2 Sheets—Sheet 1.

M. T. BOULT.

SAWING-MACHINE.

No. 182,885. Patented Oct. 3, 1876.

Fig. 1.

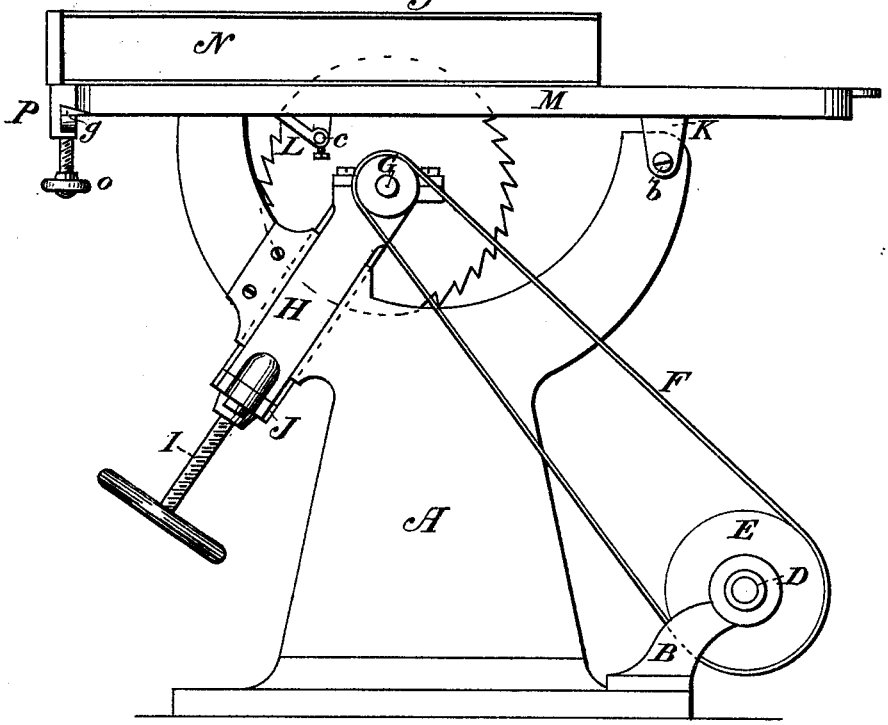
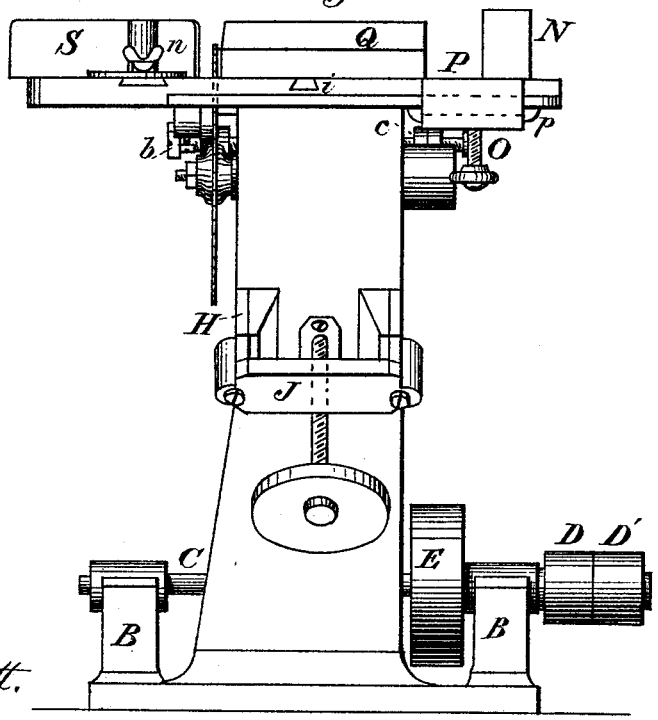


Fig. 2.



Attest:
F. H. Schott.
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Inventor:
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2 Sheets—Sheet 2.

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Fig. 3.

