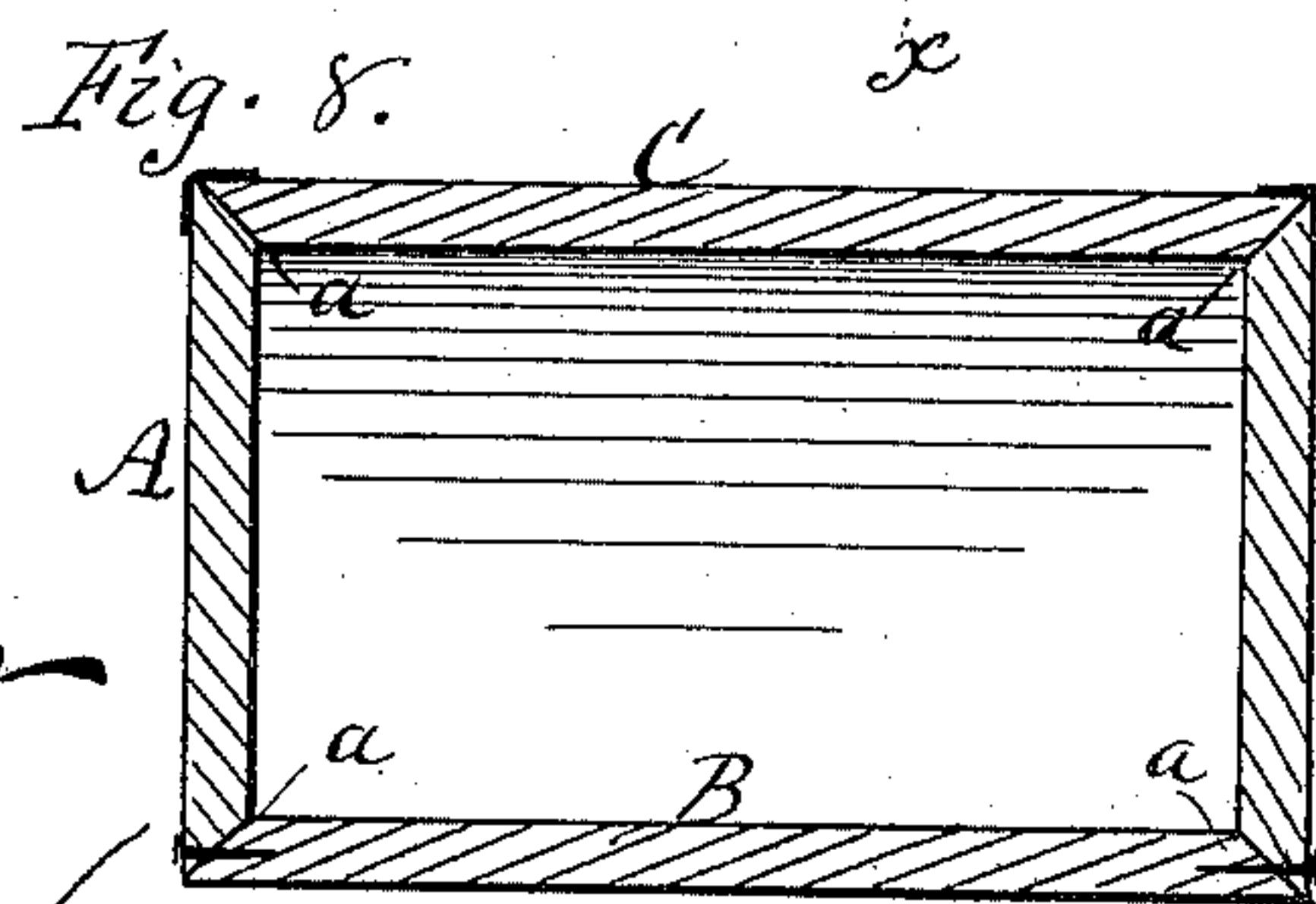
