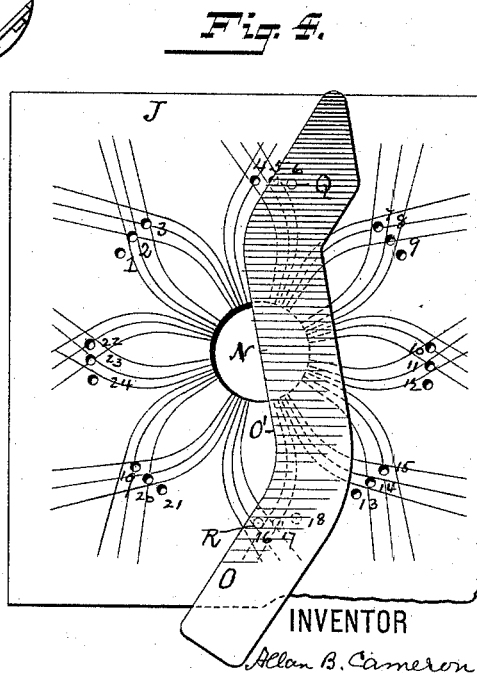
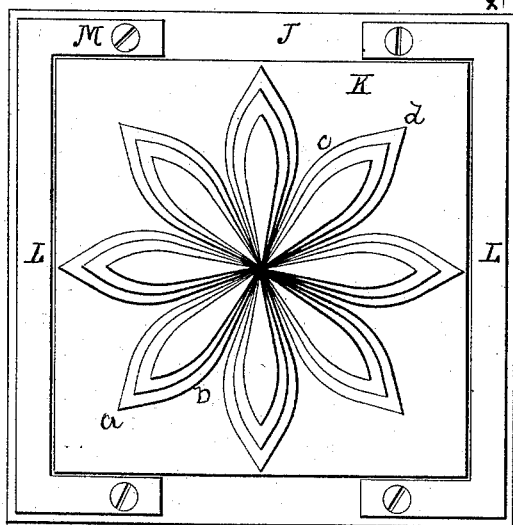
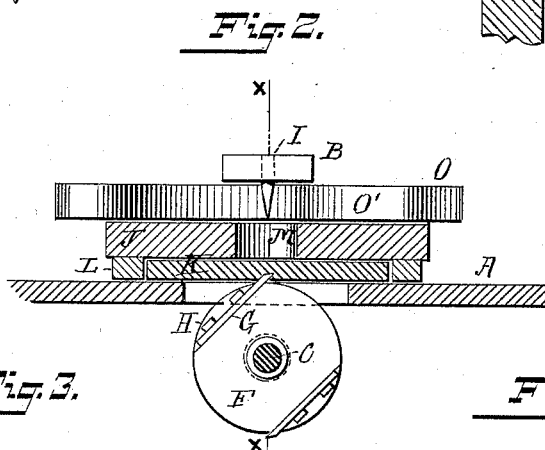
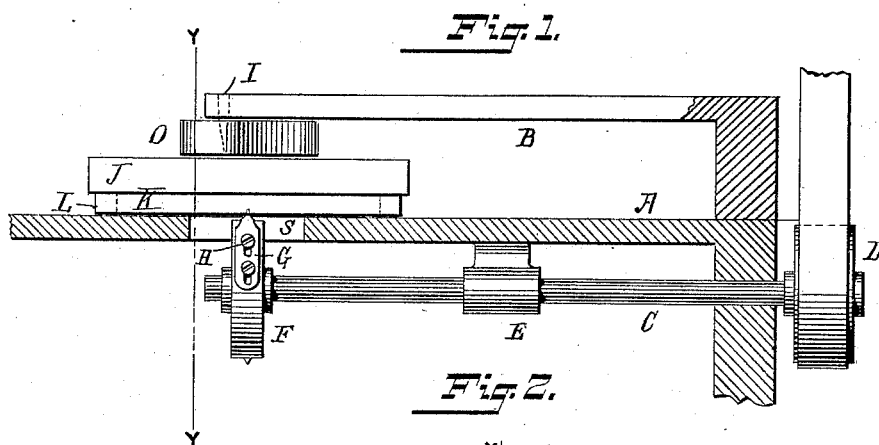


(No Model.)

A. B. CAMERON.  
WOOD CHANNELING MACHINE.

No. 422,913.

Patented Mar. 11, 1890.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALLAN B. CAMERON, OF WILLIAMSPORT, PENNSYLVANIA.

## WOOD-CHANNELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 422,913, dated March 11, 1890.

Application filed December 10, 1889. Serial No. 333,195. (No model.)

*To all whom it may concern:*

Be it known that I, ALLAN B. CAMERON, of Williamsport, Lycoming county, Pennsylvania, have invented a new and useful Improvement in Wood-Channeling Machines, of which the following is a specification.

My invention relates to a machine for making grooves or channels transversely the surface of panels, &c., for the purpose of producing ornamental patterns *in intaglio* or relief thereon; and it consists in the combination, with a table and a rotary cutter operating through an opening in said table, of a work-plate to which the work to be channeled is attached and means, as hereinafter more particularly described, whereby said work-plate may be guided in its motion, so that said cutter will produce channels of certain curvatures upon the surface of said work.

In the accompanying drawings, Figure 1 is a vertical section on the line X X of Fig. 2. Fig. 2 is a vertical section on the line Y Y of Fig. 1. Fig. 3 represents the under side of the plate, showing the work attached thereto; and Fig. 4 represents the upper side of the plate and the directing-bar.

Similar letters of reference indicate like parts.

A represents the table of the machine.

C is a shaft rotated by the belt-pulley D and supported in the standard of the machine and in the bearing E. Shaft C carries a cutter-head F, upon which are secured the cutters G by set-screws H, or in any other suitable way.

