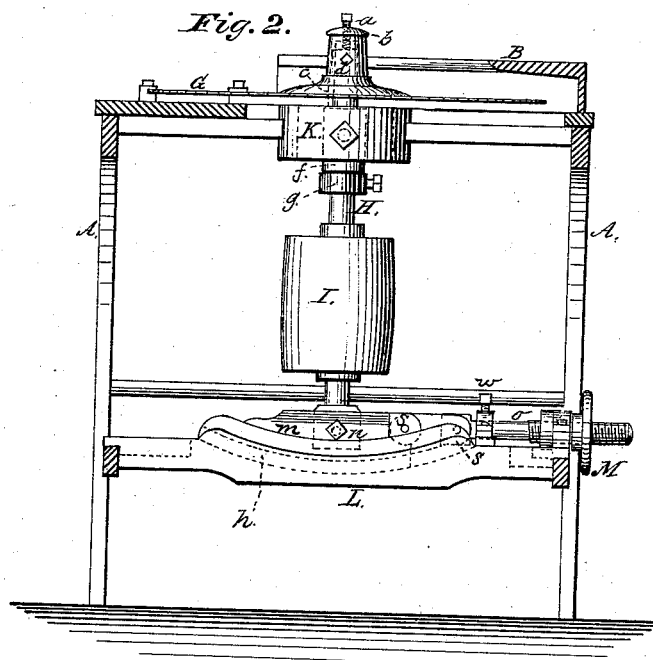
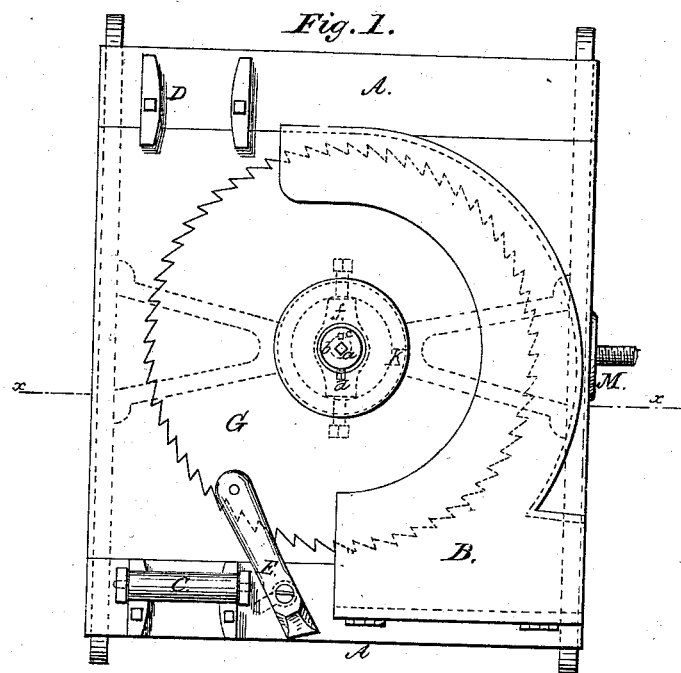
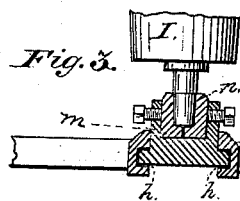


R. D. PIKE.  
Circular Sawing-Machine.  
No. 217,480. Patented July 15, 1879.

2 Sheets—Sheet 1.



Witnesses:  
*E. V. Price*  
*A. H. Evans.*



*Inventor.*  
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by *James Redlandsville*  
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Fig. 4.