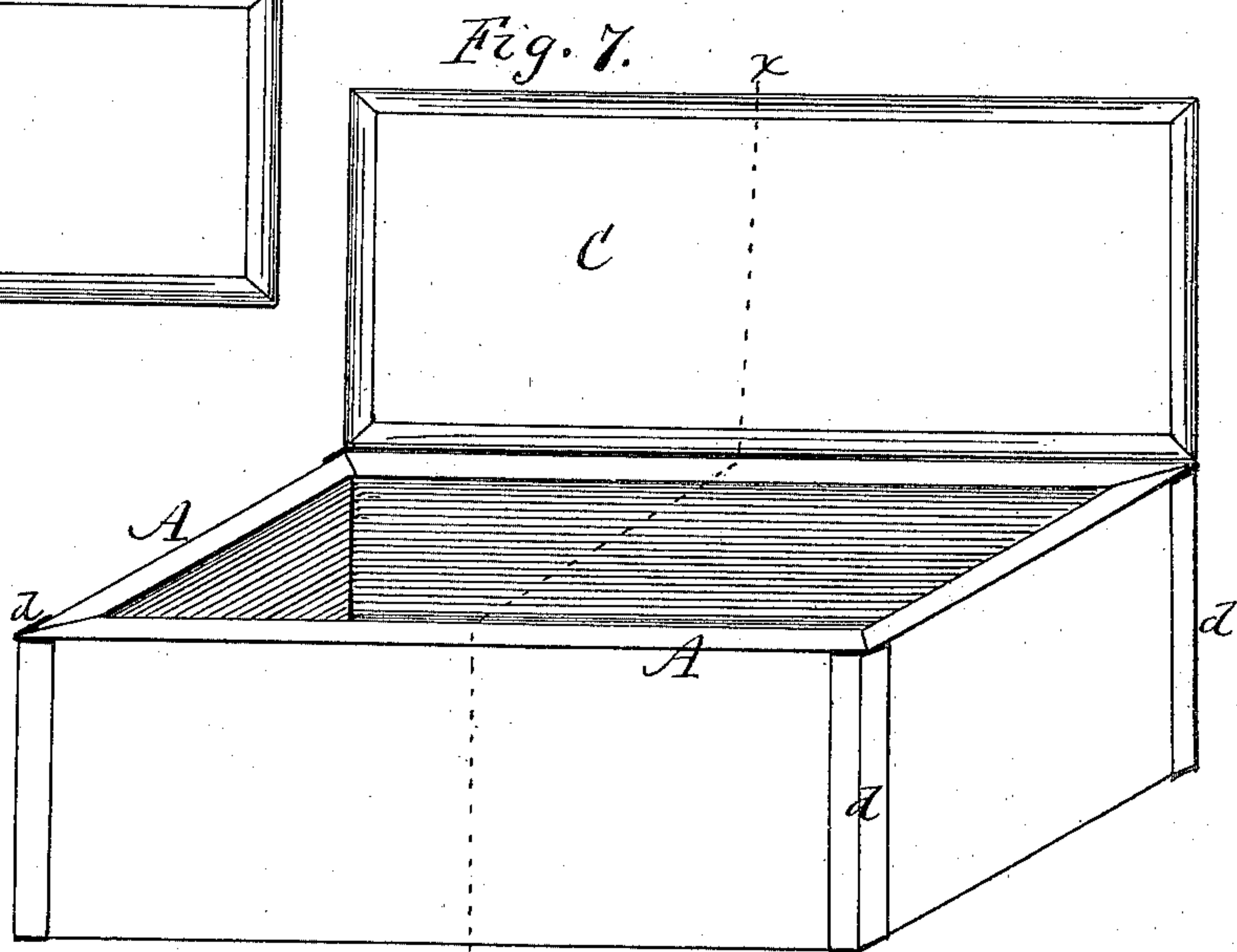
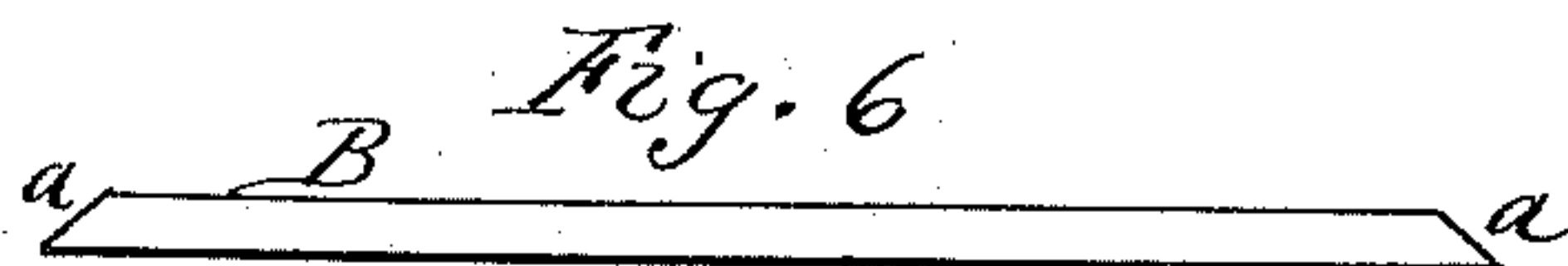