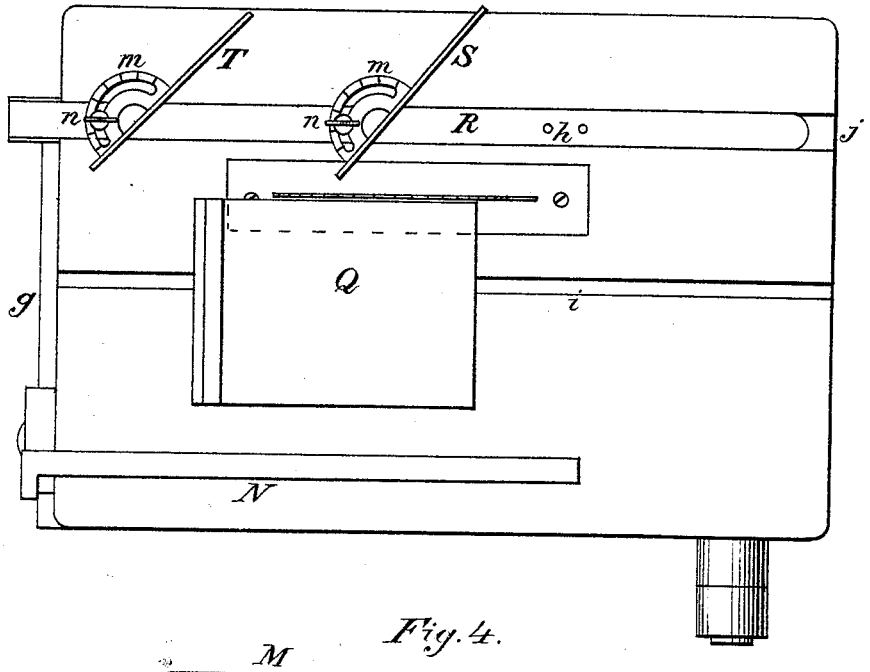


Fig. 4.

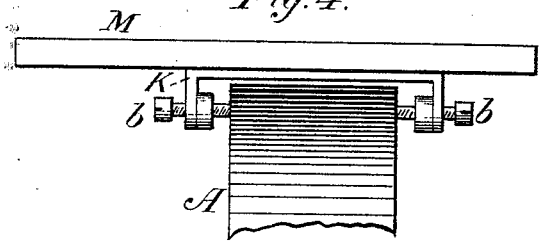
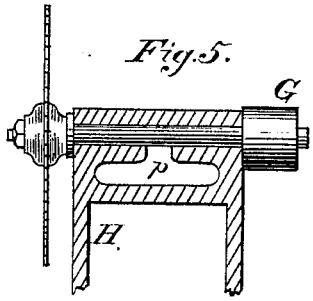


Fig. 5.



Attest:
F. H. Schott
J. L. Brown

Inventor:
M. T. Boult.

UNITED STATES PATENT OFFICE.

MYRON T. BOULT, OF BATTLE CREEK, MICHIGAN.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **182,885**, dated October 3, 1876; application filed August 31, 1876.

To all whom it may concern:

Be it known that I, MYRON T. BOULT, of Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Sawing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of sawing-machines generally termed dimension saws, in which a circular saw is used for cutting the material, and is so arranged that the saw is made to project to a greater or less degree above the table, to suit the work to be done, the object in the present case being to simplify and improve the construction and arrangement of the different parts, so as to furnish means for adjusting the table laterally, as well as to supply such an assortment of guides and other devices as the various kinds of work to be done may require, and to place the whole upon a strong and well-proportioned pedestal, designed to prevent that vibration so common in tools of this class, and which renders it very difficult for the operator to produce exact work; and the invention consists in the construction and arrangement of the different parts, as will be hereinafter clearly set forth, and then specifically pointed out in the claims.

Figure 1 of the drawings represents a side view of the machine. Fig. 2 is an end view, especially showing the devices used in adjusting the saw. Fig. 3 represents a top view or plan of the table, with the various adjustable guides in position upon it. Fig. 4 shows a section of the pedestal with the table attached, and the devices for giving lateral adjustment to the table. Fig. 5 is a sectional view of the journal-box supporting the saw-arbor.

