

(No Model.)

2 Sheets—Sheet 1.

J. S. LOOMIS.
SAWING MACHINE.

No. 523,747.

Patented July 31, 1894.

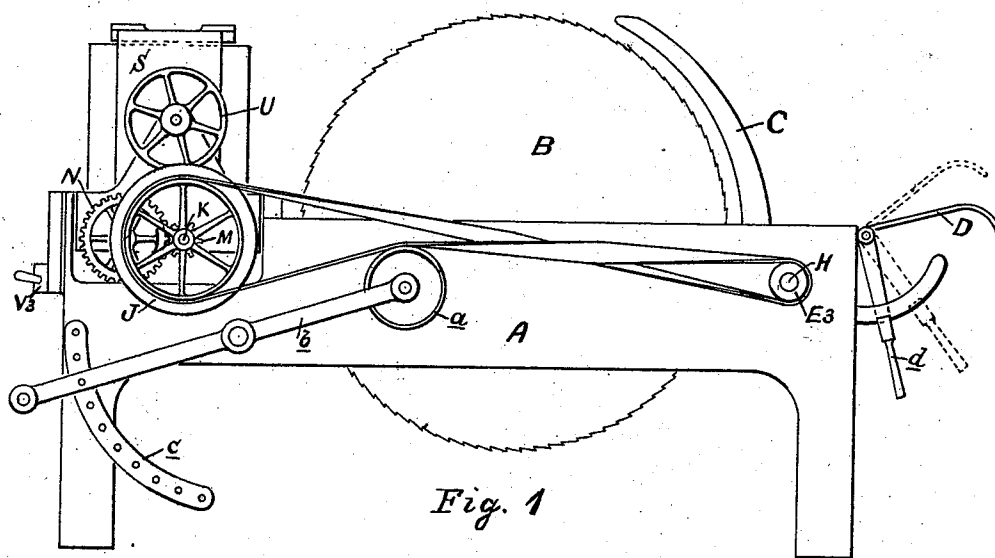


Fig. 1

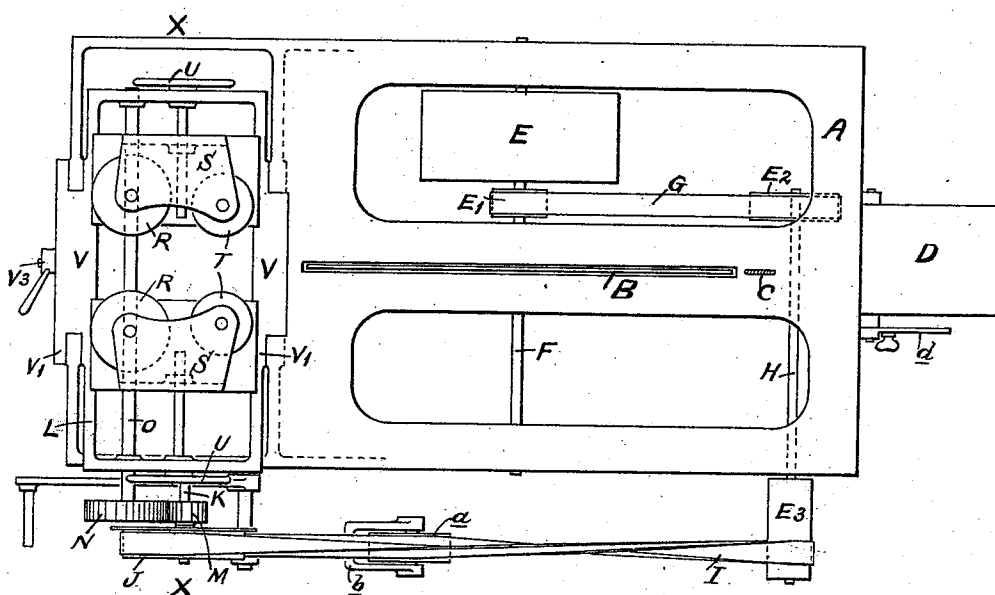


Fig. 2

Witnesses.

Arch^d. McLean
Wm. King

Inventor.

John S. Loomis per
Geo. K. Ferguson,
Attorney.

