats continuous, as in Fig. 1, one or more of them may be made up of two or more sections *C'*, *C'*, as shown in Fig. 7, and where this construction is adopted, I prefer to connect the two sections by means of a staple *h* which serves not only to hold the sections in line, but also affords a convenient means for withdrawing the cleat in opening the box.

The top, head, or cover fits closely within the sides, and after the cleats have been removed, difficulty is experienced in getting a hold upon the top to remove it. To overcome this, I provide the top with an eye, or staple *i*, by means of which and a suitable tool, the cover may be raised or lifted out of the box. From the foregoing, it will be noticed that the cleats or linings form a frame whose outer dimensions exceed those of the head, top, or cover, and hence when this retaining cleat frame is in place and in engagement with the side or sides, neither the said frame nor the side, can be accidentally removed.

It will be observed upon reference to the drawings that the top or cover is of a size equal to the smallest inside diameter or meas-

urement of the box, so that the cover may be inserted from the bottom or lower end preparatory to placing the box in the press. A box which is shouldered or recessed to receive and support the cover (of a size larger than the inside portion of the body of the box) cannot therefore be used for the purposes and in the manner herein set forth.

In lieu of securing the bottom in place by means of nails it may be held in place in essentially the same manner as the top, that is by cleats, engaging the side or sides and bearing upon the said bottom piece. The cleats would be applied to the box while the latter is in the press and the tobacco under compression.

What I claim is—

1. In a box, the combination with the side A grooved on its inner face as at *a*; of the top fitting within the sides and of a size equal to the inside measurement of the main body of the box; and the cleat or lining seated in the groove and bearing upon the top, said cleat being held in position by the expansive force of the contents of the box, all substantially as shown and described.

2. In a box, the combination with the side grooved on its inner face, of the top fitting within the sides and cut away along the edges as at *e* to form a shoulder *f*; and the cleats *C* seated in the grooved side and resting upon the top at its edges.

3. In a box, the combination with the grooved side, of the top, the cleat seated in the groove and bearing upon the top, and the hole or opening for the insertion of a cleat-removing tool.

4. In a packing box, the combination with the recessed sides, of a top or cover fitting within the box and of a size equal to the size of the body of the box; and a cleat-frame also fitting the sides and engaging the latter,—said cleat frame having outer dimensions exceeding those of the top.

In witness whereof I hereunto set my hand in the presence of two witnesses.

CLARENCE R. MENGEL.

Witnesses:

WALTER S. DODGE,
HORACE A. DODGE.