

(No Model.)

3 Sheets—Sheet 1.

W. A. CAMPBELL.

GANG EDGER.

No. 312,250.

Patented Feb. 17, 1885.

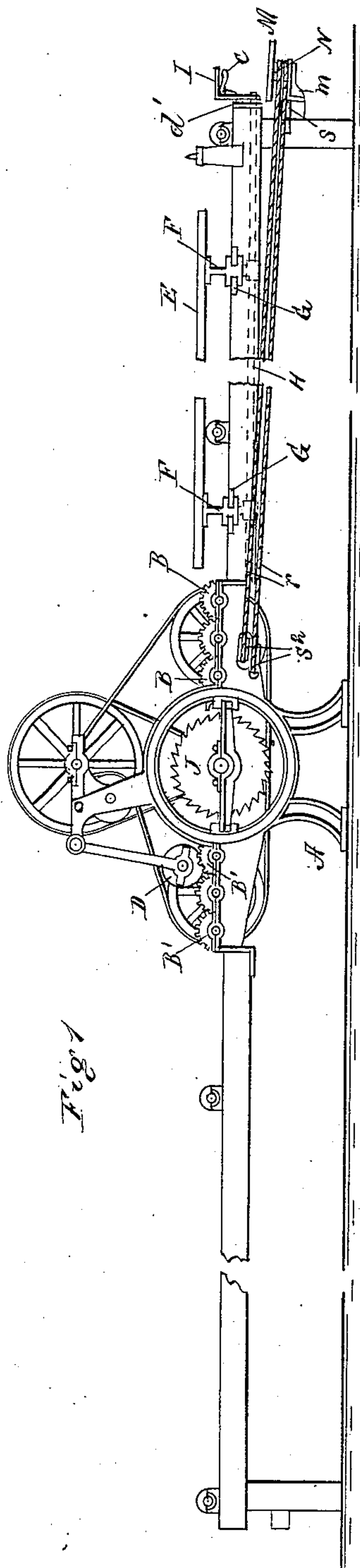


Fig. 1

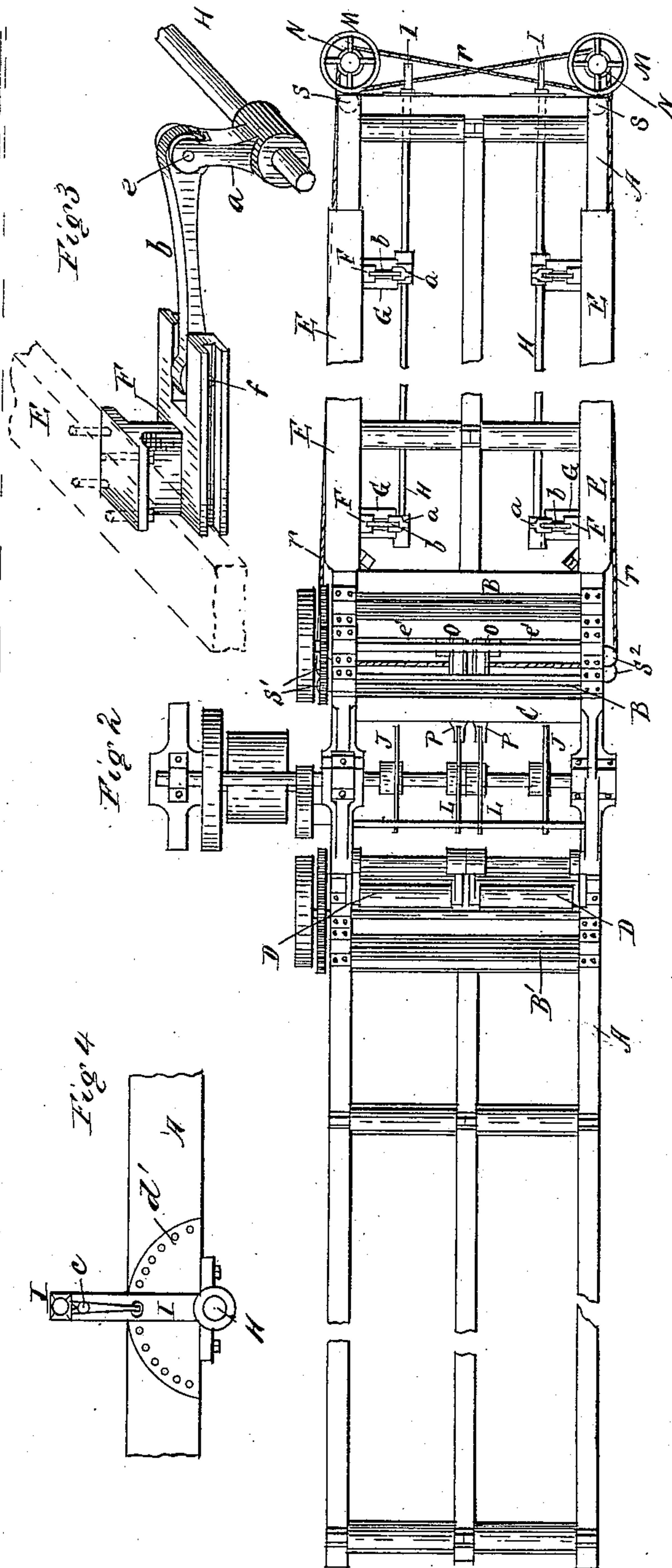


Fig. 2

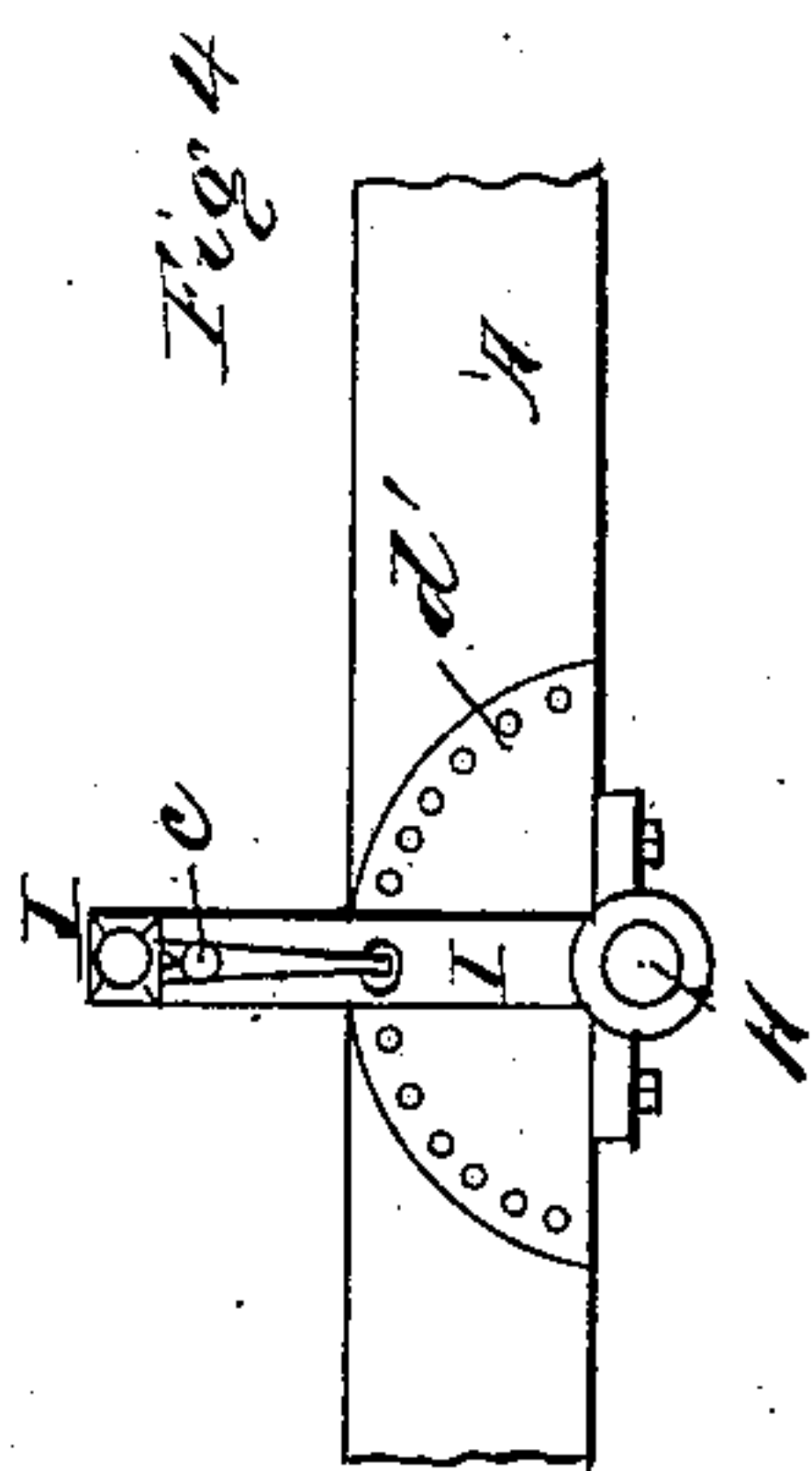


