

(No Model.)

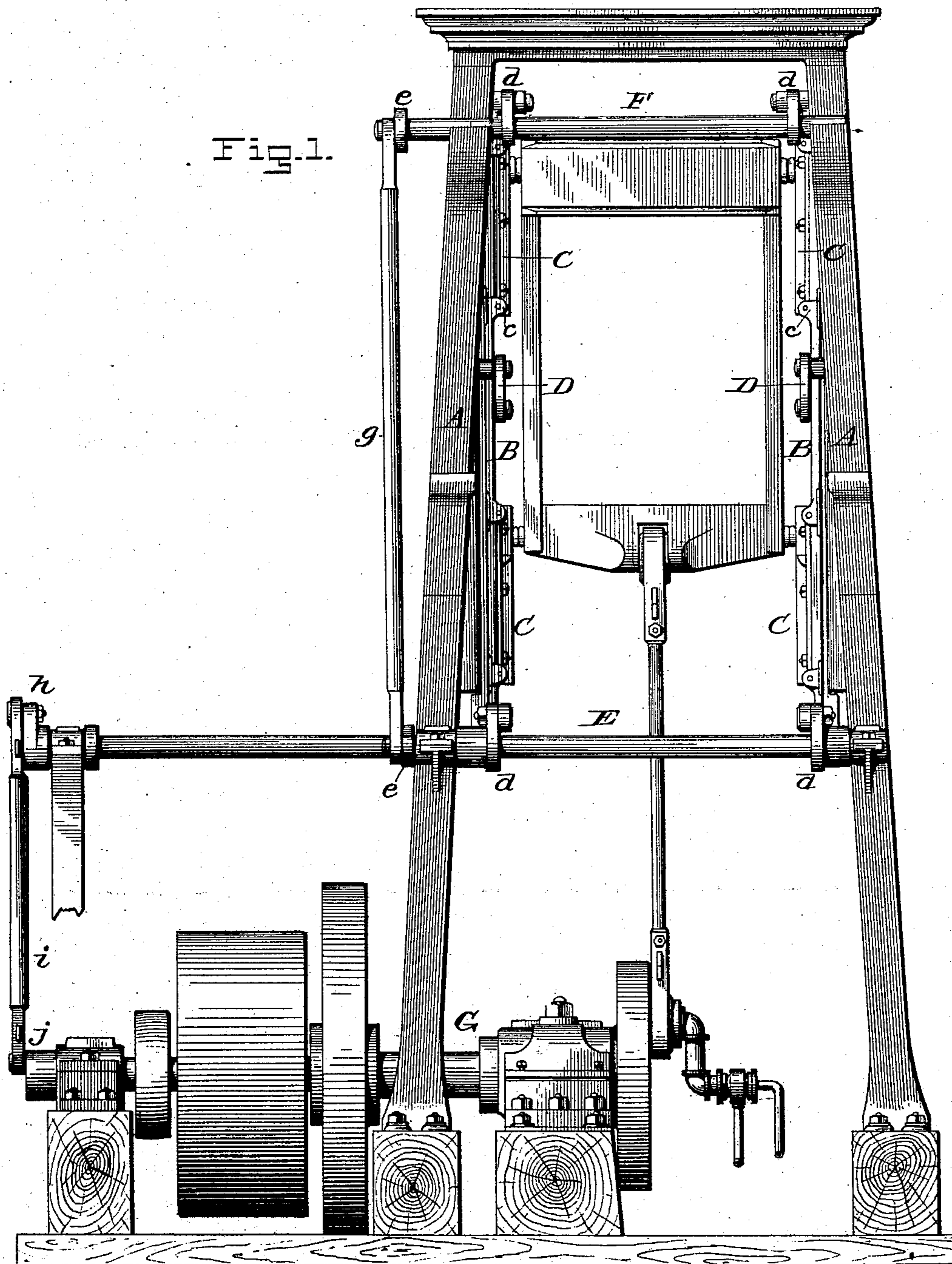
2 Sheets—Sheet 1.

T. S. WILKIN.

GANG SAW MILL.

No. 291,258.

Patented Jan. 1, 1884.



WITNESSES.

Jas. F. Duffanel
Walter S. Dodge.

