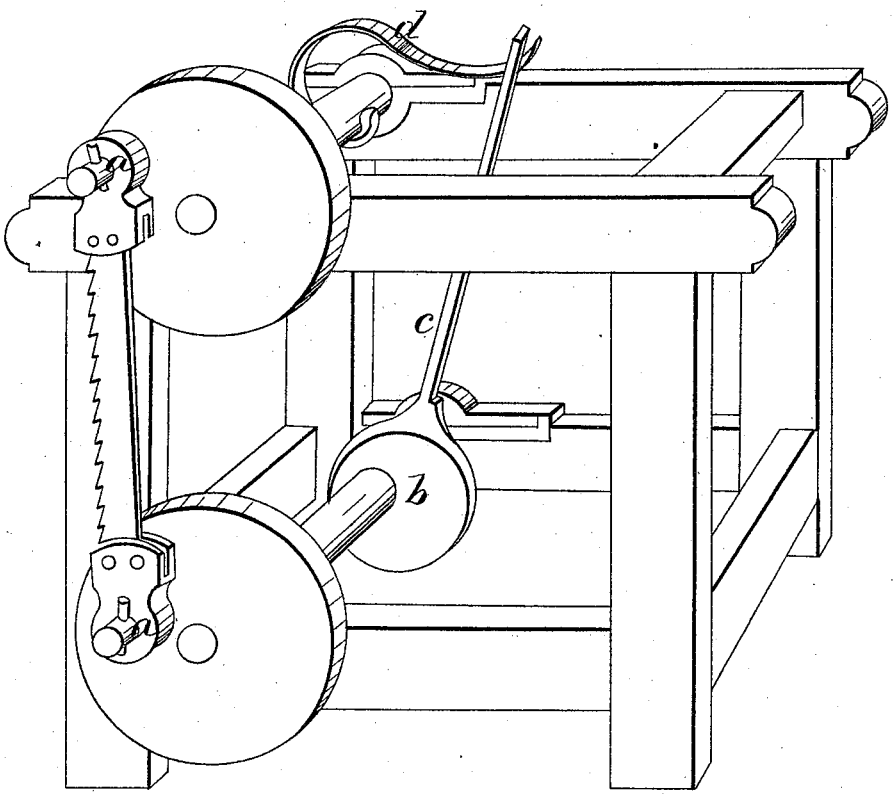
J. Ambler Jr.

Reciprocating Saw Mill.

No. 496. Patented Dec. 1, 1837.



UNITED STATES PATENT OFFICE.

JOHN AMBLER, OF PHILADELPHIA, PENNSYLVANIA.

MODE OF CONSTRUCTING SAWMILLS FOR SAWING TIMBER.

Specification of Letters Patent No. 496, dated December 1, 1837.

To all whom it may concern:

Be it known that I, JOHN AMBLER, Jr., of the city of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Mode of Constructing Mills for Sawing Timber; and I do hereby declare the following is a full and exact description thereof.

Instead of hanging my saw by means of a frame and fender posts, or by means of vibrating levers arranged in any of the various ways heretofore practised, I provide two-shafts which are placed in a suitable frame, one over the other, and at such a distance apart as shall correspond with the length of the saw to be used; and on one or both ends of these shafts, I form cranks, to which the two ends of the saw or saws, are to be attached by means of metal blocks affixed on each end of the saw; said blocks having sockets to receive the ends of the cranks.

The accompanying drawing represents such a view of my mill as will serve fully to illustrate the construction and operation thereof.

The cranks *a*, *a*, are shown as connected to revolving, or vibrating disks, or wheels, but they may, instead of wheels, be simple cranks, of the ordinary form.

The crank pins may each be at equal distance from the center of their shafts, in which case both the crank shafts are intended to make a complete revolution at every stroke; the length, or throw-out, of each crank should, in this case, be about four inches, but it may be more or less; it being intended, however, in my mill, always to feed, or cut, less at each stroke than with the ordinary mill saw, and to give a more rapid motion thereto.

I do not intend in general to make both the cranks of one length, but to give a throw-out to the upper of from five to eight inches, and to the lower of from three to six inches; the consequence of which will be that when the lower shaft is made to revolve by the application of any suitable power, the upper will vibrate backward and forward, performing a part of a revolution only, the extent of which will be determined by the relative length of the cranks.

To keep the saw on a strain I fix a spring, or a weight; so that it shall act upon the shaft of the upper crank, so as to draw it around from the saw. A spring is to be preferred to a weight, in this case, as any desired degree of tension may be given to it.

The spring may be fixed in various ways so as to produce the desired action, but in all cases it should be so connected and arranged as that the greatest tension will be given to the saw at the period when it is rising. One method of effecting this is shown in the drawing. An eccentric *b*, is placed upon the lower shaft, and is surrounded by a hoop, from which the rod *c*, extends, which rod is attached to the outer end of a coiled or curved spring *d*, the inner end of which is fastened to the upper shaft.

What I claim as my invention is—

The hanging of saw mill saws upon rotating or vibrating cranks, substantially in the manner herein described.

JOHN AMBLER.

Witnesses:

THOS. P. JONES,

W. THOMPSON.