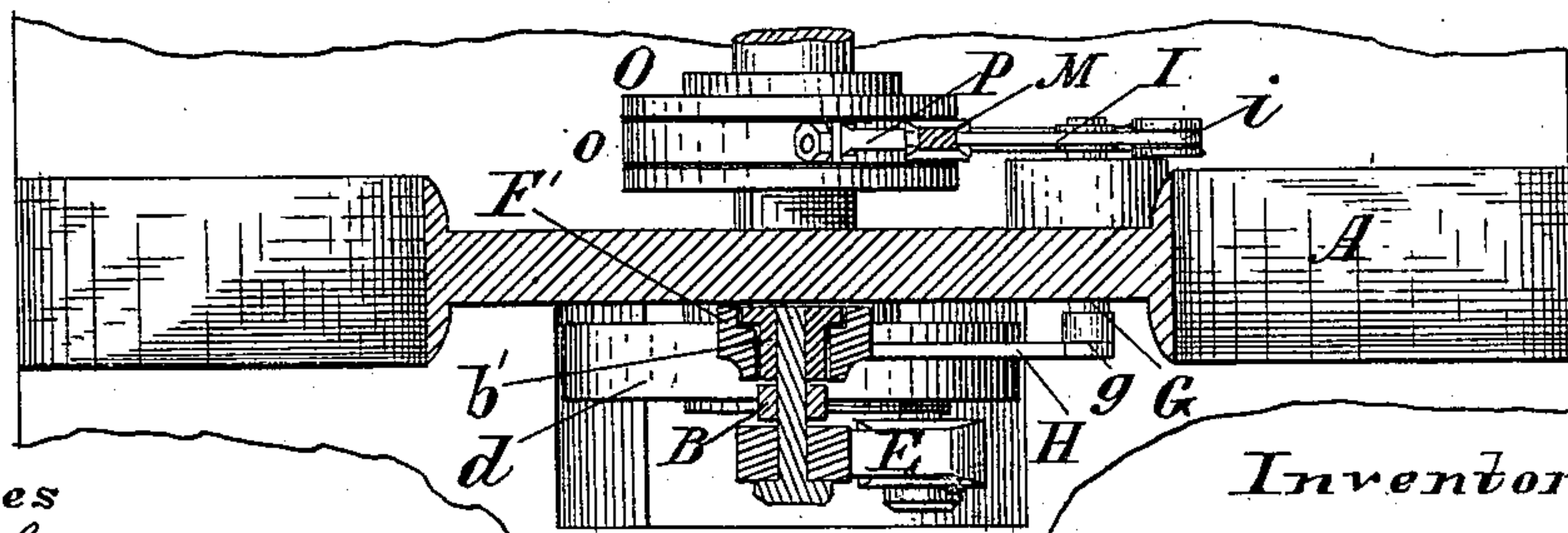
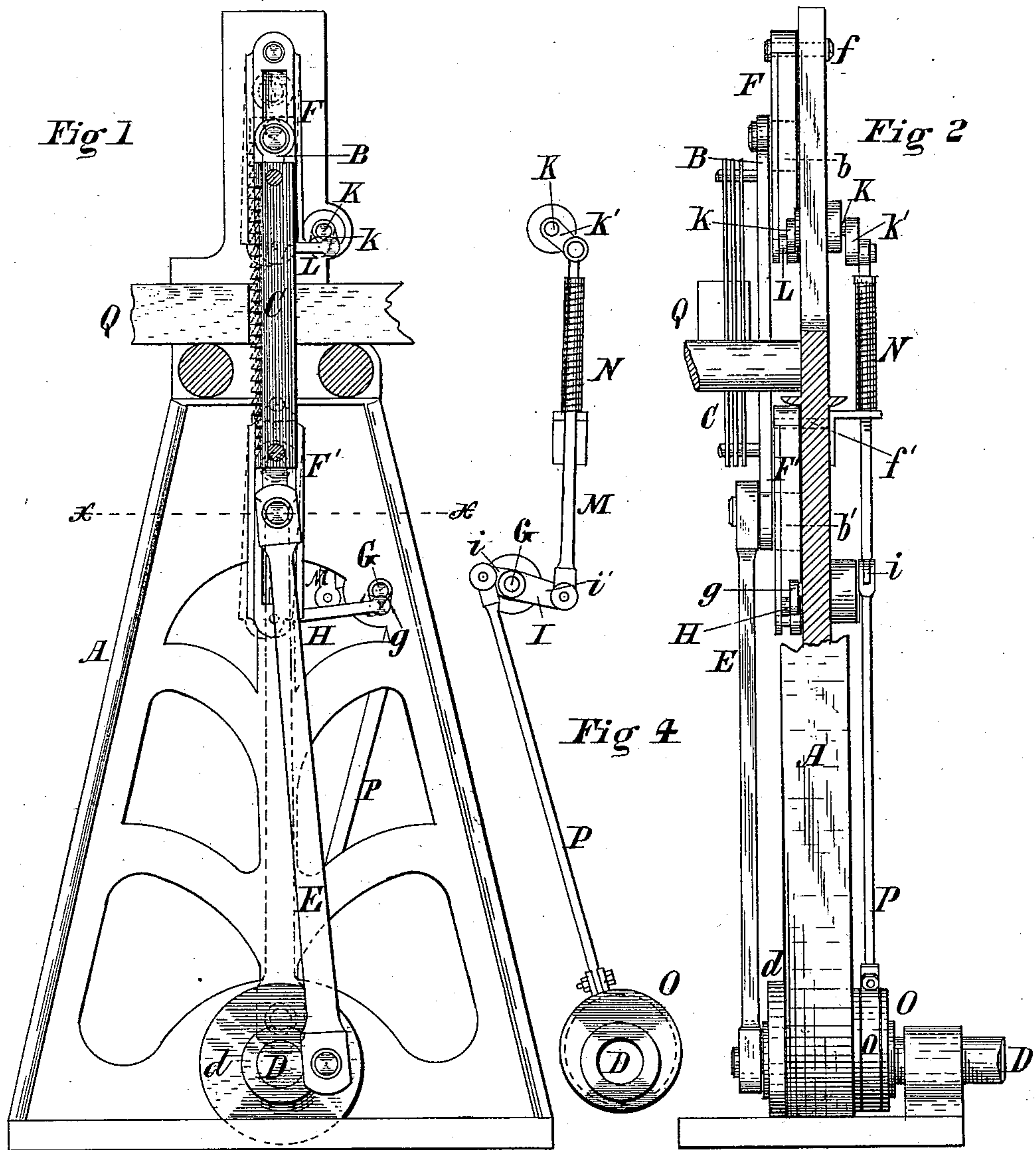


