(No Model.)

# S. M. BRAGG.

## Sawing and Routing Machine.

**No. 237,475.** **Patented Feb. 8, 1881.**

Fig: 1.

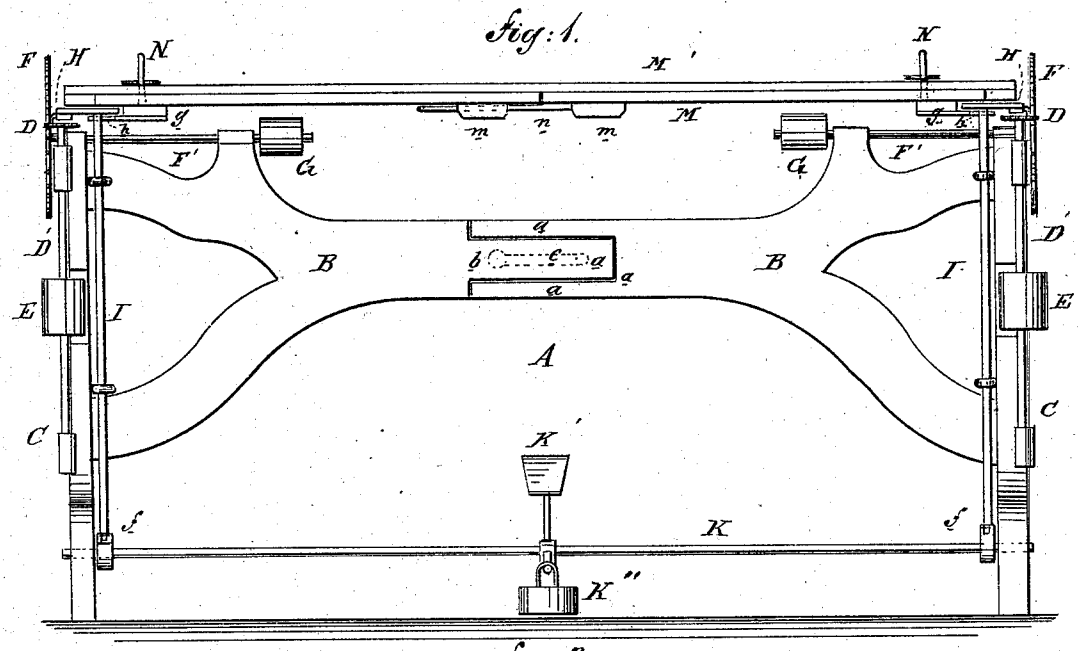


Fig: 2.

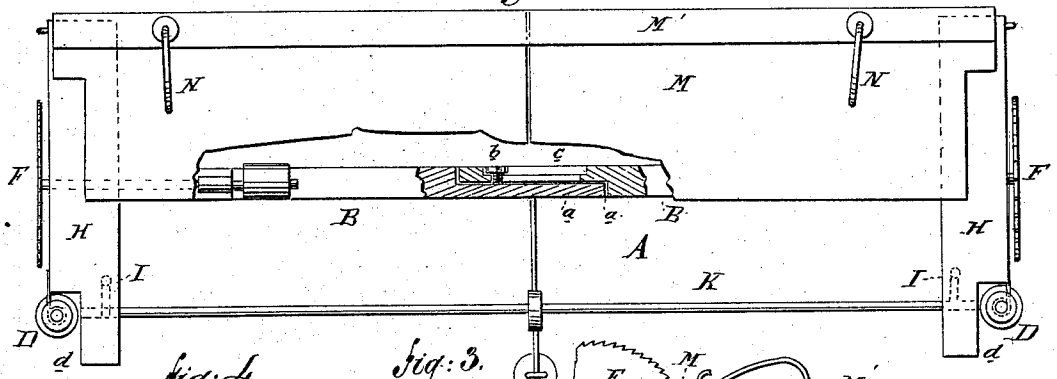


Fig: 4.

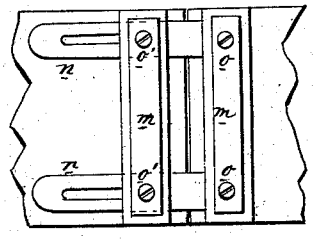


Fig: 3.

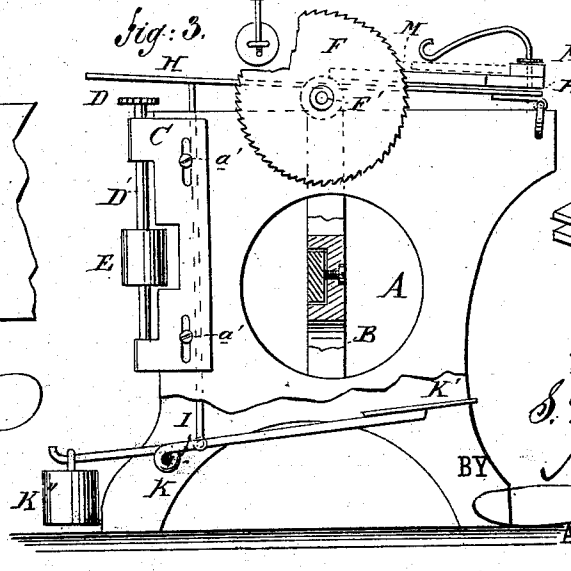
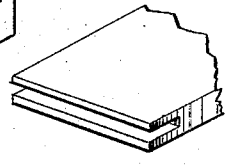


Fig: 5.



