E. MYERS & S. R. SMITH.
Saw-Guide.

No. 197,163. Patented Nov. 13, 1877.

Fig. 1.

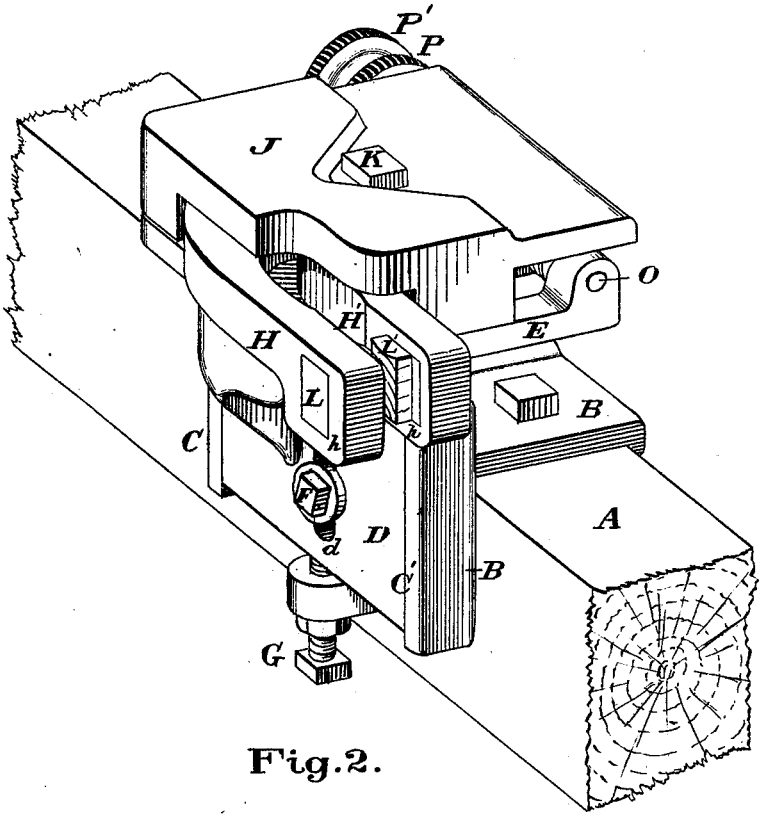
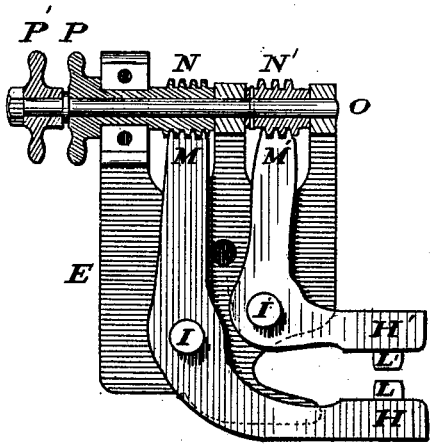


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD MYERS AND SAMUEL R. SMITH, OF CINCINNATI, OHIO, ASSIGNORS TO LANE & BODLEY COMPANY, OF SAME PLACE.

IMPROVEMENT IN SAW-GUIDES.

Specification forming part of Letters Patent No. **197,163**, dated November 13, 1877; application filed September 27, 1877.

To all whom it may concern:

Be it known that we, EDWARD MYERS and SAMUEL R. SMITH, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Saw-Guide, of which the following is a specification:

Our invention relates to an improved form of those guides for the edges of circular saws which consist of a pair of jaws capable of independent or of simultaneous adjustment in the parallel of the saw-arbor; and our said invention, in its most improved form, comprise the following essential members: a bracket attached to the mill-frame, a little in front of the cutting-edge of the saw, which bracket supports the stock of our saw-guide proper, and contains means for the vertical adjustment of the latter, the saw-guide proper consisting of two bent or L-formed levers, whose inner extremities embrace the saw-blade, and whose outer extremities mesh in two worms upon a common axis, and are capable of being rotated (by means of suitable cranks or hand-wheels situated to one side of the saw) either separately or simultaneously, so as to move either jaw independently, or both together, and that either to the right or to the left hand, and whether the mill be in operation or not.