Extending over the table A is a fixed arm B, dependent from the end of which is a guide-pin I.

J is a guide-plate, to the lower side of which is attached the panel K, upon which the ornamental configuration desired is to be produced. This plate is held between fixed clamps L, said clamps being secured to the plate J by screws, as M.

An opening N is made in the plate J for the purpose of centering the work.

Supposing now that it be desired to produce upon the surface of the panel the pattern shown in Fig. 3, I proceed in the following manner. I prepare a guide-bar O, one edge of which is suitably formed to act as a

directing-cam, this edge being the edge O', Fig. 4. I obtain the shape of this edge in the following manner. I first draw the figure which is to be produced and then determine a continuous line which intersects the center of the pattern, and which by repetition will produce the outlines of the design. Thus, for example, I take the line *abcd*, Fig. 3, and I make the edge O' of the pattern-bar O coincide with this line. It will be seen from Fig. 4 how the outline of the design shown in Fig. 3 can be got by simply repeating tracings of the edge of the pattern-bar; or, conversely, if the pattern-bar be fastened to the plate J and caused to travel with its edge constantly held against a fixed point, then the plate J will obviously move in a line coinciding with the edge of said bar. In practice, after the bar O is made, I draw upon the upper surface of the plate J by its aid the intersecting lines shown in Fig. 4. I apply to the under side of the bar two pegs Q R, and at every new position of the bar on the plate J, I make holes adapted to receive these plates, so that the bar can always be placed in its successive positions by simply inserting the pegs in the proper holes, and, obviously, when said pegs are so inserted no lateral motion of the bar on the plate is possible, as, in other words, it is practically fastened thereto. These holes are shown in Fig. 4 in sets of three, marked 1 2 3 4 5 6, and so on. As shown in Fig. 4, the pins Q R are in the holes 6 and 16.

In operating the machine I proceed as follows: The panel on which the design is to be cut is fastened to the under side of the plate by the clamps L, or by any other suitable means. It is then laid with the surface of the panel downward upon the table A and above the opening S therein, through which opening the knives G project sufficiently to act upon the work. The bar O is then adjusted, as shown in Fig. 4, with the pegs Q R in the holes 6 and 16. The attendant then grasping the plate J with his hands moves it over the cutter and causes the projecting edge of the bar O always to bear against the fixed point I on the arm B. The result is that the panel is moved over the cutter in a line corresponding to the shape of the edge of the

bar O, and hence a channel or groove of that configuration is made in the under surface of the panel. The bar is then removed from the plate and the plates Q R are inserted in two new holes—for example, holes 5 and 17—and another cut is made. The bar is then removed and inserted in the holes 4 and 18, and so on, the changes in the position of the bar being made as indicated in the design, and in this way the desired pattern of intersecting cuts is produced.

In order to leave the portions in the surface of the panel between the cuts in relief, I rout out the surface between the points of the star by any suitable means; but this is not necessary for the operation of my invention, as I may make a pattern of simply intersecting channels covering the entire surface of the panel. It will also be seen that by varying the shape of the bar O, I may modify the form of the design in a great variety of ways, so as to produce various aggregations of irregularly-shaped channels and consequent elevations between them on the surface of the material.

I claim—

1. The combination of a table having an opening, a rotary cutter beneath said table and operating through said opening, a loose work-plate, a movable pattern-bar, and means for detachably fastening the same to the upper side of said work-plate, means for fastening the work to be acted on by said cutter to the under side of said plate, and a fixed guide-pin supported above said work-plate, the said pattern-bar having its directing edge in contact with said guide-pin during the movement of the work-plate over said rotary cutter, substantially as described.

2. The combination of a table having an opening, a rotary cutter below said table and operating through said opening, a loose work-plate provided with openings or recesses on its upper side, a movable pattern-bar having pins constructed to enter said recesses, means for fastening the work to be acted on by said cutter to the under side of said plate, and a fixed guide-pin supported above said work-plate, the said pattern-bar having its direct-

ing edge in contact with said guide-pin during the movement of the work-plate over said rotary cutter, substantially as described.

3. The combination of the table A, having the opening S, rotary cutter F below said table and operating through said opening, loose work-plate J, having openings, as 6 16, disposed on a line passing through the center of said plate and on opposite sides of said cutter, a movable pattern-bar having pins Q R, constructed to enter said openings 6 16, and a fixed guide-pin I, supported above said work-plate, the said pattern-bar having its directing edge in contact with said guide-pin during the movement of the work-plate over said rotary cutter, substantially as described.

4. The combination of the table A, having the opening S, rotary cutter F below said table and operating through said opening, loose work-plate J, having openings, as 4 5 6 16 17 18, radially disposed around the center of said plate, a movable pattern-bar having pins Q R, constructed to enter openings, as 6 16, on opposite sides of said center, and a fixed guide-pin I, supported above said work-plate, the said pattern-bar having its directing edge in contact with said guide-pin during the movement of the work-plate over said rotary cutter, substantially as described.

5. The combination of the table A, having the opening S, rotary cutter F below said table and operating through said opening, loose work-plate J, having openings, as 4 5 6 16 17 18, radially disposed around the center of said plate, a movable pattern-bar provided with pins Q R, constructed to enter openings, as 6 16, on opposite sides of said center and having its vertical directing edge intersecting said center when said pins are inserted in said openings, and a fixed guide-pin I, supported above said work-plate, the said pattern-bar having its directing edge in contact with said guide-pin during the movement of said work-plate over said rotary cutter, substantially as described.

ALLAN B. CAMERON.

Witnesses:

GEO. L. SANDERSON,  
ADDISON CANDOR.