(No Model.)

T. S. WILKIN.

Reciprocating Saw Mill.

No. 236,968. **Patented Jan. 25, 1881.**

Fig. 1.

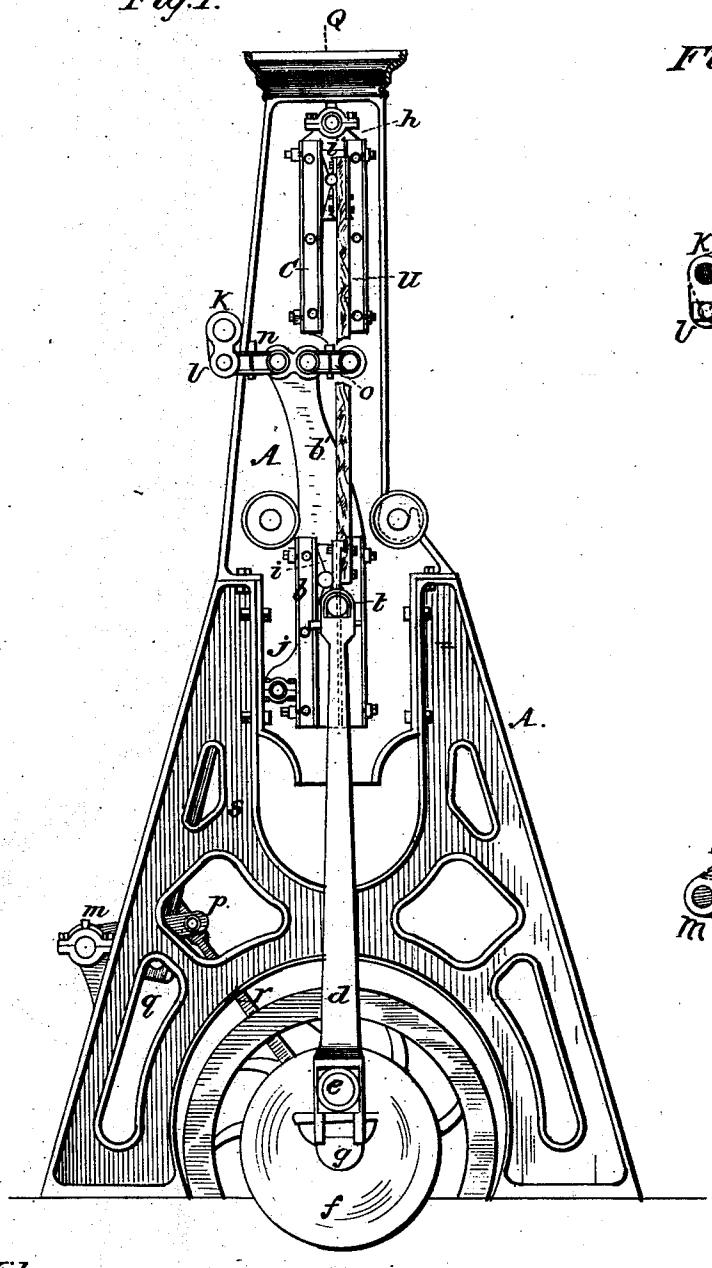
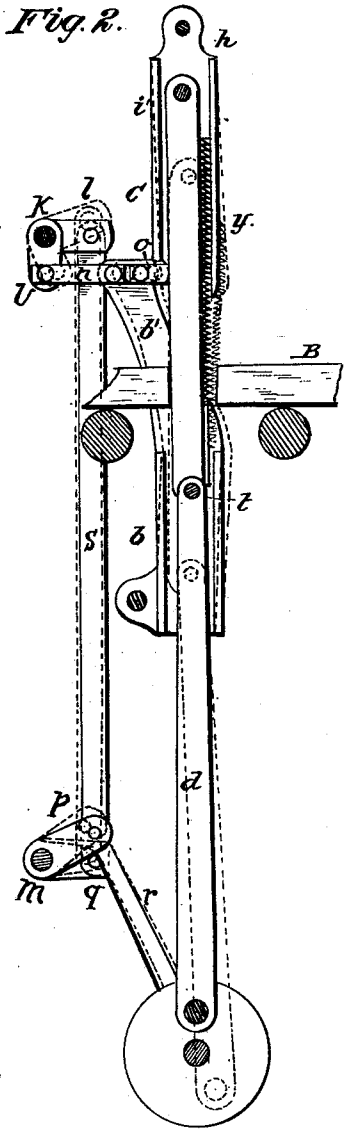


Fig. 2.



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THEODORE S. WILKIN, OF EAST SAGINAW, MICHIGAN.

RECIPROCATING SAW MILL.