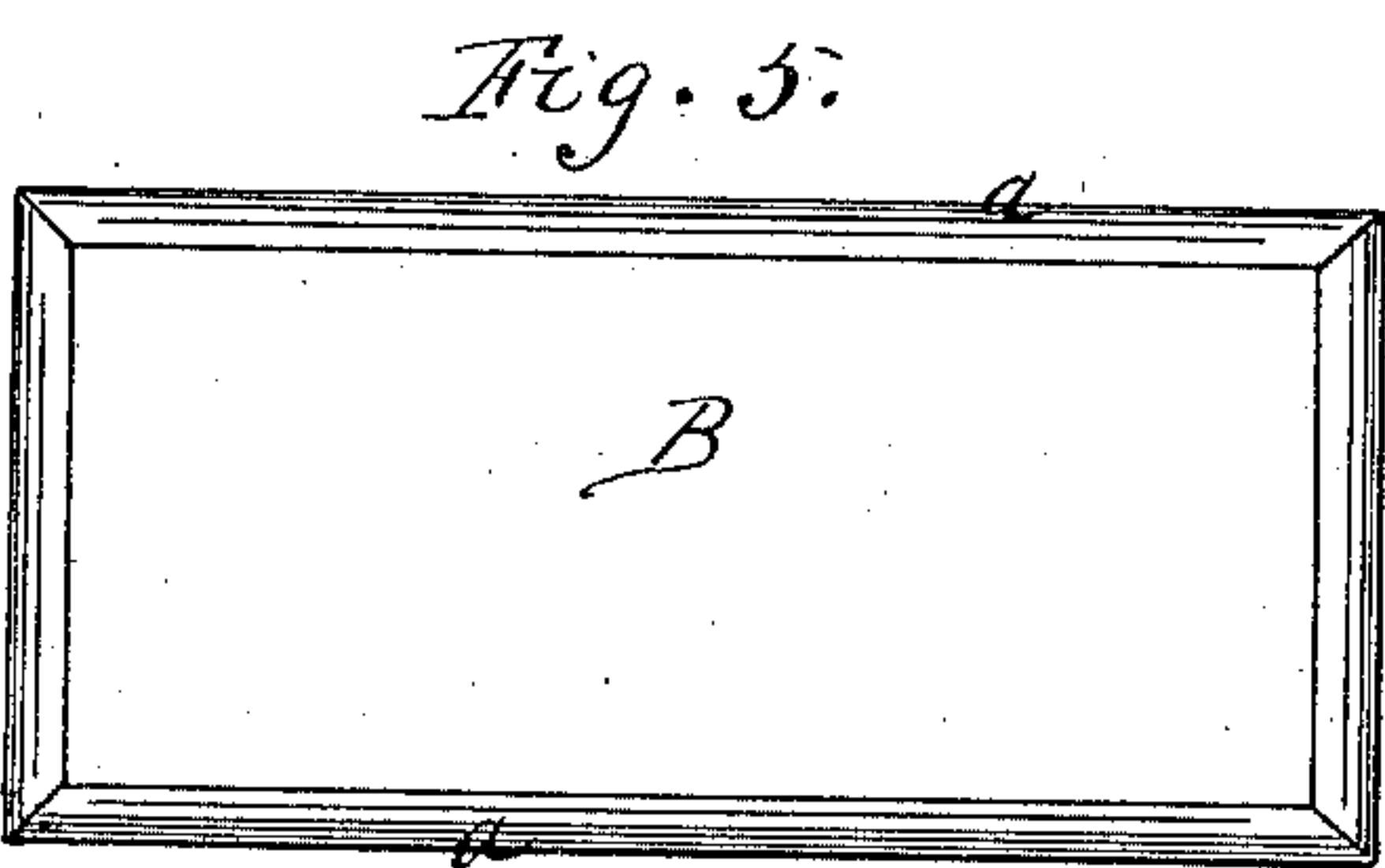