Fig. 3

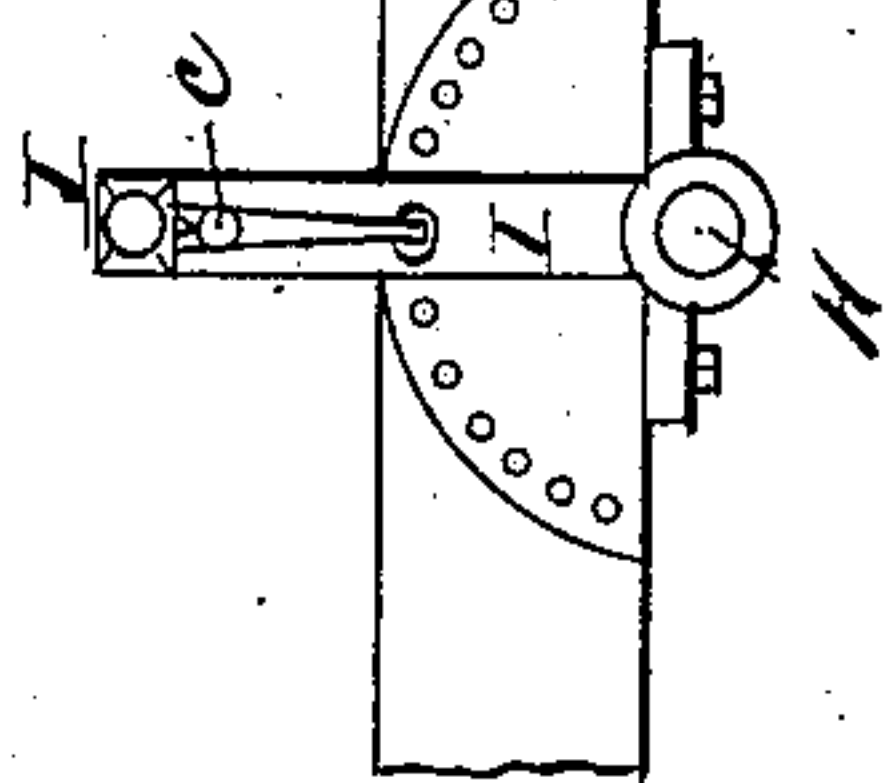


Fig. 4

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