INVENTOR:

Theodore S. Wilkin,
by Dodge & Son,
Attys

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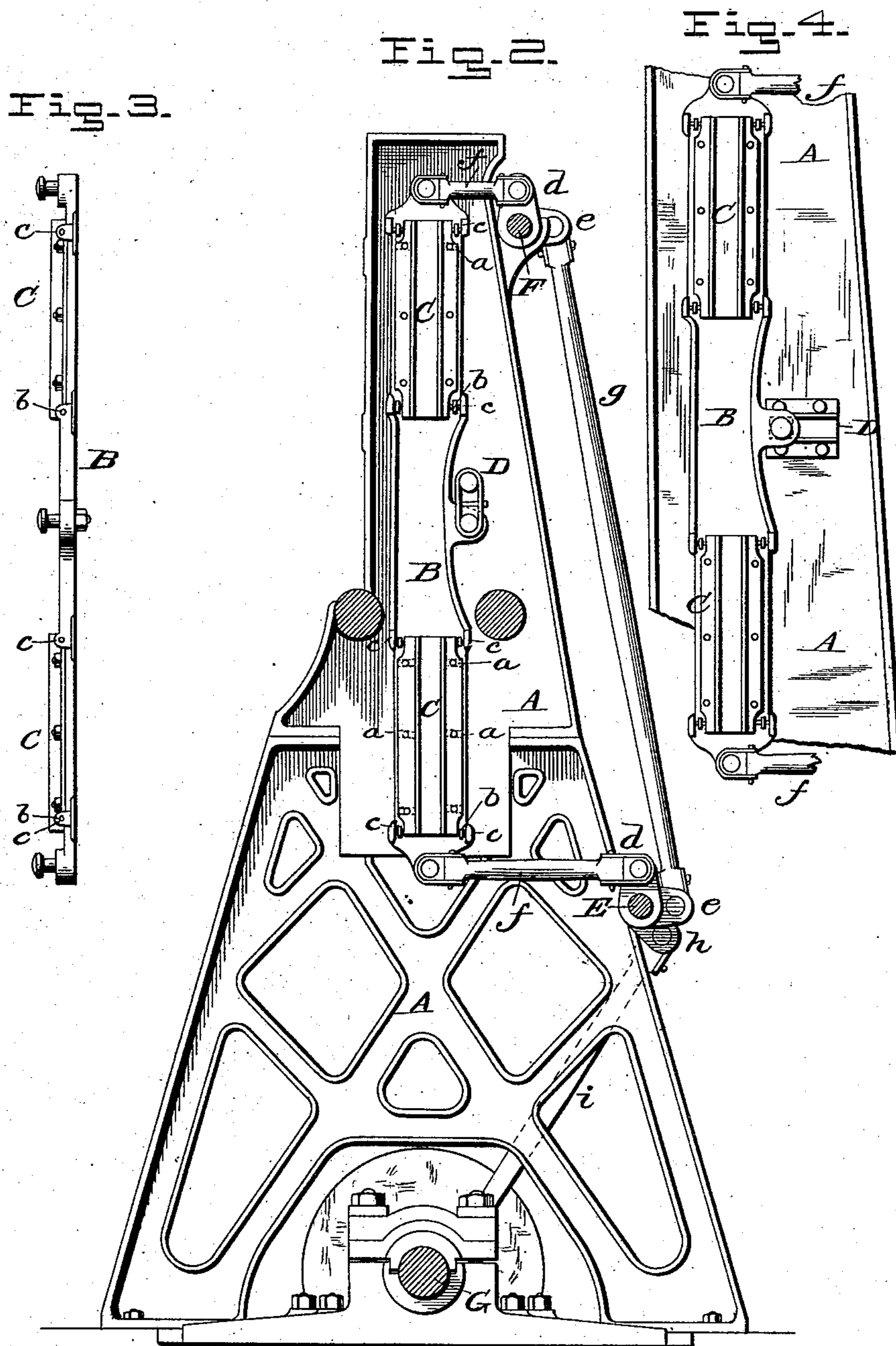
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UNITED STATES PATENT OFFICE.

THEODORE S. WILKIN, OF MILWAUKEE, WISCONSIN.

GANG-SAW MILL.

SPECIFICATION forming part of Letters Patent No. 291,258, dated January 1, 1884.

Application filed November 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, THEODORE S. WILKIN, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain Improvements in Gang-Saw Mills, of which the following is a specification.

My invention relates to gang-saw mills; and it consists in applying the sash-guides to vertical or upright bars, carried by links about midway between their upper and lower ends, and provided with means for moving them bodily forward and backward as the sash descends and ascends, as hereinafter more fully set forth.

In the annexed drawings, Figure 1 represents a front face view, and Fig. 2 a vertical sectional view taken through the frame from front to rear, with all parts removed except the sash-guides and the parts connected with or operating upon them; Fig. 3, an edge view of the swinging or rocking beam, and Fig. 4 a slight modification.

The purpose of this invention is to give to the sash carrying the saws an oscillatory forward movement during the descent of the sash, and backward during the rise thereof, the exact point of beginning and completing the oscillation in either direction being subject to variation, as desired, by setting the crank which effects the oscillation at any desired angle with the crank which gives motion to the sash, as under existing plans.