SPECIFICATION forming part of Letters Patent No. 236,968, dated January 25, 1881.

Application filed November 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, THEODORE S. WILKIN, of East Saginaw, Saginaw county, and State of Michigan, have invented a certain new and useful Improvement in Saw-Mills, which is herein described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side view of a gang-saw frame and mechanism connected therewith having my improvement applied thereto, the gate or sash being shown at its highest point; Fig. 2, a sectional view like Fig. 1, showing saws at their highest point of reciprocation, also showing, by dotted lines, the saws at their extreme forward movement.

My invention is designed for saw-mills in which gangs or muleys are used, and relates to a mechanism for producing a vibratory or oscillating movement of the saws during both the downward or laboring stroke and the upward or idle stroke.

The invention consists in the combination of the gate or sash with mechanism whereby it is oscillated or moved forward or backward at the bottom when on the extreme upward stroke, the construction and operation of which will be hereinafter more fully described, and the special improvements pointed out definitely in the claim.

Saws of the class above named have been given an oscillatory movement heretofore of a certain kind for the purpose of moving the saws backward during the upward or idle stroke to obviate dragging—that is, interference by the saws with the feed of the log and lifting sawdust—without reference to the downward stroke and resistance of the saws. The movement referred to has been effected by oscillating either the upper or lower end of the saw or by moving both ends simultaneously.

My improvement consists in so constructing and pivoting the slideways as to press the bottom of the saw gradually into the log, keeping the top of the saw on a vertical line, or nearly so, until the saws complete one-third of their downward stroke, when the oscillation of the saws is reversed. The bottom of the saws recede as they pass down the bottom inclined slides, as shown by dotted lines in Fig. 2, and the top of the saws are thrown into the log until the downward stroke is nine-tenths completed, when the sash and saws recede bodily from the log or cut, giving an easy rotary cut at the finish.

To fully illustrate the construction of my improvement, I will refer to drawings.

A represents a portion of the main gang-frame, showing only one side to which my improvement is attached. The sash or gate *u* is of ordinary construction, only one side thereof being shown in the drawings, which is sufficient to illustrate the construction and application of my improvement. In this sash or gate one or more saws, *y*, are hung in the usual manner. At bottom of sash the upper end of pitman *d* is attached, the lower end being connected with wrist-pin *e* in crank arm or wheel *f*, provided with crank-shaft *g*, which is made to revolve in a direction opposite the feed. However, my improvement is so constructed that the crank-shaft can be reversed and still produce the same movement on the saws.

The upper gang-slides, C, and the lower gang-slides, *b*, are hung on pivot-pins or other suitable connections. The upper slides, C, are hung at the top *h*, or nearly so, and the lower slides, *b*, are hung at the bottom *j*, or nearly so, they being attached to gang-frame A. The sliding boxes *i i'* are attached to the upper and lower ends of sash or gate *u*, and are mounted, respectively, in the gang-slides C and *b*. A rock-shaft, K, is mounted in the gang-frame A in rear of lower ends of gang-slides C, and projects outside of gang-frame, across which it extends. On the rock-shaft, inside the gang-frame, are two rock-arms or cranks, U, depending from the shaft parallel with each other, and the third crank-arm, *l*, Fig. 2, being somewhat longer than the rest, is fixed to the extreme end of rock-shaft K, projecting outside of gang-frame and arranged about at right angles to the inside arm, U, projecting forward from the shaft. The upper end of the slab or cheek *b'*, upon which the lower slides, *b*, are attached, is connected with the lower ends of crank-arms U by means of a rod, *n*, or other suitable connection. It is also connected with lower end of slab or cheek, upon which the upper gang-slides, C, are attached, a rod, *o*, or other suitable connection being used for the purpose.

The ordinary mechanism may be employed for producing the oscillatory movement herein described, as shown by the rock-shafts K and

m, and rock-arms *l* and U, and connecting-rod S, and rock-arms *p* and *q*, and connecting-rod *r*, connecting with eccentric or crank on crank-shaft *g*, and therefore I do not in my claim limit myself to the specific oscillating mechanism herein described.

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

In a saw-mill, a reciprocating gate or sash, in combination with vibrating upper and lower slides, the upper slides pivoted at or near the top, and the lower slides pivoted at or near the lower end, and mechanism, substantially as described, for vibrating the lower end of the upper slides and the upper end of the lower slides, whereby, on the downward stroke, the saws are presented to the log on a vertical line and are pressed into the log at the bottom, after which the bottom recedes and the top is pressed forward to complete the cut, leaving the cut at the top much farther advanced than at the bottom, substantially as and for the purpose set forth.

THEODORE S. WILKIN.

Witnesses:
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