A represents the pedestal upon which the other parts of the machine are carried, and is preferably cast in one piece of metal, cored out, so as to reduce the weight, although it may be formed of several plates joined together, but this method of construction fails to give that rigidity or stiffness so desirable in tools of this class. Attached to the base of the pedestal or cast with it are the journal-supports B, carrying the counter-shaft C, which is driven from any suitable motor by a belt running upon the tight pulley D, a loose pulley, D′, adjacent thereto, upon which the belt may be run, affording a ready means of stopping and starting the counter-shaft. Another pulley, E, upon the shaft imparts motion to the saw through the belt F running upon the pulley G, secured to the outer end of the saw-arbor. This arbor is carried in bearings mounted upon an adjustable sliding frame, H, moving in suitable guides upon the sides of the pedestal, and adjusted by a screw, I, provided with a suitable hand-wheel for operating it. The screw, passing through a nut in the cross-piece J of the frame, is pivoted at *a* to the pedestal. It is therefore evident that when the screw is turned the frame, and with it the saw-arbor and saw, will be raised or lowered diagonally, or on a tangent to a circle, the center of which would be the center of the counter-shaft, with a radius equal to the distance between the center of the counter-shaft and the center of the saw-arbor. It will thus be apparent that the movement of the saw through the short distance required in working the machine will have no appreciable effect upon the tension of the belt F, which gives motion to the saw.

Adjustably attached to one of the bifurcations of the upper end of the pedestal, by means of the bracket K and pivoted screws *b b*, is the table M. This bracket is provided with two downwardly-projecting lugs, *c c*, through which the pivot-screws pass.

It will be observed that by moving these screws the position of the table with relation to the pedestal may be changed, so that the opening in the table through which the saw passes may always be made to correspond with the latter.

Secured to the under side of the throat-piece U in the table is a saw-guide, L, provided with pins *e*, which are held in place by set-screws, and bear against the sides of the saw whenever it is made to deviate from a straight forward cut by following the grain of the timber, which it is liable to do when dull or improperly sharpened.

At one end of the table is formed a dove-

tail projection, *g*, upon which slides the guide N, retained in any desired position upon the table by means of the gib *h* and set-screw O in the clamp P, which is attached to and projects downward from the end of the guide.

A sliding carriage, Q, is also provided, which is guided in its movements over the table by a tongue upon its under side, which enters the groove *i* in the top of the table.

It will be apparent that this carriage may be readily removed when not required for use, as it has no other connection with the table than the tongue above mentioned. Another groove, *j*, in the table receives the slide R, which carries the adjustable guides S and T. These guides turn upon a central pivot in the slide R, and are each provided with a slotted and graduated semicircular arc, *m*, through the slot, in which passes a set-screw, *n*. Additional holes are made in the slide R, as shown at *p*, so that the position of the guides attached to it may be changed if desired.

The bearing in which the saw-arbor revolves is of peculiar construction, being of such length as to embrace the whole arbor with the exception of that part occupied by the saw-collars and driving-pulley, its lower part being provided with an oil-chamber, *p*, which holds sufficient lubricating material to avoid the necessity of renewing the supply frequently, as is necessary in those of the ordinary construction, and allows the cap to be made without orifices for the purpose of oiling, thus preventing the entrance of dust or dirt to the journal.

By means of the throat-piece U the machine may be readily converted into a molding-machine, it being only needed to remove the throat-piece, which carries the saw-guides with it, remove the saw, and replace it with a molding-cutter of any desired shape.

These various guides, and the facility with which their positions may be changed, make this machine one of the most useful of its class, rendering it a desideratum for every shop throughout the country using this class of machinery.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent the following:

1. The sawing-machine table M, provided with the dovetail tongue *g*, parallel guide N, sliding carriage Q, and diagonally-adjustable guides S T, substantially as and for the purpose specified.

2. The table M, provided with the bracket K, in combination with the pivotal adjusting-screws *b* and pedestal A, substantially as and for the purpose set forth.

3. The saw-arbor carrying-frame H, provided with the cross-piece J and adjusting-screw I, in combination with the pedestal A, as set forth.

4. The pedestal A, constructed as described, in combination with the sliding frame H, carrying the saw-arbor, and the laterally-adjustable hinged table M, substantially as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature this 15th day of July, 1876, in presence of two witnesses.

MYRON T. BOULT.

Witnesses:

ERASTUS POULSON,

WM. H. POULSON.