Referring again to the drawings, A represents the frame in which the mechanism is mounted, and B an upright bar or beam of metal, to the face of which are applied the guides C, in which the sash moves. The beam B is sustained by a short link, D, connected therewith at or about the mid-length of the beam, and pivoted at its opposite end to the side of the frame A, as shown. The guides C are bolted or otherwise secured to the face of beam B, preferably passing through elongated holes therein, as shown at *a*, so that the guides may be adjusted laterally, as required, adjusting-screw stems *b* being arranged to screw into the edges of the guide-plates and to bear against lugs *c* on the beam B to effect the desired adjustment and to prevent lateral play when adjusted.

In this, as in my former patents and in all

apparatus of this character, the guides and their carrying devices are duplicated—that is to say, there is a set at each side of the sash, as is manifestly necessary.

E indicates a horizontal shaft, carried in suitable boxes or bearings at the rear of the frame on or about on a line with the lower end of the swinging beams B; and F represents a similar shaft at the upper part of the frame, and in about the same relation to the upper end of the swinging beams that shaft E bears to their lower ends. The shafts each carry two radial arms, *d* and *e*, the former connected by rods or pitmen *f* with the ends of the swinging beam, and the latter connected with each other by a pitman, *g*, from which it follows that a rocking motion imparted to either shaft will cause the arms *d* *e* to move longitudinally in a substantially horizontal direction, carrying the beams B bodily forward and backward, the weight of the beam being supported and its two ends being maintained in proper relation by the links D, which swing forward and backward with the beams. The slight rise and fall of the beams, due to the curved path of the links, produce no appreciable effect upon the motions of the beams as produced by the rock-shaft and connections. In practice it is more convenient to impart the rocking motion primarily to the shaft E, because nearest to the main shaft G, from which motion is received, and to transmit such rocking motion to the upper shaft therefrom. If, however, it should be for any reason desired to reverse this arrangement, it may obviously be done without in any way departing from the spirit of my invention. For the purpose of thus rocking the shafts E F, I provide one of them—advisably shaft E—with a third arm, *h*, and connect said arm by a pitman, *i*, with a crank, *j*, on the main shaft G. As said shaft and crank rotate, the arm *h* is moved back and forth, the shafts E F are rocked, and the beams B are moved bodily forward and backward, causing the sash and its saws to gradually and uniformly advance in the direction of the cut during the operative stroke of the saws, and to recede and clear the face or bottom of the kerf during the return-stroke.

The exact location and point of attachment of links D is subject to variation, though it is

better to apply them about as shown, in order to equalize the strain and leverage on both the upper and lower actuating devices.

It is apparent that two or more links may be used for each beam, and that instead of employing suspending links the beams may be carried by lugs or blocks moving in horizontal guides, as in Fig. 4, the blocks and guides being formed or attached one upon or to the frame, and the other upon or to the beam, the only office of such device being to sustain the beam while being moved back and forth. A single rock-shaft and connecting-pitman could be used under this arrangement, though the two would be preferable, because avoiding any tendency to cramp or bind in the horizontal guides. The construction shown and described causes the sash to move with the same rake throughout its stroke.

Having thus described my invention, what I claim is—

1. In combination with a supporting-frame of a gang-saw mill, upright beams carrying the sash-guides, and adapted to move bodily backward and forward equally at their upper and lower ends, and means, substantially such as shown and described, for imparting such motion to the beams.

2. In combination with a supporting-frame, beams B, each carrying upper and lower guides, C, supporting-links D, pivoted to the main frame, and to the beams at a point between the upper and lower ends of the latter, main

shaft G, crank *j*, shafts E F, provided with arms *d e*, the former connected with the upper and lower ends of the beams and the latter connected with each other, and arm *h*, secured upon one of the shafts E F and connected with crank *j*, all substantially as shown and described.

3. The herein-described sash-oscillating mechanism for gang-saw mills, consisting of beams B, supporting-links D, pivoted to the main frame and to the beams between the upper and lower ends of the latter, horizontal shafts E F, arms *d*, secured upon said shafts and connected by pitmen *f* with the upper and lower ends of beams B, arms *e*, secured upon said shafts and connected by pitman *g* with each other, shaft G, provided with crank *j*, arm *h*, secured upon shaft E, and pitman *i*, connecting arm *h* and crank *j*, substantially as set forth.

4. In combination with guides C and beam B, one provided with elongated holes *a*, fastening-bolts passing through said holes and binding the parts together, and screw-stems C, bearing against one of said parts and screwing into the other, as shown, to adjust the guides upon the beams and to hold them where adjusted.

THEODORE S. WILKIN.

Witnesses:

WM. W. ALLIS,
THEODORE F. WAMBOLD.