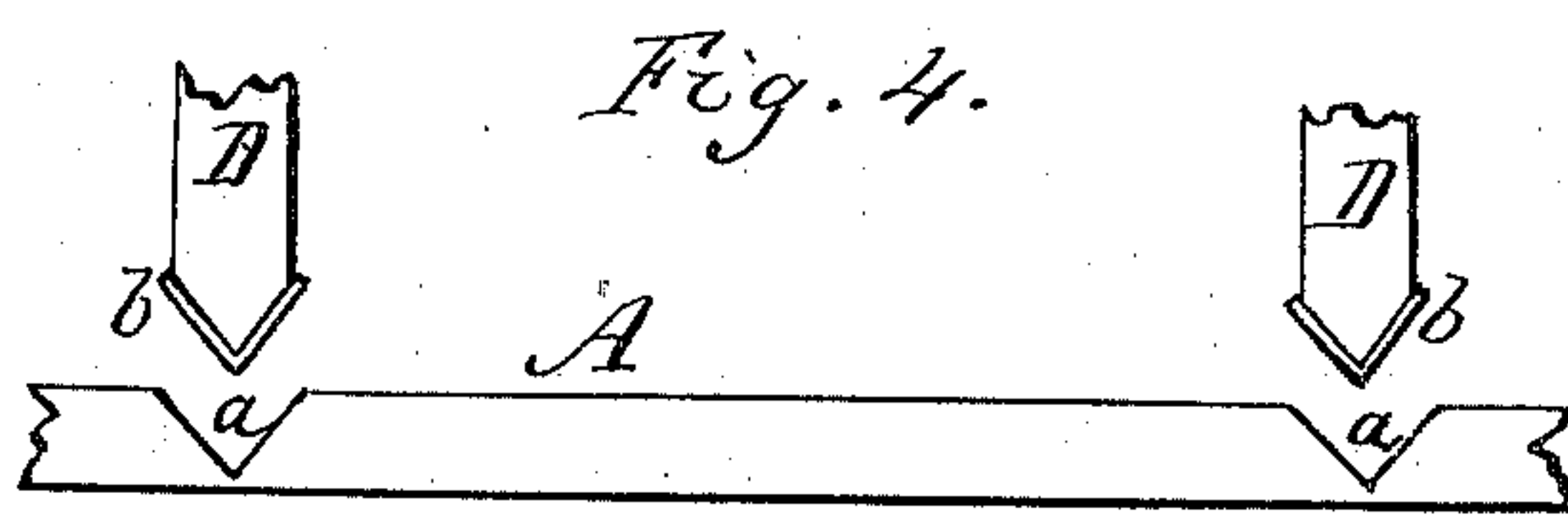
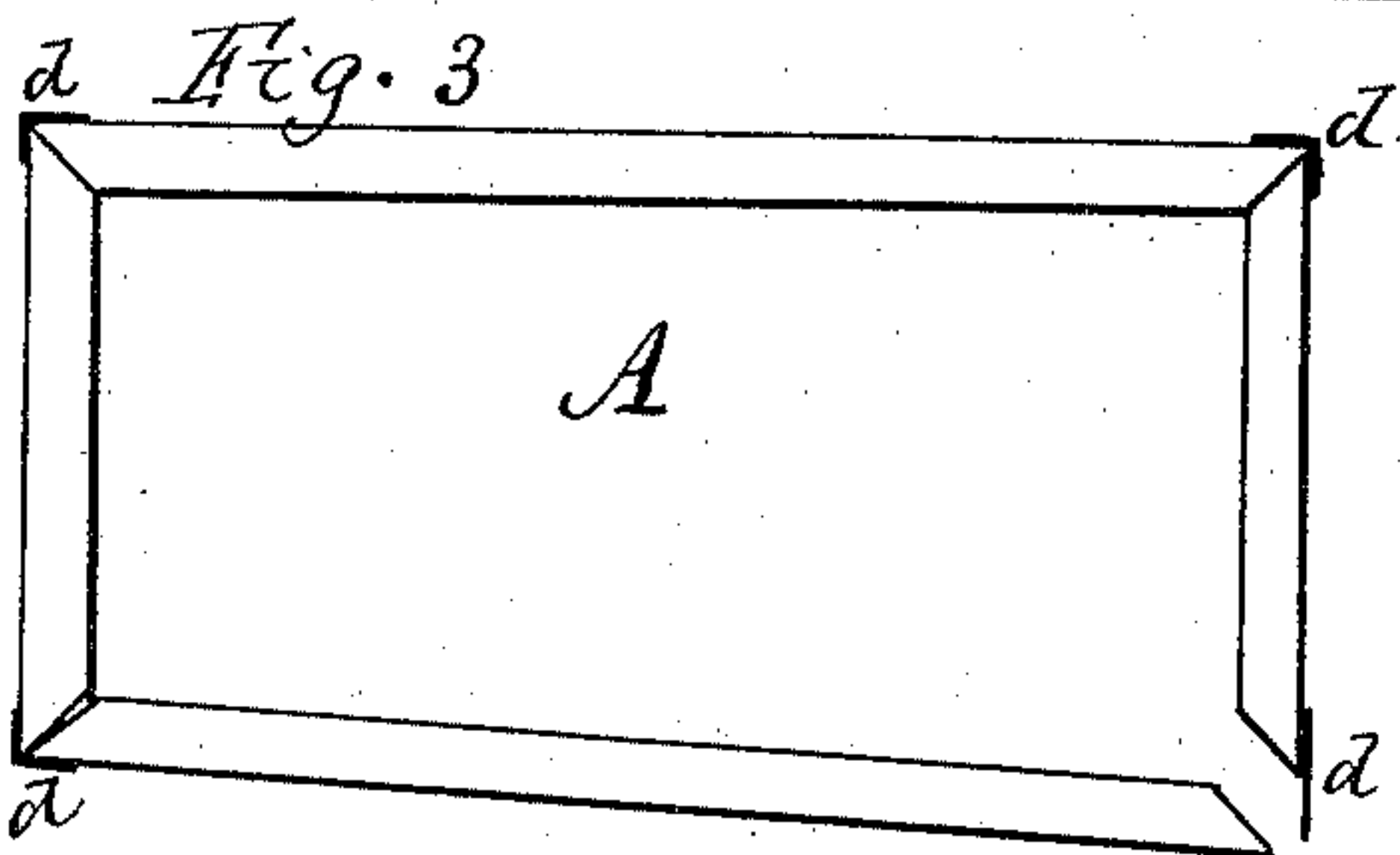