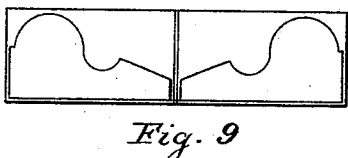
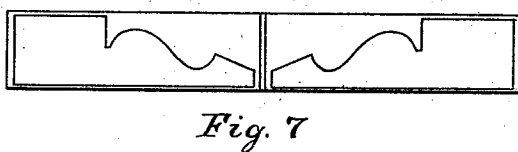
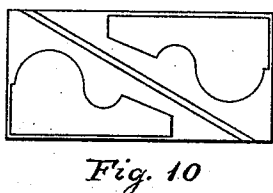
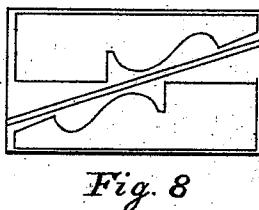
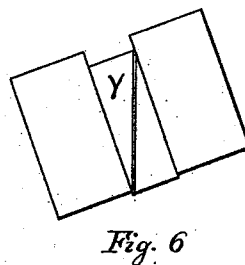
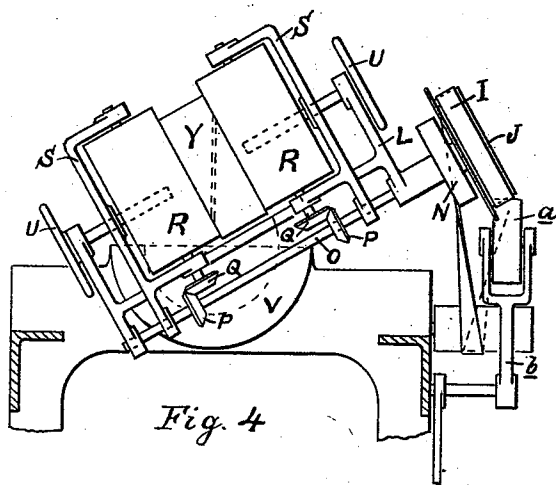
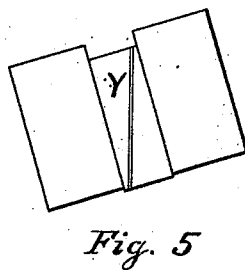
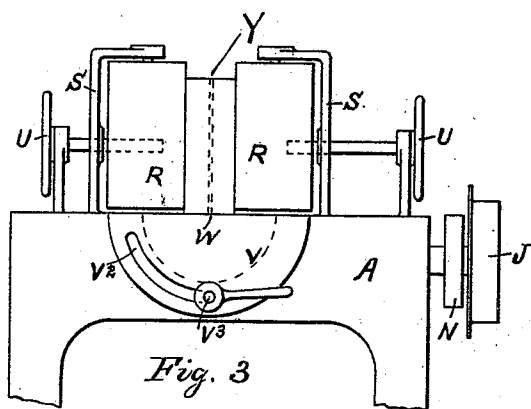
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Archd. M. Lean.
Wm. King.

Inventor.
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per
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UNITED STATES PATENT OFFICE.

JOHN S. LOOMIS, OF BROOKLYN, NEW YORK.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 523,747, dated July 31, 1894.

Application filed March 14, 1894. Serial No. 503,545. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. LOOMIS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, 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 of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to produce a sawing machine which will saw wood at an angle, and thereby secure an economy in the use of material; and it consists essentially of a swinging frame carrying the adjustable feed and guide rolls which permits them to be secured at an angle to the plane of the saw, as will be more particularly pointed out in this specification, reference being had to the accompanying drawings, which form a part thereof, and in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a plan thereof; Fig. 3, an end elevation thereof; Fig. 4, a section taken on line X X of Fig. 2, and Figs. 5, 6, 7, 8, 9 and 10 are detail views of cross-sections of material to be sawed in order to produce the stock from which the various moldings are to be made, illustrating the common practice, and the practice carried out by my machine for producing such stock as will appear hereinafter.

In Fig. 7, is shown the common way of cutting a large piece of wood squarely in two to produce the stock for making the moldings outlined therein, and in Fig. 8, is shown how by means of an angular cut a much narrower piece will serve the same purpose. In Fig. 9, is also shown a piece of wood sawed squarely in two equal parts, the moldings to be made therefrom being outlined therein and in Fig. 10 is shown how by an angular cut a much narrower although thicker piece will serve the same purpose, the cross sectional area of the latter being less than that of the former. Figs. 4, and 5, illustrate, in end view, the angle at which the material is fed to the saw, to produce the strips shown in Figs. 10 and 8 respectively.

In my machine the usual saw table and supporting frame is denoted by A.

B is the saw supported so as to run in a ver-

tical plane perpendicular to the upper horizontal face of the table and parallel to its length.

C is a parting knife placed behind the saw to keep the cut open and thus prevent pinching and heating of the saw.

D is a rest upon which the material reposes as it passes from the saw, it is adjustable vertically by means of a lever and clamp *d*, the dotted lines show the rest in a different position.

