2 Sheets--Sheet 1.

J. W. & C. M. HYATT.

Box-Machine and Boxes.

No. 160,199 Patented Feb. 23, 1875.

Fig: 1.

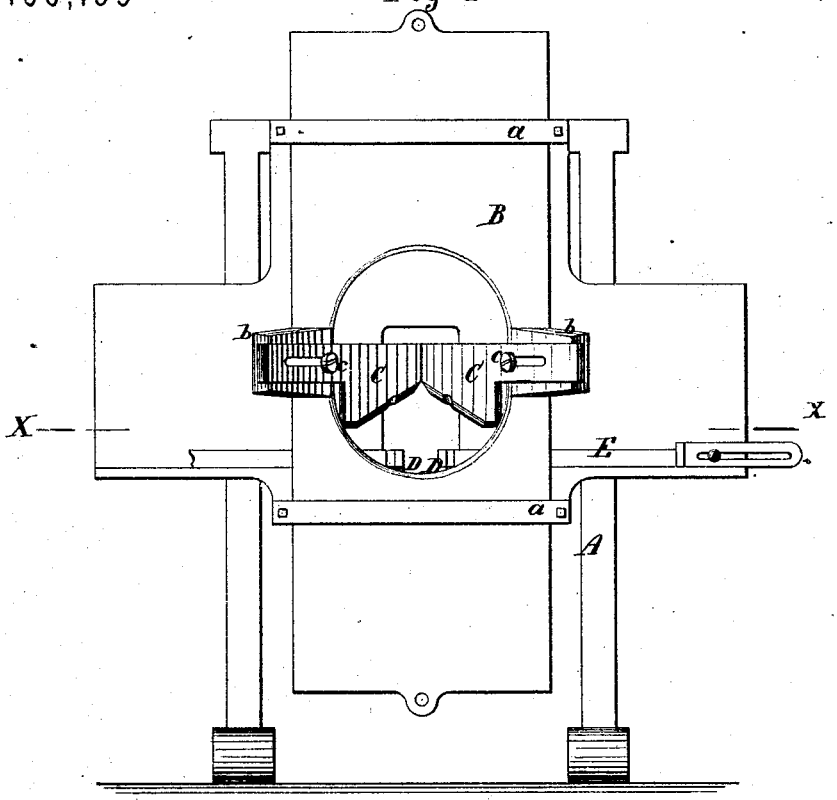


Fig: 3.

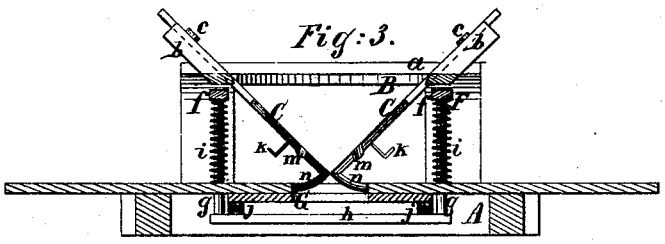
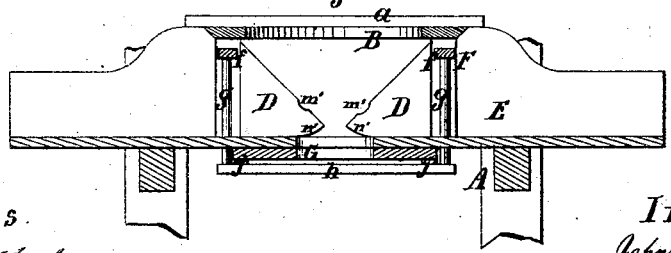


Fig: 4.



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2 Sheets--Sheet 2.

J. W. & C. M. HYATT.

Box-Machine and Boxes.

No. 160,199 Patented Feb. 23, 1875.

Fig: 2.