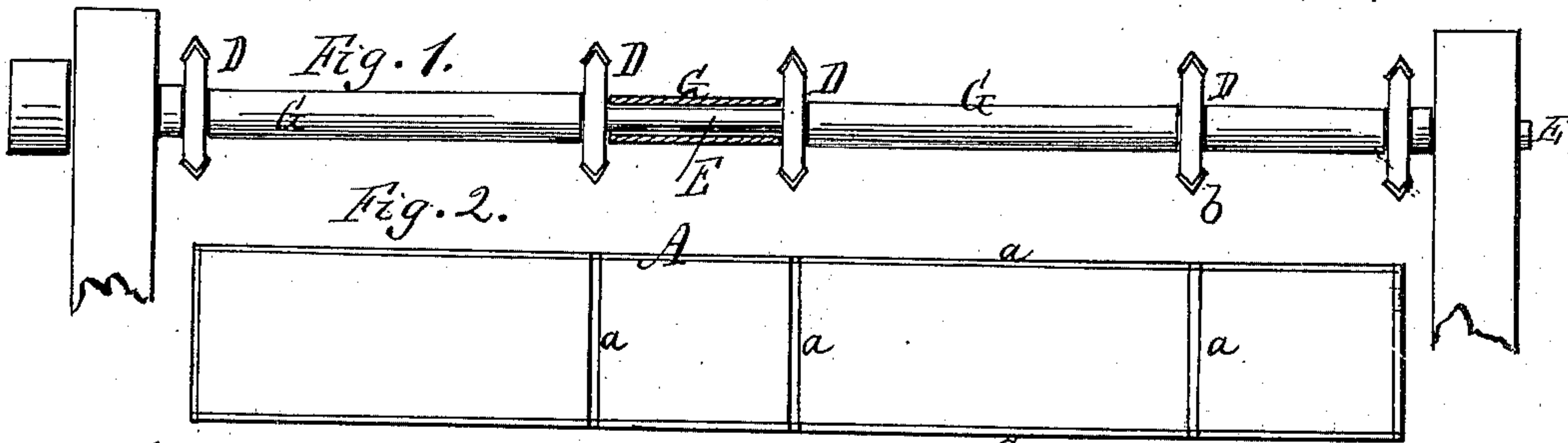