Our improvement further comprises a plate that serves the several purposes of a cap and clamp for the guide-jaws, and of a rest or bearing for the log while being sawed.

In the accompanying drawings, Figure 1 is a perspective view of a saw-guide embodying our invention. Fig. 2 is a top view of the same after removal of the cap-plate.

A may represent a portion of the frame which carries the arbor-bearings of a circular saw. B represents a bracket bolted to said frame. The bracket B has a vertical guide, C C′, to receive and hold the lug D of guide-stock E. A vertical slot, *d*, in said lug, receiving a bolt, F, enables the stock to be secured at any height to which it may be adjusted by screw G. The stock E is flat on top, to support a pair of bent levers, H and H′, that are pivoted at I I′ to the said stock, and to a cap, J, that is secured to the stock by a screw-bolt, K. The levers H H′ have, near their inner extremities, orifices *h h′*, for wooden plugs or pads L L′, while the outer extremities of said levers have the form of cog-segments M M′, that, respectively, mesh with worms N N′, of which the worm N′ is attached to a shaft, O, journaled horizontally in the stock, as shown, while the worm N revolves freely upon said shaft in the manner of a sleeve.

Two similar wheels or milled heads, P P′, attached to worm N and shaft O, respectively, enable the sawyer to rotate either or both worms either to the right or to the left, and, by so doing, to shift either one or both guide-jaws either forward or backward in the parallel of the arbor.

The described construction and arrangement of bent levers and their adjuncts enables the adjustments to be made with greater ease and accuracy than is practicable with sliding jaws.

Where, as in the present illustration, the relation of the fulcrum to the extremities differs in the two levers, the pitch of their respective worms is made to correspond with such inequality, in order that an equal rotation of both band-wheels P P′ shall result in an equal shift of the two guide-jaws.

By driving home the screw-bolt K the cap J is caused to act as a clamp or friction-plate to hold the guides H H′ immovably to whatever position they may have been set, thus taking the strain of their retention off of the worms. The cap J, also serving as a bearing-plate for a portion of the timber on both sides of the kerf, prevents either side from sagging below the other, and hence the timber can be sawed almost completely through, leaving a very short stub.

The vertical adjustability of the guide-stock enables the latter to be set with the crown of its cap-plate flush with that of the head-block.

The worm-motion imparts great power, capacity for nice adjustment, and is self-locking.

The wooden plugs L L′ are purposely made wide in the vertical direction to impart ample guiding-surface.

The guide-jaws H H′, being in the form of bent levers, are more staunch, and, at the same time, are more easily and safely manipulated,

than the customary slide-bars, the accessibility of the hand-wheels P P′ enabling the sawyer to adjust the guides without personal danger, even after the mill has started. This capability of adjustment while the mill is in operation is of vital necessity, because the proper point of adjustment can, in many cases, only be ascertained after the saw is under full headway—as, for example, the saw may be, and often is, somewhat dishing, and the effect of rapid rotation is to bring it to its proper plane; or the saw may tend to lead either in or out of the log, and may require rectification by means of the guides.

Where more than one saw is employed upon a single arbor, each saw may be furnished with a suit of adjustable guides, as above.

We claim as new and of our invention—

1. In combination with the vertically-adjustable bracket B C C′, the adjustable cap J, which serves the double purpose of clamp for the guide-jaws and rest for the timber being sawed, substantially as set forth.

2. The pair of L-shaped levers H I M H′ I′ M′, whose inner extremities constitute guide-jaws H H′, and whose outer extremities M M′ intermesh with independent but co-axial worms N N′, capable of independent or of simultaneous rotation by means of suitable hand-wheels P P′, substantially as and for the purpose set forth.

3. In combination with a pair of guide-jaws, substantially as described, and with the stock E and screw-bolt K, the plate J, for protecting and clamping the jaws and for supporting the timber, substantially as set forth.

4. The guide-jaw stock E, in the described combination with bracket B C C′, adjusting-screw G, and clamp-screw F.

In testimony of which invention we hereunto set our hands.

EDWARD MYERS.
S. R. SMITH.

Attest:

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