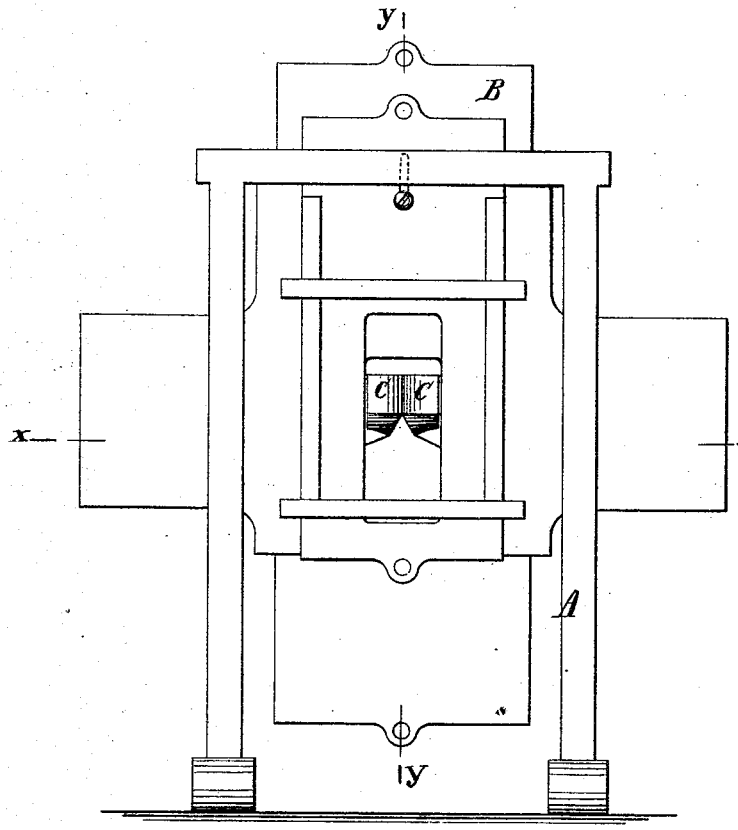

Fig: 5.

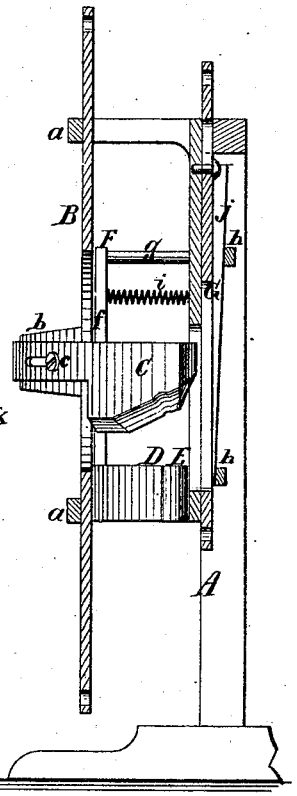

Fig: 6.

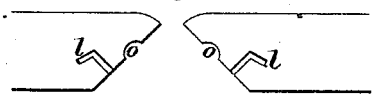

Fig: 7.

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UNITED STATES PATENT OFFICE.

JOHN W. HYATT AND CHARLES M. HYATT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN BOX-MACHINES AND BOXES.

Specification forming part of Letters Patent No. **160,199**, dated February 23, 1875; application filed December 9, 1874.

To all whom it may concern:

Be it known that we, JOHN W. HYATT and CHARLES M. HYATT, both of Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Machines for Cutting Frames and Boxes, of which the following is a specification:

This invention consists of a carriage containing two mitering-knives, in combination with a platform having stationary cutters or dies, each of the mitering-knives being provided with an L-shaped punch, which produces in the piece of wood exposed to the action of the said knives a depression, for the purpose of receiving a key, which serves to strengthen the corner of the box or frame to be produced. The adjustable spring-clamp is operated by a slide containing wedges, so that by depressing said slide the clamp receives a positive motion toward the work, and when said slide is raised, the clamp is caused to release the work by the action of its spring.