(No Model.)

E. J. DAVIS.
BOX.

No. 313,814.

Patented Mar. 10, 1885.



Attest.
Chas. Spencer
W. V. Adams

Inventor.
Edw. J. Davis,
Per R. F. Osgood,
att'y.

UNITED STATES PATENT OFFICE.

EDWARD J. DAVIS, OF ROCHESTER, NEW YORK.

BOX.

SPECIFICATION forming part of Letters Patent No. 313,814, dated March 10, 1885.

Application filed January 21, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. DAVIS, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

10 Figure 1 is a plan of the cutters for cutting the grooves in the sides and the top and bottom of the stuff from which the box is made. Fig. 2 is a plan view of the grooved strip from which the sides and ends of the box are made. 15 Fig. 3 is an edge view of Fig. 2, showing the strip bent into the rectangular form of the box, one end being left open. Fig. 4 is an edge view enlarged, showing the strip with the grooves formed therein, and the cutters 20 which form the grooves. Fig. 5 is a face view of the groove side of the top or the bottom of the box. Fig. 6 is an edge view of Fig. 5. Fig. 7 is a perspective view of the completed box, the cover being open. Fig. 8 is a cross- 25 section of Fig. 7.

My improvement relates to cigar-boxes and other boxes of very thin stuff, although it is also applicable to other boxes. Cigar-boxes are usually made of thin veneers cut out in 30 pieces with square edges, then fitted in place and secured by nailing or tacking. Owing to the extreme thinness of the stuff, this is a tedious and difficult job, as the edges have to be adjusted very exactly, and the nails are liable 35 to run out one side or the other and split the wood. Such boxes are very expensive and difficult to make and have many imperfections.

The object of my invention is to produce a box in which no nails are used, and in which 40 all the joints are mitered together and united by glue on the inner side and by pasted cloth strips on the outside; and the invention consists in the special construction and arrangement of the box, as hereinafter more fully de- 45 scribed.