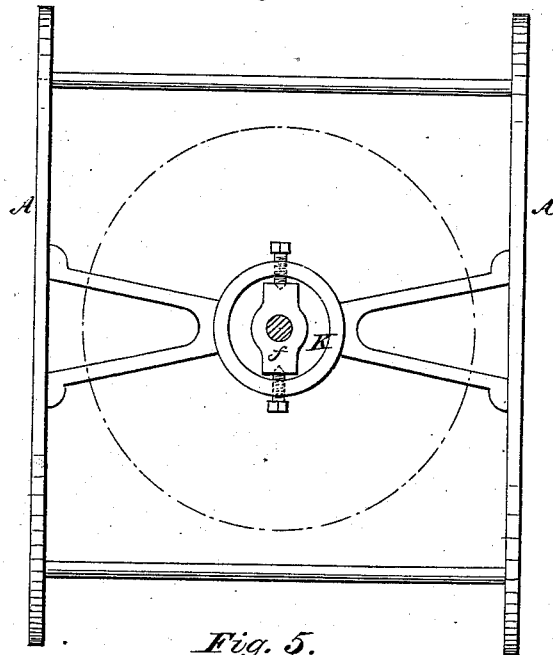
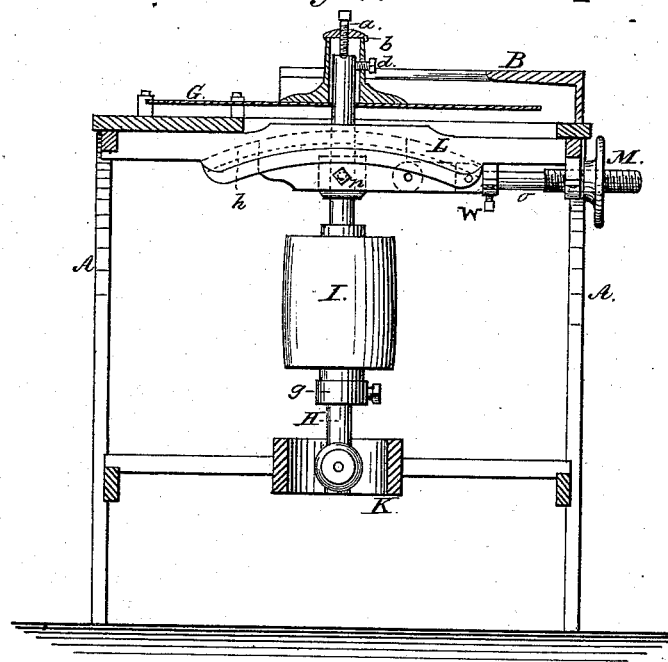


Fig. 5.



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*his attorney.*

# UNITED STATES PATENT OFFICE.

ROBINSON D. PIKE, OF BAYFIELD, WISCONSIN.

## IMPROVEMENT IN CIRCULAR SAWING MACHINES.

Specification forming part of Letters Patent No. **217,480**, dated July 15, 1879; application filed October 17, 1876.

*To all whom it may concern:*

Be it known that I, ROBINSON D. PIKE, of Bayfield, in the county of Bayfield, in the State of Wisconsin, have invented new and useful Improvements on Machines for Resawing Lumber, of which the following specification, with drawings annexed, is a full, clear, and exact description.

The object of my invention is to furnish manufacturers with a resawing-machine, which is preferably attached to the discharge end of a planer, for resawing lumber any desired thickness or bevel, the lumber being planed and resawed simultaneously. Other resawers, so far as known to be in practical use, are worked separately from the planer. This involves, first, an extra amount of labor, by the employment of two extra workmen; and, second, complication of machinery, by requiring six extra feed-rollers, with their attendant cog-wheels and intermediate shafts, thus increasing the cost of a resawer nearly double what it will cost if made after my construction. It is therefore obvious that whenever the common machines are changed for resawing lumber different thicknesses or bevels all the feed-rollers must be readjusted; also, that an unnecessary complication of machinery accordingly costs more for repairs and requires a more experienced operator.

My invention consists in adjusting a horizontal circular saw for resawing different thicknesses by attaching a capped collar to the upper side of the saw as a part thereof, in which is operated a vertical adjusting-screw, that raises or lowers the saw upon its mandrel.

My invention further consists in adjusting the saw at different angles or bevels by moving one of the mandrel-boxes backward and forward upon an arched carriage-way by means of a journal wheel screw, the other journal-box being swung upon pivots.

In the drawings, Figure I represents a plan view of my resawer; Fig. II, a cross-section on the line *xx*, Fig. I; Fig. III, a cross-section of the traveling journal-box, its carriage, and carriage-way; Fig. IV, a plan view of the pivot journal box; and Fig. V, a modification, showing the upper and lower journal-boxes in reversed positions.

A represents the frame-work of the machine, which is made of iron and steel. B is a guard, designed to protect the workman from injury, and to guide the sawdust into a receptacle for carrying it away. C is an adjustable roller, which does not act as a feed-roller, but only as a guide to keep the lumber down upon the table when presented to the saw. The other adjustable guides, D, are for the purpose of running the lumber straight through the resawer, or upon a line with the guides of the planer. E is the saw-guide; G, the saw; H, the mandrel, and I the driving-pulley; but all of the devices just enumerated are old and in common use.

