O. N. EATON.

Machines for Cutting and Perforating Veneers for Chair-Bottoms.

No. 195,921. Patented Oct. 9, 1877.

Fig. 1.

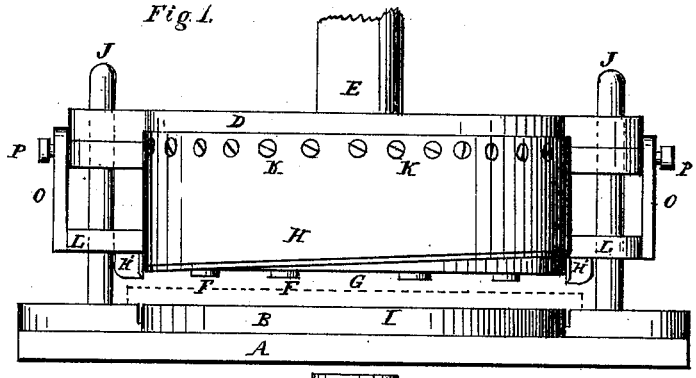


Fig. 2.

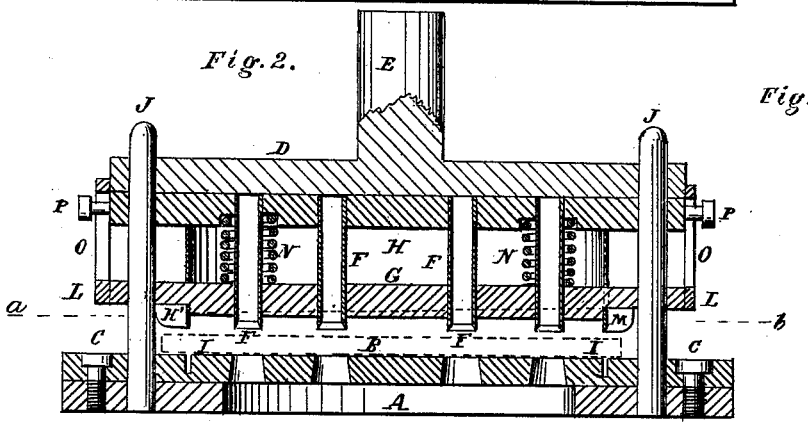


Fig. 4.

Fig. 3.

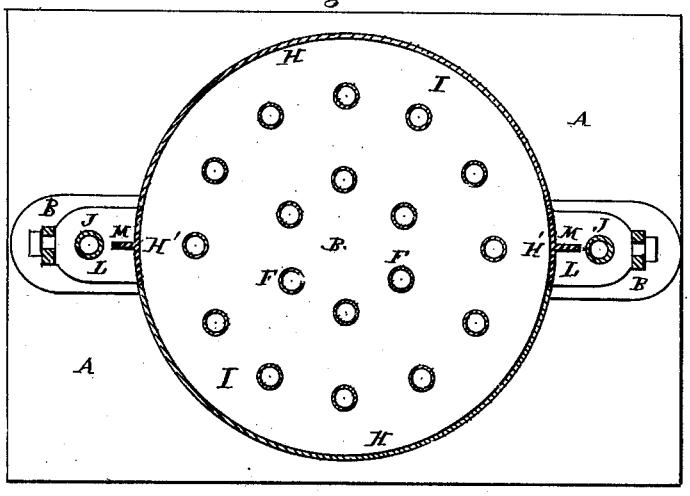
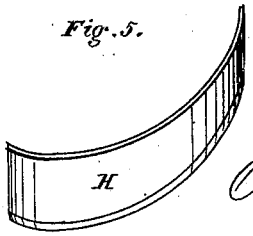


Fig. 5.



Witnesses.

R. Bocklen

A. Sammels

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UNITED STATES PATENT OFFICE.

OLIVER N. EATON, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR CUTTING AND PERFORATING VENEERS FOR CHAIR-BOTTOMS.

Specification forming part of Letters Patent No. **195,921**, dated October 9, 1877; application filed June 27, 1877.