In practice, when the carrier frame has been tilted up so as to cut the wood at an angle, the portion of the carrier frame upon which the wood rests as it passes through the feed and guide rolls will be raised correspondingly above the plane of the saw table, and it is obvious, that in order that the cut may be a uniform one and the sawed pieces of even face, the wood must be advanced so that its bottom part, which rests upon the carrier, will remain parallel to the saw-table, although above it. For this reason the rest D is provided, and it is adjusted at the outset so that its top part will be at a height above the plane of the saw-table equal to that of the bottom of the cut, which is indicated in Fig. 4 by dotted lines on the wood Y.

E is the main driving pulley of the saw and is mounted directly upon the saw arbor F.

E' is a smaller pulley upon the saw-arbor, over which a belt G passes to another pulley E², secured to a counter shaft H which is parallel to the saw-arbor F.

A smaller pulley E³ is located at the outer end of the shaft H, and over this passes a crossed belt I passing over a large pulley J, the latter being located upon a journal K which is journaled in suitable bearings on a swinging frame L.

M is a pinion on shaft K which gears with a large gear wheel N located on a transverse shaft O which is journaled in suitable bearings on the swinging frame and is parallel to shaft H and whose axis is in a plane perpendicular to that of the saw. Mounted on this shaft O, are two miter gears P, which gear with two other miter gears Q, which are fixed to the ends of the spindles upon which the two feed rolls R are secured. By means of this system of gearing the high speed of the driv-

ing pulley E is geared down to necessarily slower feed motion to be imparted to the material passing through the feed-rolls.

The two feed-rolls R are journaled in a frame S, which also supports the guide rolls T, parallel to the feed rolls. The two feed rolls and the two guide rolls are adjusted to accommodate the different thicknesses of material passing between them by means of two hand screws U, which are threaded into frame S on opposite sides and which are journaled in the swinging frame L.

The frame L, is provided with longitudinal trunnions V, journaled into the frame A, so that the center of the trunnions will be in the horizontal plane of the saw table and also be in the same vertical plane as the saw, so that W, represents the axis of rotation of the swinging frame. V' V' represent flanges of the swinging frame which serve to hold it in position on the saw table, a slot V² being provided therein to accommodate a clamping screw V³ and handle by means of which the swinging frame may be secured at any angle to the plane of the saw. Y represents the cross section of the material passing between the feed rolls to the saw. As the swinging table is placed at an angle to the saw, the belt I, will be slackened or tightened, as the case may be, and to always produce the proper tension on the belt I a belt tightener consisting of a pulley a mounted on a lever b and an adjusting quadrant c, is provided.

In operation, after a piece of wood of suitable thickness to produce the two halves requisite for the stock of any desired molding has been obtained, the wood is clamped between the feed rolls by means of the hand screws U, and then the swinging frame is turned and clamped at the proper angle, the tightening pulley is adjusted to the belt, and the rest D is adjusted. The saw is then set in motion and the required cut made.

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

1. In a sawing machine the combination

with the saw-table and saw, an oscillatory feed-roll carrier mounted on trunnions whose axis lies in the longitudinal axis of the table passing through the center of the saw; a clamp to secure the frame at different angles; mechanism for operating the feed rolls, consisting of gearing and a belt driven from the saw arbor, a tension device for said belt and an adjustable rest at the rear of the table, whereby when the carrier is clamped at an angle to the saw, the rest may be adjusted to a corresponding position; above the plane of the table substantially as described.

2. In a sawing machine, the combination of a saw-table; a saw-arbor, and a saw mounted thereon; a carrier frame mounted upon a pair of trunnions, whose axis lies in the longitudinal axis of the table passing through the saw center; a pair of adjustable feed rolls, and a pair of adjustable guide rolls mounted upon said carrier; means for clamping the carrier at an angle to the plane of the saw-table; an adjustable rest capable of being raised above the plane of the saw-table, located at the end thereof, with means for driving the saw and the feed and guide rolls, substantially as described.

3. The combination of a saw-table; a saw-arbor carrying a driving pulley and saw mounted thereon; a feed and guide supporting frame mounted on a pair of trunnions, whose axis lies in the longitudinal axis of the table and passes through the saw center; means for adjusting the guide and feed rolls; means for clamping the carrier at an angle to the saw-table; an adjustable rest at the end of the table, pivoted so as to be raised above the plane of the table; a pulley shaft provided with gears for operating the feed rolls, with a belt and tension device therefor, for transmitting motion from the saw-arbor to the pulley-shaft, substantially as described.

JOHN S. LOOMIS.

Witnesses:

FRED BRAINARD,
GUY LOOMIS.