Coming now to a particular description of my invention, I would again state that it all consists in a vertical and angular adjustment of the saw. The saw is adjusted vertically on its mandrel for resawing different thicknesses by means of the vertical adjusting-screw *a*, which is operated in the center of a capped collar, *b*, attached to the saw as a part thereof. It is firmly secured to the saw by screws inserted in the flat surface of the collar, which covers quite a portion of the saw, thus adding to the strength of all the parts; and as the saw rests upon a pivot or the end of the screw *a*, the use of the capped collar to a great extent avoids any deflection of the saw from a perfectly level plane.

The point of the adjusting-screw is not attached to, it simply rests on top of, the mandrel; and there is a feather, *c*, on the mandrel and a corresponding spline in the capped collar, so as to prevent the saw from turning on the mandrel except when they both turn together.

It therefore follows that by turning the screw *a* the saw will be elevated or depressed, the weight of the saw always making its depression a very easy matter. When a vertical adjustment has been made, the saw is firmly secured in place by the set-screw *d* on the side of the collar. By loosening this screw the saw may be lifted from the machine and removed for sharpening, and when replaced and the set-screw tightened, the saw will still have its former adjustment and do the same work performed before its removal.

Having described the vertical adjustment of

the saw, I will now set forth the means for its angular adjustment.

Cast with the frame of the machine are top and bottom supports for the mandrel. The top support is a circular frame, K, in which is arranged a well-known pivot journal box, *f*. Immediately below this box is an adjustable collar, *g*, on the mandrel, to prevent any vertical variation. The bottom support or carriage-way, L, is a frame that extends from one side of the machine to the other, and the top of it is constructed in the arc of a circle. Upon each side of this arched carriage-way, on the inside, are circular grooves *h h*, arranged to receive circular tongues on the outside of a carriage, *m*, that supports the bottom journal-box.

The lower end of the mandrel rests on a plate of steel, which, when worn, can easily be replaced. It is confined in a journal-box, *n*, made of two pieces and adjusted by set-screws, so that when the box or mandrel has naturally worn away by long-continued use, the vertical position of the mandrel may be easily and quickly re-established.

The carriage is operated by a journal wheel screw, M, connected with it by a screw-rod, *o*, and double cross-heads *s s*, used for the purpose of keeping the screw-rod level while the carriage is describing the arc of a circle. Without the double cross-heads the carriage would bind and the mechanism become inoperative.

Turning the wheel-screw will cause the carriage to travel either backward or forward, and the upper journal-box to swing upon its pivot, thus keeping both journal-boxes always in line and setting the saw at any desired angle. When the saw is once adjusted it is held firmly in place until intentionally changed by fastening another set-screw, *w*, which impinges upon the screw-rod.

With this invention I get a quick and certain adjustment of the saw in any desired position for resawing lumber different thicknesses

and different angles or bevels, and at one operation resaw any width of lumber that can be run through an ordinary planer.

I have described the carriage as connected with the lower journal-box; but it is obvious, as shown in the drawings, that the carriage and all its operating mechanism, by inverting the same, could be used in place of the upper journal-box—in other words, the position of the upper and lower journal-boxes could be reversed without materially altering the spirit of my invention; and though I have shown the saw in a horizontal plane, so as to attach the resawer to a planer, it is obvious that my adjusting devices may be applied effectively to a circular saw that runs in a vertical position.

I claim—

1. A circular saw provided with a capped collar as a part thereof, and adjustable upon its mandrel by means of set-screws, constructed and arranged substantially as described.

2. An adjustable or swinging mandrel, H, with the circular saw G upon one end, constructed and operated substantially as described.

3. The combination of the hand-wheel, screw-rod, and double cross-heads with the movable carriage, substantially as described.

4. The combination, with a saw and its mandrel, of the vertical and the angular adjusting devices—namely, the capped collar rigidly connected to the saw and its set-screws, the pivoted journal-box, and the traveling journal-box with its operating mechanism, constructed and arranged substantially as described.

In testimony whereof I hereunto subscribe my name and affix my seal this 7th day of September, 1876, in presence of two attesting witnesses.

ROBINSON D. PIKE. [L. S.]

Witnesses:

B. B. WADE,

JAMES H. MANDEVILLE.