DeW. C. PRESCOTT.  
Reciprocating Saw-Mill.

No. 226,350.

Patented April 6, 1880.



Witnesses

W. C. Corlies  
Jno. C. MacGregor

Inventor

DeWitt C. Prescott

Fig 3

By

Coburn V. Shacher  
Attorneys



# UNITED STATES PATENT OFFICE.

DE WITT C. PRESCOTT, OF MARINETTE, WISCONSIN.

## RECIPROCATING-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 226,350, dated April 6, 1880.

Application filed January 26, 1880.

*To all whom it may concern:*

Be it known that I, DE WITT C. PRESCOTT, of Marinette, in the county of Marinette and State of Wisconsin, have invented a certain new and useful Improvement in Reciprocating-Saw Mills, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical section of a gang-saw frame with my improved oscillating mechanism applied thereto, the same being shown in full lines at the quarter on the upward stroke, and in dotted lines at the completion of the upward stroke; Fig. 2, a rear elevation of the same, a part of the frame being broken away; Fig. 3, a plan section on a large scale, taken on the line *x x*, Fig. 1; and Fig. 4, an elevation of the oscillating mechanism detached.

My present improvement is designed for saw-mills in which gang or muley saws are used, and relates to mechanism for producing a vibratory or oscillating movement of the saws for the purpose of clearing on the upward or idle stroke, being a modification of the invention for the same purpose shown in an application for patent heretofore filed by me.

The invention consists in special devices for oscillating the gate or sash, and combinations of devices, the construction and operation of which will be hereinafter more fully described, and the particular improvements pointed out definitely in the claims.

The object of this present improvement is to oscillate the gate or sash bodily, as in my prior application, and in contradistinction to the oscillating movement which has sometimes been given to one end of the sash, either upper or lower.

The main features of the mechanism are substantially the same as in my prior application filed January 12, 1880, and need not be minutely described in the present case.

In the drawings, A represents a portion of the main or gang frame in which the sash is mounted, only one side of the frame being shown, however. The sash or gate B is of any ordinary construction, one side only being shown in the drawings, this being sufficient to illustrate the construction and operation of my improvement.

In the sash saws C (one or more) are hung in the usual way. The main crank-shaft D is provided with a crank arm or wheel, *d*, to which the lower end of the pitman E is attached, being connected at its upper end to the sash, as usual.

Under the arrangement of the mechanism shown in the drawings the main shaft is revolved in a direction opposite to the feed. It may be turned, however, in the opposite direction, in which case the oscillating mechanism should be changed in location and arrangement to correspond.