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# UNITED STATES PATENT OFFICE.

SILAS M. BRAGG, OF HICKMAN, KENTUCKY.

## SAWING AND ROUTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,475, dated February 8, 1881.

Application filed June 19, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, SILAS M. BRAGG, of Hickman, in the county of Fulton and State of Kentucky, have invented a new and Improved Sawing and Routing Machine, of which the following is a specification.

The object of this invention is to provide an adjustable machine for the more rapid manufacture of bed-rails, friezes, &c.

The invention consists of a table provided at each end with a circular saw and a router, and provided, also, with a movable carriage for presenting the rails to be operated on to the saws and routers, so that both ends of the rails may be simultaneously finished; and it consists, further, in devices by which said table may be extended or shortened for operating upon rails of different lengths, and by which each saw and router may be run independently of the other.

Figure 1 is a front elevation of the device. Fig. 2 is a plan of the same with a portion broken away to exhibit other parts. Fig. 3 is an end elevation of the same with a portion broken away to exhibit other parts. Fig. 4 is a plan, looking upward, of the device for adjusting the length of the table. Fig. 5 is a perspective view of the finished end of a bed-rail.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the table or frame of the device, made in two like parts or sections, provided with lateral braces B B, that are secured together by terminal tongues and grooves *a a*, and by the screw *b*, that enters through the slot *c* of one brace B into the tongue *a* of the other brace B; and by means of this screw *b* the two sections of the device can be held in position when extended or when drawn closely together.

On the outer face of each leg of the machine, and at the front edge thereof, a slotted plate, C, is held in a vertical position by the screws *a' a'*, so that said plate C may be raised or lowered at will and be held in position, carrying with them the routers D D, for whose vertical mandrels D' D' said plates C afford bearings.

E are the pulleys on each router-mandrel D', by means of which motion is imparted to said routers D D.

F F are the circular saws that project over the ends of the machine, and are designed to be fastened between collars, in the usual way, on the outer ends of the horizontal shafts F' F', that are journaled in suitable boxes on the braces B and top of the frame A, as shown. G G are the driving-pulleys on said saw-shafts F' F'.

Hinged to the rear upper corner of each leg of the machine, so as to have a vertical movement, is a narrow horizontal plate, H, whose forward end is cut away, as shown at *d*, in order not to interfere with the free movement of the routers D. The forward ends of these plates H are rigidly secured to the upper ends of the rods I I, whose lower ends have crank-connections, *f*, with the horizontal treadle-bar K, whose ends are journaled in the legs of the machine, and attached to whose center is the treadle K' and counter balance or weight K''. It will be seen that the normal effect of this weight K'' is to turn the bar K, so as to force the rods I I upward, and thereby raise the front ends of the plates H H, on which plates H H the sliding carriage M rests. This carriage M extends across the frame A from one end to the other thereof, and is provided on its under face, near its ends, with rabbeted cleats *g g*, by means of which said carriage M is held so as to slide forward and back on the plates H H, in order to present the rail or other object which is held on said carriage M to the action of the saws F F and routers D D. The ears *h h*, extending laterally from the cleats *g g*, prevent an excessive forward movement of the carriage M by their engagement against the rods I I. On the top and along the rear edge of the carriage M is secured a rib, M', for the rails and other objects to bear back against as they are pressed forward against the saws F F and routers D D.

N N represent the dogs for holding the rails or other objects in position on the carriage M. This carriage M may be lengthened at will, being made in two like sections that are held adjustably together by means of the cleats *m*, slotted plates *n*, and screws *o o'*, that are on the under side of said carriage M. The rail or other object to be operated upon being placed on the carriage M and held against the rib M' by the dogs N N, and the saws F F and routers D D being put in motion, the

operator pushes the carriage M forward to bring both ends of the rail or other object, as aforesaid, simultaneously under the action of the said saws F F, and then under the action of the routers D D. By pressure of the foot upon the treadle K′ the operator depresses the plates H H, and thereby the carriage M and the object on it, down in closest contact with the routers D D, while by removing the foot from the treadle K′ the weight K″ is permitted to operate, with the effect of lifting the carriage M, and thereby decreasing the extent of contact between the object being operated on and the said routers D D, respectively.

By attaching suitable extension wings or tables at each end, by means of dovetailed brackets or other suitable means, the device may be converted into two independent sawing or single bead shaping, routing, or friezing machines, while eitheror as one two machines the device can be used with advantage in almost every department of a furniture-factory.

The vertical router-mandrels D′ D′ may be adjusted laterally by means of screws passing through the legs of the machine, or by other suitable device.

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

1. An improved sawing and routing machine, constructed substantially as herein shown and described, consisting of the extension-table A, end saws, F F, adjustable routers D D, adjustable mandrels D′ D′, and movable extension-carriage M, as set forth.

2. The combination, with carriage M, of the plates H, movable rods I, bar K, and weights K″, as and for the purpose specified.

3. In a sawing and routing machine, the carriage M, provided with cleats *m*, slotted plates *n*, and screws *o o′*, substantially as herein shown and described, whereby said carriage may be laterally extended, as set forth.

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Witnesses:
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