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J. Fay,

Tenoning Machine.

Patented Aug. 29, 1831.

Fig. 1.

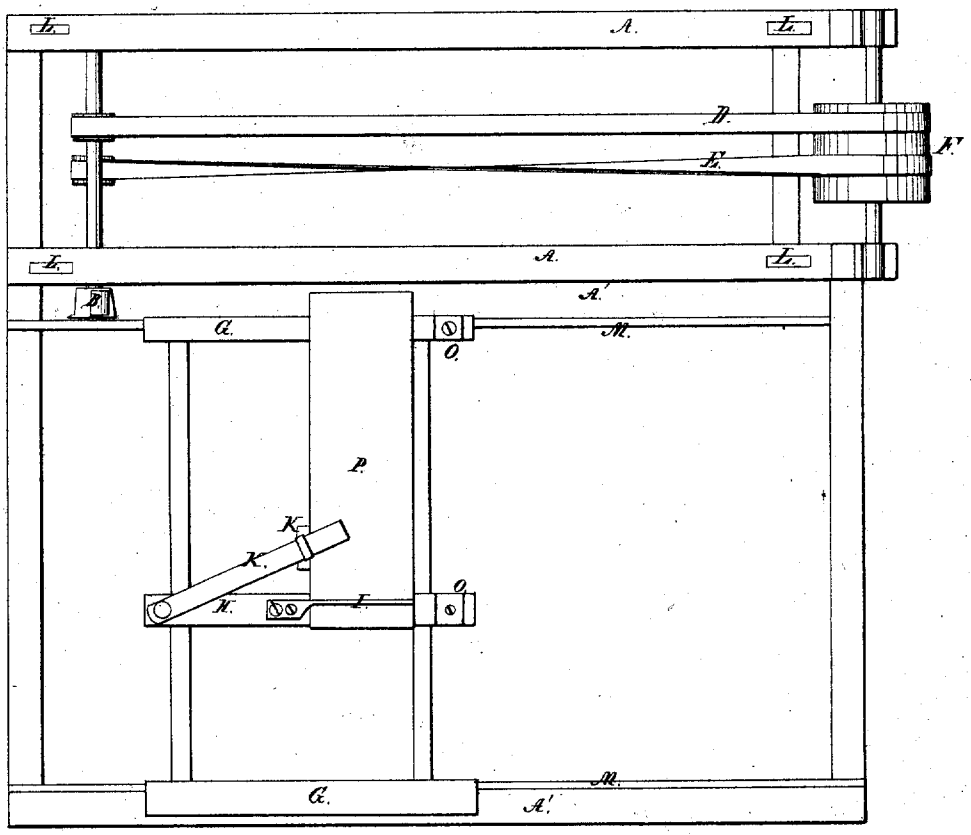


Fig. 2.

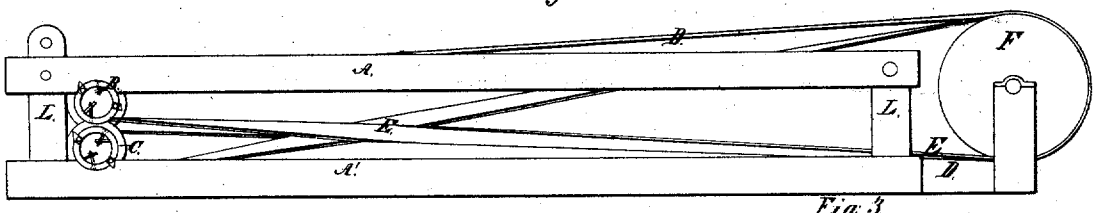


Fig. 3.