To all whom it may concern:

Be it known that I, OLIVER NELSON EATON, of the city, county, and State of New York, have made certain new and useful Improvements in Machine for Cutting and Perforating Veneers for Chair-Bottoms, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a side view of the improved die constructed according to my invention. Fig. 2 is a vertical central section of the same; Fig. 3, a horizontal section of the same, the line of section being indicated on Fig. 2, from *a* to *b*. Fig. 4 is a detached top view of the splitting-cutter. Fig. 5 is a detached perspective view of one of the outside trimming-cutters.

A represents the base-plate of the die, which is properly secured upon the bed of the press upon which the die is used. Upon this base-plate is secured the bottom cutting-die B, with screws C C, in proper substantial manner.

D represents the top plate of the die. It has the usual shank E, to attach the same on the slide or plunger of the press. To a plate on the bottom face of this top plate D are attached the punches F F, for cutting the holes or perforations through the chair-bottoms, and also is attached the stripper-plate G, for stripping the bottoms from the punches, and the outside trimming cutters H and H′, with which the peripherical shape or edge of the chair-bottom is cut.

The veneer chair-bottom heretofore was made by sawing its edge or peripherical shape to the proper desired shape, and to have the perforations through it. Said perforations have been drilled through the same. With my process of manufacturing said bottoms the veneer-blank is laid upon the bottom cutting die B, as shown in dotted line, and, with the punches F and cutters H and H′, attached to the top plate D and the slide or plunger of the press, the perforations and the shape of the edge are cut at once from the chair-bottom. The die shown is made for cutting circular bottoms. Any desirable shape may be cut by having the die of a corresponding shape.

The plate B has a cutting-hole for each punch F through it, and the punches F are made hollow or tubular, with a sharp cutting-edge on their bottom end, to meet and fit into the aforesaid cutting-holes in the plate B. The top ends of the said punches are secured firmly in a plate, D′, secured on the bottom face of the plate D.

The plate B has a central round top-surface portion, I, of the proper diameter to correspond with the diameter of the chair-bottom to be cut. The plate A has a central opening, A′, to allow the cuttings made by the punches F to escape through it.

In the plates A and B are secured two vertical guide-rods, J J, which are arranged opposite, and far enough apart to admit the chair-blank between, as shown. Said guide-rods pass through the plates G, D′, and D, to keep them, in passing up and down, in proper relation with the plate B. Said plates G, D′, and D have two opposite projecting ears, as shown, for said rods to pass.

The cutters H and H′ meet properly the periphery of the cutting portion I of the plate B. The bottom cutting-edge of each of the cutters H is made sharp and inclined, so as to engage the periphery of the plate B, meeting with it gradually, and with a shearing cut. Said cutters are made of sheet-steel, and are secured, with screws K K, on the plates D′ and D. The cutters H′ are secured to the stripper-plate G. Their circular portions extend sufficiently to the width of the ears L of the plate G to meet the ends of the cutters H, so as to completely together circumscribe the periphery of the part I of the plate B. On each cutter H′ is also a radial portion, M, extending outward to separate the exterior remaining portion from the blank after the bottom is cut out from it. The plate B has grooves in its ears to allow the cutters H′, with their portions M, to pass into the same.

To operate the stripper-plate G, which is made to slide up and down freely on the punches F, I employ spiral springs N between the said stripper-plate and the plate D′; and to prevent the said plate G from dropping off the punches F, I employ on each of its ears a vertical slotted plate, O O, and studs P on the plate D′, which studs pass freely in the slots of the plates O O, and stop against the ends of said slots.

With the above means the chair-bottom is cut out and perforated in a more rapid man-

ner, and with less experienced persons, and therefore with a more limited expense, than with those heretofore used for the purpose.

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

In devices for cutting and perforating the veneer bottoms for chairs, the die composed of the combination of the plates B, D′, D, and G, with the punches F F, the cutters H and H′, and the springs N, substantially as and for the purpose herein set forth.

In witness whereof I hereunto set my hand this 25th day of May, 1877.

OLIVER NELSON EATON.

In presence of—
R. BOEKLEN,
A. SAMUELS.