(No Model.) 2 Sheets—Sheet 1.

S. Y. KITTLE.

CARVING MACHINE.

No. 386,710. Patented July 24, 1888.

Fig. 1.

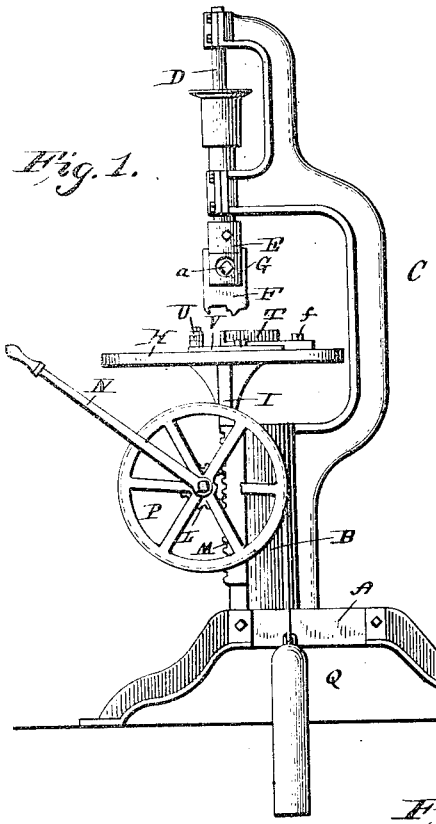


Fig. 2.

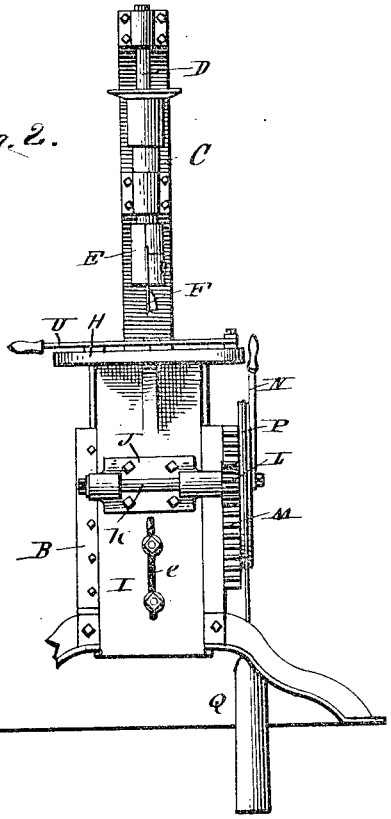


Fig. 3.

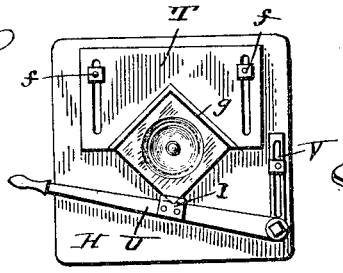


Fig. 4.

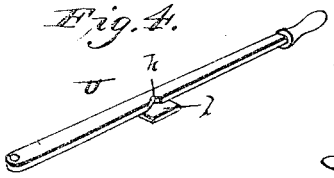
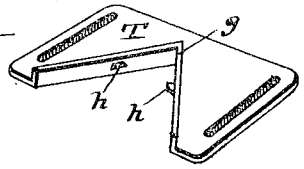


Fig. 5.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

S. Y. KITTLE.

CARVING MACHINE.

No. 386,710. Patented July 24, 1888.

Fig. 6.

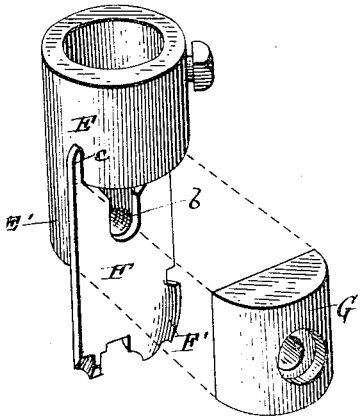


Fig. 7.

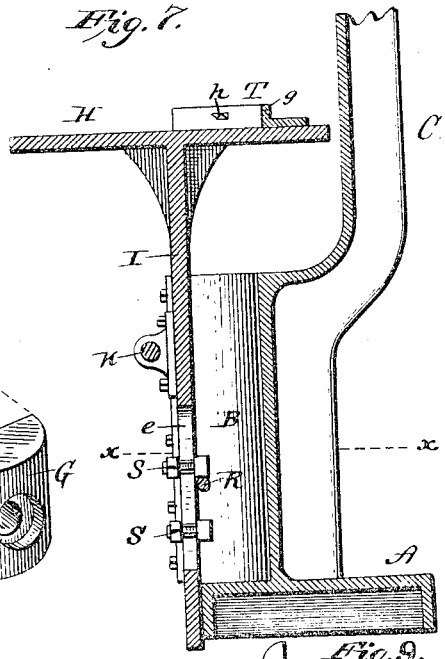


Fig. 8.