The upper gang-slides, F, and the lower gang-slides, F', are hung on pivot-pins *f f'*, or other suitable hinge-connections, by means of which they are attached at their upper ends to the gang-frame, but are free to swing back and forth on their pivots.

The boxes *b b'* are attached respectively to the upper and lower ends of the sash, and are mounted in the gang-slides F F'.

A rock-shaft, G, is mounted in the gang-frame in rear of the lower end of the gang-slides F', and extends across the frame from side to side. On this rock-shaft, inside of the gang-frame, is a short crank-arm, *g*, depending from the shaft. The lower end of the crank-arm *g* is connected by a pitman, H, with the lower end of the gang-slide F', arranged horizontally, and in length about equal to the distance between the crank-arm and slide when both are vertical, preferably a little less. On the outer end of the same shaft G is a double crank arm, I, the arms *i i'* of which project on opposite sides of the shaft and are nearly at right angles to the crank-arm *g*.

A rock-shaft, K, similar to the shaft G, is also mounted in the gang-frame just in rear of the lower end of the upper gang-slides, F, being provided with a crank-arm, *k*, inside of the gang-frame, and a second crank-arm, *k'*, outside of the same. These two crank-arms correspond precisely in position and relative arrangement with the crank-arms *g* and *i'* on the lower rock-shaft.

A horizontal pitman or connecting-rod, L, connects the lower end of the crank-arm *k* with the free end of the upper gang-slide, F, corresponding in arrangement to the pitman H below.



Outside of the gang-frame the outer ends of the crank-arms *i' k'* are connected by a rod, M, whereby the vibration of one is communicated to the other, and this rod may be provided with a coiled spring, N, as shown in my prior application.

An eccentric, O, is fixed on the main crank-shaft outside of the gang-frame, around which is placed an ordinary eccentric strap, *o*. This strap is connected by a rod or pitman, P, to the end of the rear crank-arm, *i*, as shown in Fig. 4 of the drawings. The eccentric O is arranged about at right angles to the crank on the main shaft.

The log Q, on a suitable carriage, is fed forward to the saws by any ordinary feed mechanism. These parts of the mill are not shown in the drawings, however, as they constitute no part of my present invention, and their application will be readily understood by those skilled in the art.

In the drawings only one side of the gang-frame is shown. On the other side there is a duplicate set of oscillating devices, like those above described, except that there is no necessity for a second eccentric, the shaft G extending across from side to side and operating both sets by its oscillation.

The operation of this improvement is as follows: It is evident that the rotation of the eccentric with the main crank-shaft will oscillate the rock-shaft G by means of the pitman P and crank-arm *i*, and that a like oscillatory movement will be communicated from the shaft G to the shaft K by means of the crank-arms *i' k'* and the connecting-rod M, and that the oscillation of these two shafts will vibrate the gang-slides F and F' by means of the crank-arms *g k* and the pitmen H and L, and that this movement will be simultaneous and to the same degree.

Obviously the vibration of the gang-slides will move the sash backward and forward bodily, and the eccentric is so arranged with reference to the main crank that on the upward stroke the throw of the eccentric will move the sash rearward, but on the down-

ward stroke will move it forward. With this eccentric as the actuating device, the rearward movement of the sash and saws will begin a little before the limit of the downward stroke is reached, and the forward movement will begin a little before the upward stroke is completed; but the main movement of the sash and saws will be effected at the proper time to prevent dragging on the saw-teeth in their ascent while the feed is taking place, and to throw them forward again into proper position for the downward or working stroke.

In applying this improvement to actual use, the parts are so arranged that the customary rake or overhang is given to the saws. This may be accomplished in any well-known way, and it is not necessary to here describe any special means.

The improvement effects substantially the same result as is accomplished by the mechanism shown and described in my prior application—that is, the movement of the sash and saws bodily rearward and forward—thereby effecting a better clearance than if only one end of the sash is vibrated.

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

1. A reciprocating sash or gate, in combination with vibrating upper and lower gang-slides, crank rock-shafts G and K, connected, respectively, to the gang-slides, a connecting-rod uniting the two rock-shafts, an eccentric on the main shaft, and mechanism connecting the eccentric and rock-shafts, substantially as and for the purpose set forth.

2. The eccentric O, in combination with the pitman P, rock-shaft G, provided with cranks *g* and *I*, rock-shaft K, provided with cranks *k* and *k'*, connecting-rod M, pitmen H and L, vibrating gang-slides F and F', and reciprocating sash B, substantially as and for the purpose set forth.

DE WITT CLINTON PRESCOTT.

Witnesses:

GEO. H. CANNON,  
E. B. LEWIS.