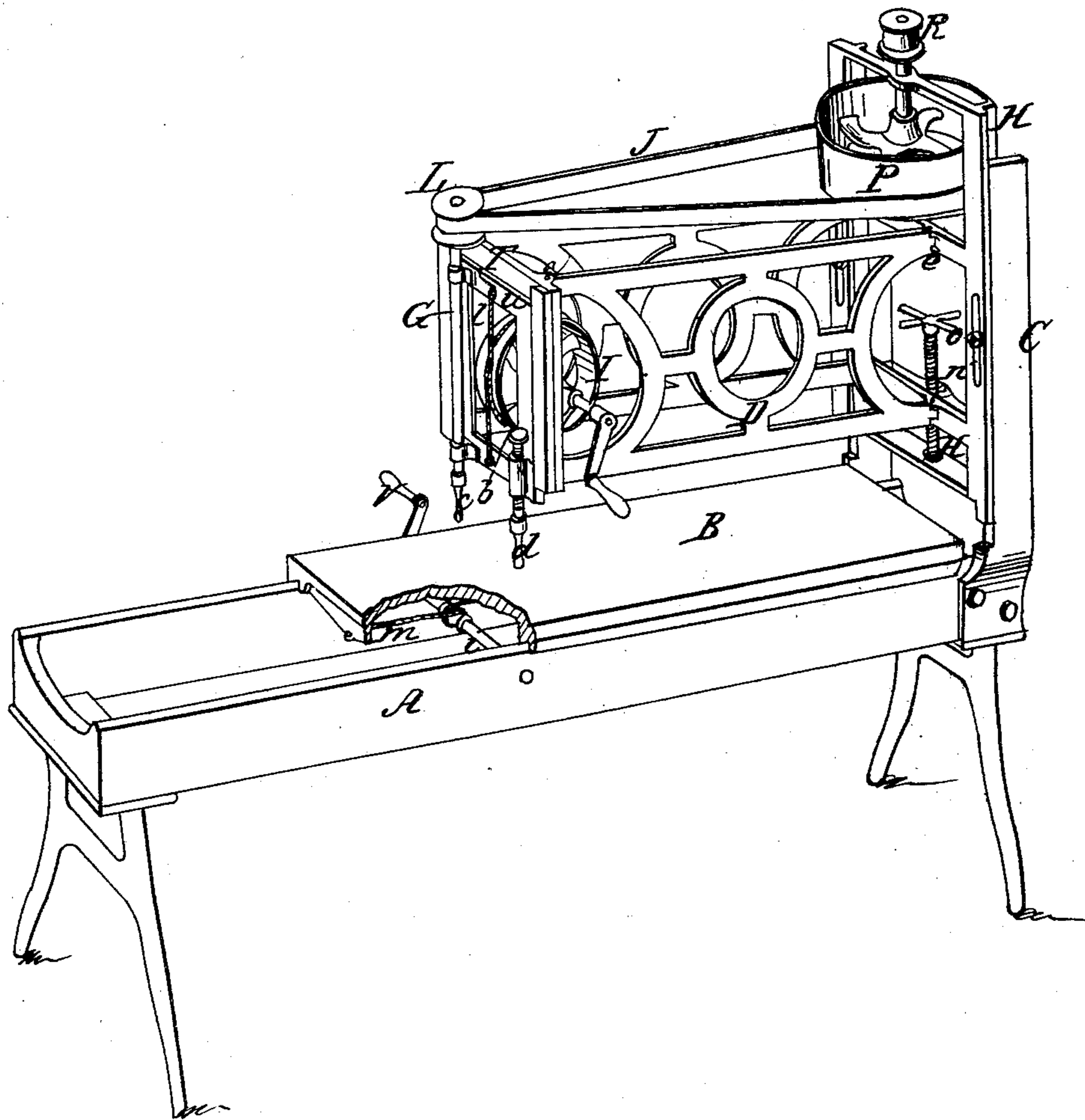


G. MERRILL.  
CARVING MACHINE.

No. 82,145.

Patented Sept. 15, 1868.



Witnesses;  
P. T. Dodge,  
L. Hailer.

Inventor;  
Geo. Merrill  
by Dodge & Munroe  
his attys.

# United States Patent Office.

GEORGE MERRILL, OF NEWBURYPORT, MASSACHUSETTS.