Referring to the drawings, Figure 1 represents a front view of my invention. Fig. 2 is a rear view. Fig. 3 is a horizontal section in the plane *x x*, Fig. 2, looking upward. Fig. 4 is a similar section in the same plane, looking down. Fig. 5 is a transverse vertical section in the plane *y y*, Fig. 2. Fig. 6 shows a plan view of a strip of wood cut by my machine for a slate-frame. Fig. 7 is a similar view of a strip of wood cut by my machine for a box.

Similar letters indicate corresponding parts in all the figures.

A designates a frame, which is provided with guides *a a*, in which moves a carriage, B, the frame and carriage being by preference so arranged that the motion of the carriage in its guides takes place in a vertical direction. Said carriage is provided with oblique lugs or brackets *b b*, furnished with guide-grooves to receive the sheaths of the mitering-knives C C, which are secured in the required position by screws *c c*. The lugs *b b* are inclined so that the knives secured to the same inclose an angle of ninety degrees, as shown in Fig. 3. Said knives act in conjunction with cutters or dies D D, which are firmly secured to the frame A, and which, in reality, form portions of a platform, E, which serves to support the wood. When the knife-carriage descends the cutting-edges of the knives press down close against the edges of the stationary cutters, and a piece of wood placed on the platform is cut in two, the edges of the cut being beveled or mitered to correspond to the position of the knives. In the rear of the knife-carriage is situated a clamp, F, which is composed of two upright bars, *f*, secured to guide-pins *g*, that move in the back of the frame A, and the rear ends of which are connected by traverses *h*, Figs. 3 and 4. The upright bars *f* are exposed to the action of springs *i*, which have a tendency to force the clamp out toward the knife-carriage, and by the action of said springs the traverses *h* are brought to bear against wedges *j*, which are secured to a slide, G. This slide moves up and down in a suitable guide-slot in the frame A, and it lies close against the back of said frame. By depressing said slide the clamp F receives a positive motion toward the back plate of the frame A, and a piece of wood placed on the platform E can be firmly retained between said clamp and the back plate. By raising the slide G the clamp is permitted to follow the action of its springs *i*, and it moves away from the back plate of the frame. To the back or inside of each of the knives C is secured a punch, *k*, Fig. 3, and these punches serve to produce in the work recesses *l*, (see Figs 6 and 7,) for the reception of keys which serve to strengthen the corners of the box or frame to be produced.

If my machine is to be used for the manufacture of slate-frames, I provide each knife on its inner surface with a semicircular projection, *m*, and with a curved toe, *n*, Fig. 3, the stationary cutters D D being formed to correspond to the knives. The wood to be worked up for slate-frames is cut in strips of the required width and thickness, and if one of these strips is placed on the platform E, and the knife-carriage is made to descend, said strip is cut in two, the edges of the cut being mitered and provided with recesses *o*, to correspond to the projections *m* on the knives, while the corners of the pieces are rounded, as shown in Fig. 6.

If the machine is to be used for the manu-

facture of boxes, the projections *m* and toes *n* are not required on the knives, and the boards, after having been planed off and cut up into strips of the required width and thickness, are placed edgewise on the platform E, and by the action of the mitering-knives each strip is cut in two, (see Fig. 7,) the edges of the cuts being mitered and provided with recesses *l* for the keys.

By these means the manufacture of boxes and of frames for slates or other articles is materially facilitated.

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

1. The punches K, in combination with the mitering-knives C C, carriage B, stationary cutters D D, and platform E, substantially as set forth.

2. The curved toes *n*, in combination with the mitering-knives C C, carriage B, stationary cutters D D, and platform E, substantially as set forth.

3. The clamp F, in combination with the mitering-knives C C, carriage B, stationary cutters D D, and platform E, substantially as described.

4. The slide G and wedges *j*, in combination with the clamp F, mitering-knives C C, carriage B, stationary cutters D D, and platform E, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 26th day October, 1874.

JOHN W. HYATT.
C. M. HYATT.

Witnesses for JOHN W. HYATT:
W. HAUFF,
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Witnesses for CHARLES M. HYATT:
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