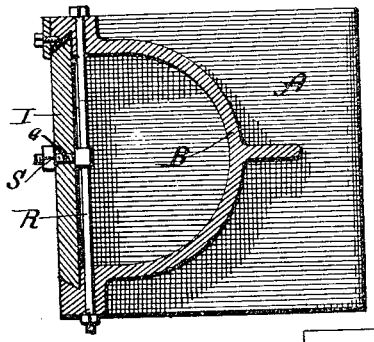


Fig. 9.

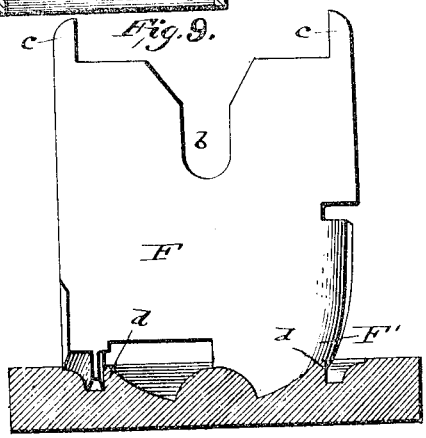
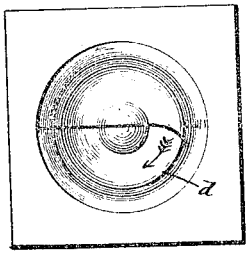


Fig. 10.



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UNITED STATES PATENT OFFICE.

STEPHEN Y. KITTLE, OF WILKES-BARRÉ, PENNSYLVANIA.

CARVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 396,710, dated July 24, 1888.

Application filed April 18, 1888. Serial No. 271,065. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN Y. KITTLE, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Carving-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has relation to certain new and useful improvements in machines for carving or cutting rosettes or other ornamental work in wood, and the object I have in view is to provide a machine of extremely simple construction which will be complete in all its details, positive and rapid in operation, and perfectly accurate in the performance of its work, as will be more fully hereinafter described. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved machine complete; Fig. 2, a front elevation of the same; Fig. 3, a detail plan view of the work-supporting table, showing the means employed for holding the work while the machine is in operation; Fig. 4, a detail perspective view of the lever employed for holding the block while being operated upon by the cutter-head; Fig. 5, a detail perspective view of the adjustable angular abutting-plate for assisting in holding the block while being operated upon; Fig. 6, a detail perspective view of the cutter-head with the knife inserted therein; Fig. 7, a vertical longitudinal sectional view of the standard and work-supporting table, showing clearly the means employed for regulating the vertical travel of the latter; Fig. 8, a transverse sectional view of the machine, taken on the line $x\ x$ of Fig. 7, looking downward; Fig. 9, an enlarged detail view of the knife or cutter which is especially adapted for this character of work; Fig. 10, a detail diagrammatical view of a rosette cut by this machine, the shape or configuration of the cutting-edge of the cutter being shown upon the same by a full line.

Referring to the annexed drawings by letters, A designates the base of the machine, the same being supported in this instance by means of four legs of suitable shape and size. Rising vertically from the base, and preferably formed integral with it, is a light, strong semi-cylindrical supporting standard or pedestal, B. Formed integral with the standard B, and rising vertically from the rear of the same, is a curved arm or support, C, for the support of the vertical cutter-shaft D, which is journaled in suitable bearings in the arm. Attached adjustably to the lower end of the shaft D by means of a set-screw is the cylindrical knife-holder or chuck E, to which is removably and adjustably secured the cutter or knife F by means of a screw-bolt, *a*. The holder E is provided with a semi-cylindrical extension, E′, which is formed integral with it. The cutter is provided with a vertical slot, *b*, for the passage of the bolt *a* and to permit of its being adjusted vertically. The cutter, when in position, rests against the flat side of the extension E′, the extensions *c c* upon the upper end of the cutter extending up on opposite sides of the holder E, as shown in Fig. 6. The short semi-cylindrical block or section G, which is preferably the same size and shape as the extension of the holder, is secured in place in the angle formed by the face of the cutter and the bottom of the holder by means of the bolt *a*, which passes through the said block, through the slot *b* in the upper end of the cutter, and into a screw-threaded opening in the extension E′ of the holder. By these means the cutter is firmly clamped and held in position, the slot *b* permitting a vertical adjustment and ready withdrawal of it, and the extensions *c c* preventing lateral vibration of the cutter.