*Letters Patent No. 82,145, dated September 15, 1868.*

## IMPROVEMENT IN CARVING-MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE MERRILL, of Newburyport, in the county of Essex, and State of Massachusetts, have invented certain new and useful Improvements in Carving-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention consists in a novel construction of a machine for carving wood, so made that it can be used for carving a variety of figures or designs, and can be so adjusted as to adapt it to a great variety of work.

The drawing is a perspective view of my improved machine complete.

In constructing the machine, I provide a bed-frame, A, the side-bars of which are finished to form ways, as usual in lathes and similar machines. Upon this frame I mount a sliding bed or table, B, so fitted to the frame as to move accurately to and fro thereon, it being operated by a crank, V, attached to a shaft, *z*, secured transversely to the frame A, and having a cord or thin metal strap, *m*, passing around it, with its ends secured to the opposite ends of the bed B, as shown in the drawing, a portion of the bed being broken away, for the purpose of exhibiting the shaft and cord.

To the rear end of the frame A is secured rigidly an upright, C, at each corner, and attached to and sliding upon these is a vertical frame, H, the latter being arranged to move with accuracy, and being secured to the uprights by bolts *o*, which work in slots *n* in the frame H, as represented in the drawing. In the upper portion of this frame H is mounted a vertical shaft, on which is secured a driving-pulley, R, and also a pulley, P, from which latter a belt, J, extends to the pulley L, mounted on and giving motion to a vertical shaft, G, at the opposite end of the swinging frame, as shown in the drawing, this shaft G having the cutting-tool *c* secured to its lower end, directly over the table B.

To the frame H are hinged two skeleton plates or bars, D, to the front end of which is hinged a vertical frame, T, each bar D being hinged to the frames H and T at two points at each end, as shown at *e*.

To the frame T is secured another frame or plate *u*, arranged to slide vertically thereon, this plate *u* being moved up and down by means of a cord or strap *l*, secured to its opposite ends, and passing around a pulley, I, mounted on a shaft secured to the rear side of the frame T, and operated by a crank, as represented in the drawing. To this sliding frame or head-piece *u* is secured, near one edge, the shaft G, having the cutter or tool *c* attached to its lower end; and to the same plate *u*, near the opposite edge, is secured a screw-bolt, *b*, in the lower end of which is inserted a guide-pin, *d*.

When thus constructed, it will be seen that the table B can be moved longitudinally to and fro, to feed the piece being operated upon to the cutter *c*, and that, by means of the hinged bars D, the head T, and with it the tool *c*, can be swung or moved laterally, as may be necessary to cut or form the figure, and that, at the same time, the tool or cutter *c* can be raised or lowered by means of the sliding head or plate *u* and the wheel I, so as to cut to any required depth, to form the figure or design.

In operation, the wood or block to be carved is secured upon the bed or table B, and brought under the cutter *c*. At the same time, a pattern, of the figure or design to be cut, is also secured upon the bed, under the guide *d*. As the cutter *c* revolves, the bed B is moved forward, carrying the block along under the cutter *c*, the pattern at the same time passing under the guide *d*, which bearing upon or against the pattern, and following all the sinuosities of its surface and outline, of course imparts to the cutter *c* exactly similar and corresponding movements, whereby it cuts in the block a figure which will be an exact duplicate of the pattern, the lateral movements of the swinging frame and the forward and backward motion of the table, enabling the tool to cut on any desired line or curve, no matter how crooked or irregular it may be, the depth of the cut being governed by the guide *d* resting on the surface of the pattern, and both it and the cutter being raised or lowered by the wheel I when necessary.

By means of the vertical adjustment of the swinging frame upon the standard C, the machine is adapted to operate upon blocks of varying thicknesses, as may be required.

By this construction and arrangement of parts, I am enabled to produce a machine that is extremely simple and efficient, and that is capable of producing a great variety of figures, with cheapness and rapidity.

Having thus described my invention, what I claim, is—

1. The combination, in a machine constructed substantially as described, of the laterally-swinging arms D, and the vertically-sliding tool and guide-holder *u*, when said parts are arranged to operate substantially as and for the purpose set forth.

2. The combination of the swinging frame and the sliding plate or frame *u*, carrying the cutting-tool and guide, arranged with the sliding table B, to operate in connection therewith, substantially as described.

3. The combination of the adjustable frame H, hinged bars D, frame T, having the pulley I mounted thereon, and the sliding plate or frame *u*, when arranged to operate as set forth.

GEO. MERRILL.

Witnesses :

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WM. D. DIMOCK.