In the drawings, A shows a rectangular strip of thin wood, from which the two sides and two ends of the box are made in one piece. This strip is cut both longitudinally and trans- 50 versely with V-shaped grooves *a a*, the longitudinal ones being at the edges and the transverse ones at intervals from the ends corre-

sponding with the length of the sides and ends of the box, as shown in the flat view, Fig. 1. The grooves are cut nearly but not quite 55 through the stuff, as shown in the enlarged edge view, Fig. 4. The short and long sections of the strip, forming the ends and sides of the box, are alternated by the grooving, so that when the strip is folded to form the body of the 60 box they will come in the right position.

B is the bottom of the box, and C is the top or cover, which are counterparts. Each consists of a thin rectangular piece of wood of the same area as the box, and having its outer 65 edges beveled off by a half-miter, *a*, in the same manner as the body of the box, before described. This is shown clearly in the plan and edge views, Figs. 5 and 6.

The miters in the body portion and top and 70 bottom may be cut by any suitable means. The most convenient arrangement, however, is a series of cutter-heads, D D D, armed with V-shaped cutters *b b b*, resting removably on a shaft, E, with loose collars G G G between the 75 heads, by removing which and substituting others of different lengths, the cutter-heads may be adjusted at different distances apart, according to the work to be done. The stuff 80 is placed on a movable bed-plate below the cutters and fed along, and the V-shaped grooving is rapidly done.

To cut the strips A forming the sides of the box, the cutters are arranged at distances apart equal to the width of the strips, and a wide 85 board can then be run through, dividing it into a number of the strips. The board is then turned at right angles and run through cross-wise, the cutter-heads having been adjusted on the shaft so as to correspond with the lengths 90 of the sides and ends of the box, as before described. By this means the cutting capacity of the machine is greater than the cutting of a single strip at once, as several strips can be grooved at the same time, thus doing very 95 rapid work. In the same manner the same cutters can be adjusted to cut several tops or bottoms at one operation.

The pieces having been cut out with mitered or beveled edges all around, as above described, 100 the method of building up the box is as follows: Strips of cloth *d d* are pasted across the back of the body portion A, covering the transverse grooves *a a*, and allowed to dry. The interior

of the grooves *a a* is then glued, and the strip
A is then bent around in the square or rectan-
gular form, shown in Fig. 3, and the last
joint is glued and pasted, which completes the
5 body of the box and leaves it in condition to
receive the mitered top and bottom pieces. It
will be seen that the upper and lower edges of
the box-body are mitered or beveled inward
and downward to receive the top and bottom
10 pieces of the box. The beveled top and bottom
are then fitted in these miters of the body, the
bottom being glued and nailed fast in place,
the top which forms the cover being hinged at
the back by pasted cloth strips or otherwise,
15 its front edge being left loose. A smooth and
flush surface is left over the whole box. The
box thus formed is beveled at all the joints,
differing in this respect from ordinary wood
boxes, which usually have square and loose
20 joints or are dovetailed together, which cannot
well be done in cigar-boxes, which are too thin.

By the method above described—viz., mak-
ing the body of a single strip mitered longi-
tudinally and transversely, pasting the back
25 of the strip over the cross-grooves, then bend-
ing the strip around and securing it to form the
body, and then fitting in the beveled top and

bottom pieces—a complete and perfect box is
produced at much less cost than common boxes,
and having all the advantages that they have. 30

In addition to the above, the stuff thus pre-
pared, grooved, and pasted can be shipped in
knockdown form, being thus in compact shape,
saving greatly in freightage, whereas ordinary
cigar-boxes have to be shipped in the com- 35
pleted form, thus occupying much space.

Having described my invention, what I
claim as new, and desire to secure by Letters
Patent, is—

The improved box herein described, con- 40
sisting of the body portion A, made from a
single piece beveled on its edges and grooved
crosswise where the bends are made, the
pasted strips of cloth at the corners covering
the joints, and the beveled top and bottom 45
pieces, C B, fitting in the beveled edges of the
body portion, as herein set forth.

In witness whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

EDWARD J. DAVIS.

Witnesses:

R. F. OSGOOD,

P. A. COSTICH.