In practice I discovered the fact that in using cutters with straight cutting-edges, as ordinarily used, rough work was very frequently the result, as the wood would be split and chipped in places by the cutter. This difficulty I have obviated by giving to the cutting-edge a forward or advancing curve, as shown at F′, this curve extending from the base of the center knob or button of the rosette to the outer edge or rim of the circular flange *d* of the same. As thus constructed, it will be readily observed that when the cutter is rotated in the direction of the arrow shown on Fig. 10 the action of the cutting-edge will be similar to a draw or shear cut, thus prevent-

ing all splitting of the wood, no matter what kind may be used.

The table H is arranged directly below the cutter, and is supported or mounted upon a standard, I, the vertical edges of which work in vertical dovetail grooves in the front edges of the semi-tubular standard B. Journaled in suitable bearings, J, secured on the face of the table-standard, is a horizontal shaft, K, which is provided with a pinion, L, which engages with a stationary rack, M, formed upon the standard B, the said shaft being rocked or revolved by means of a hand-lever, N, within easy reach of the operator. By elevating the lever N the pinion L will travel up the stationary rack upon the standard and carry the table up with it, as is evident. In order to counterbalance the weight of the table and standard and devices attached thereto and enable the table to be elevated smoothly and steadily, I secure on the shaft K a pulley or sheave, P, and attach thereto the rope of a depending counterbalancing-weight, Q. By this means a very heavy table may be controlled and manipulated with ease, the weight serving to materially assist the operator in elevating the table, the weight itself being elevated by the falling of the table.

Extending transversely of the standard B, immediately in the rear of the table-standard I, is a rod or bolt, R, against which the heads of the bolts S S are adapted to strike when the table reaches the limit of its travel either way. These bolts S are secured adjustably in a vertical slot, *e*, in the table-standard, the shanks of the bolts being preferably flattened to prevent them turning in the slot. By moving the bolts up or down in the slot it is evident that the vertical movement of the table may be regulated to suit the character of work to be performed. When the table is at its lowest point, the upper bolt will rest upon the bar R, and when it is at its highest point the lower bolt will contact with the said bar.

The letter T designates an abutting plate bolted adjustably to the table H by means of bolts *f f*, which pass through slots in the said plate. In the front edge of this abutting-plate is formed a deep V-shaped notch or depression, which is bounded by a vertical flange, *g*, this flange serving to assist in holding the rosette-block steadily while the cutter is operating upon it. In order to hold the block down closely to the table while the cutter is operating upon it, I form upon the bearing-faces of the V-shaped flange *g* short sharp lugs or teeth *h*, the lower sides of which are beveled, as shown. When the block is pressed into the notch in the abutting-plate, the lugs *h* will enter the edges of the block and have a tendency to force it down upon the table, as is obvious. To force the block into the V-recess against the flange *g* and securely hold it there while being operated upon by the cutter, I employ a lever, U, which is pivotally secured to a slotted plate, V, this plate being bolted adjustably upon the table to one side of the abutting-plate, as shown in Fig. 3. I preferably notch this lever at *k* and rivet on its upper side a small projecting plate, *l*, as an additional security against displacement of the block while being cut. By making the abutting-plate and the lever U adjustable upon the table it is evident that the parts may be readily adapted to suit different sizes of blocks.

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

1. The combination of the holder E, provided with an extension, E′, the cutter F, provided with the vertical side extensions, *e e*, and the vertical slot *b*, the block or section G, and the securing-bolt *a*, passing through the said block G and slot *b* and into the extension E′, the extensions *e e* extending up on opposite sides of the holder E and serving to prevent lateral vibration of the cutter, substantially as described.

2. The combination, with the standard B, provided with vertical ways or grooves and a stationary rack, M, of the table-standard and table, the former having bolted to its face a bearing, J, the horizontal shaft K, journaled in said bearing and provided with a pinion which engages with the said rack M, an operating-lever, and counterbalancing-weight and pulley, substantially as described.

3. The combination, with the standard and the transverse rod R, secured upon the standard, of the vertically-movable table-standard provided with a vertical groove, and the bolts S S, secured adjustably in the said groove and adapted to alternately contact with the said rod R, substantially as described.

4. The combination, with the table, of the adjustable abutting-plate provided with a V-shaped notch in its front side, the bearing-faces of the said notch being provided with beveled lugs *h*, the adjustable plate V, secured to the table, and the lever pivoted to this plate, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN Y. KITTLE.

Witnesses:

CHAS. D. DAVIS,

CHAS. D. JOST.