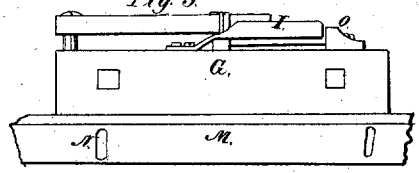
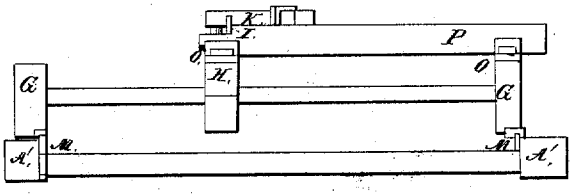


Fig. 4



AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

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Josiah Fay Hollis New Hampshire

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Josiah Fay himself of his improvement in the art of sawing timber by revolving cylinders

To all to whom these presents shall come. Be it known that I Josiah Fay of Hollis in the County of Hillsborough and State of New Hampshire have invented a new and useful improvement in the art of sawing timber by revolving cylinders and that the following is a full and exact description of the construction of my discovery or invention together with a drawing necessary to contain the same — The machine consists of a frame forty five inches long and twenty inches wide to contain the lower cylinder directly over that is another frame the same size to contain the upper cylinder and connected together at the ends by studs. The studs are made fast to the lower frame. The upper frame is confined to the said Studs at one end by four inches from the lower frame. The other end of the upper frame may be raised or lowered as the thickness of the timber to be cut may require and made fast by bolts that play in slots of said studs. The piece of timber suitable for the frame is three by four inches and confined together by joint bolts. The cylinders are of cast iron seven inches in diameter at the fore end and about one eighth of an inch less at the other end — They are three inches long and placed in the frames one directly over the other in nearly a horizontal position inclining a little towards each other at the other end so as to bring their surfaces at a parallel distance. They are supported in the frames by wrought iron shafts turning upon pivots or centers. In each cylinder are two square mortises passing through and set transversely with the surface of the cylinders and made fast by bolts and screws. At the fore end and upon the edges of each cylinder are two spurs fastened by iron keys to cut the wood. One of the spurs which may be cut directly of wood or be secured by

moving forward the log cylinder as the nature and kind of the work may require. Upon each shaft is a wheel four inches in diameter for the band to run upon to put the cylinder in motion. They run in opposite directions by crossing the band on one wheel. Connected with the lower frame above described by two pieces of timber three and an half feet long is a sill of the same length placed parallel with said frame. To this sill as well as to the sill of the frame to which this is connected are cast iron ways which may be raised or lowered by a screw or keys so as to cut the shoulder to any required depth. These ways are confined to the sills by bolts playing in slots. The carriage is a frame corresponding in length with the ways and about two feet wide. The end pieces of said carriage are one and a half by three inches connected by two or more slats one inch thick and four inches wide. Upon the under side of the end pieces of said carriage are cast iron slides and at the end next the cylinder the slides are grooved so as to conform to the ways and to govern the carriage in its movement. To the slats above mentioned is a moveable slide consisting of two pieces one inch thick and four inches wide confined together by screws with two or more grooves through it and corresponding with and for the slats to play in. This slide will move towards and from the cylinder as the length of the timber to be tenoned requires, about the centre of the slide, fastened a spring with a perpendicular shoulder to keep the timber in the place lengthwise and to give the proper length of the shoulder of the tenons. On the end of the carriage next to the cylinder and on the slide above described are two moveable blocks confined by screws to prevent the timber to be tenoned from moving sideways. At the forward side of the carriage on the end of the slide is a perpendicular pin or screw about four inches long upon which turns a crescent shaped cutter nearly long with a moveable hold fast upon it to confine the timber against the blocks above described. Upon this carriage the timber to be tenoned being fitted exactly with the gauge as above mentioned and the cylinders being put in motion by water or other power, the end of the timber to be tenoned by a little manual exertion is brought forward passing at any given distance from the cylinder

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the spines and the shoulders and on the plane sides and the surfaces of the tenons leaving them perfectly smooth. The principle of this invention or discovery is to cut tenons by revolving cylinders. And your petitioner has accomplished it as suitable to be applied to the cutting of mortices. Your petitioner claims the improvement of cutting tenons by revolving cylinders as an invention or discovery of his own.

Witnesses
Jacob Fisher Junr
Moses Smith

Josiah Fox

Engd
W.F.C.

(252 words)