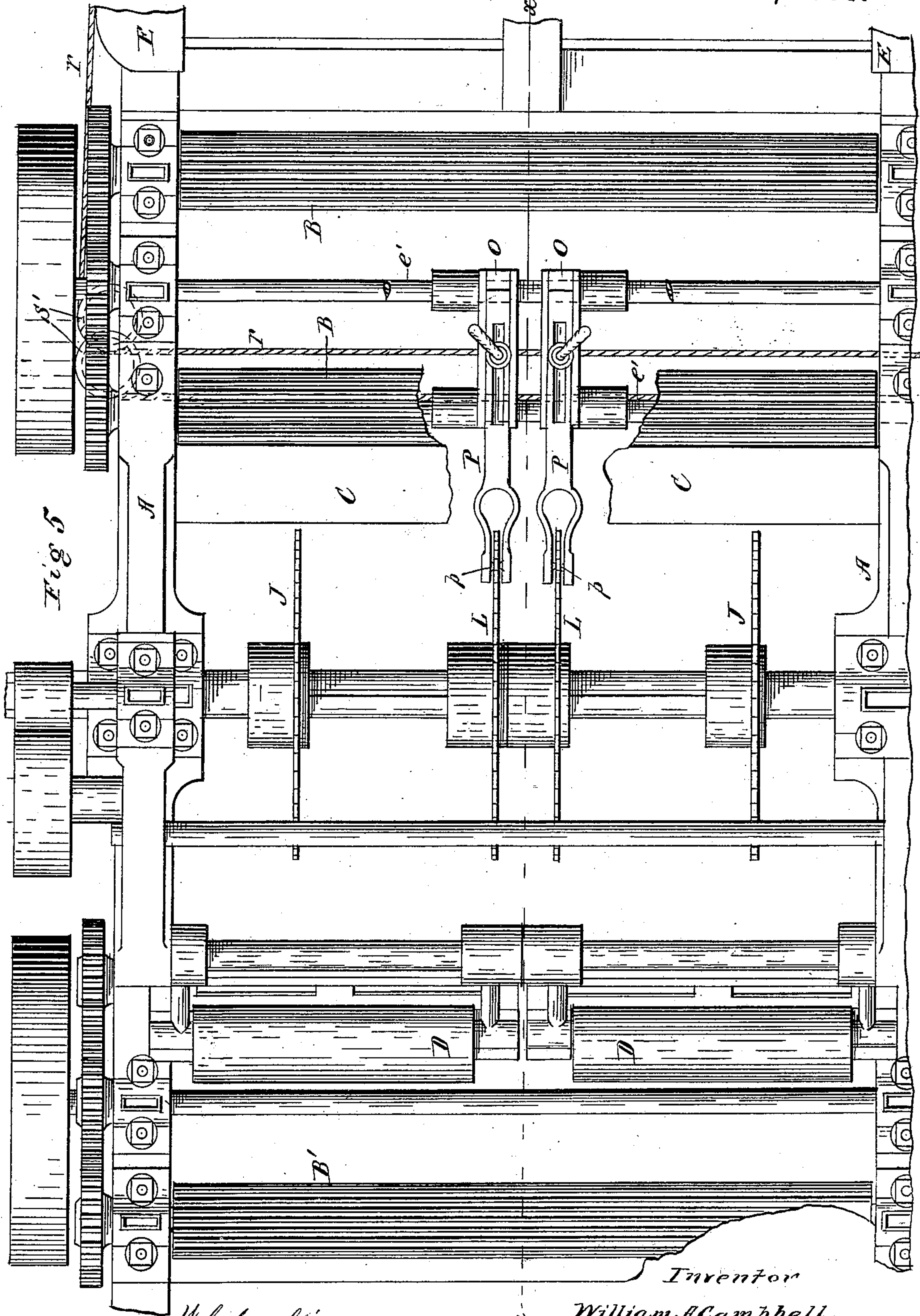
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(No Model.)

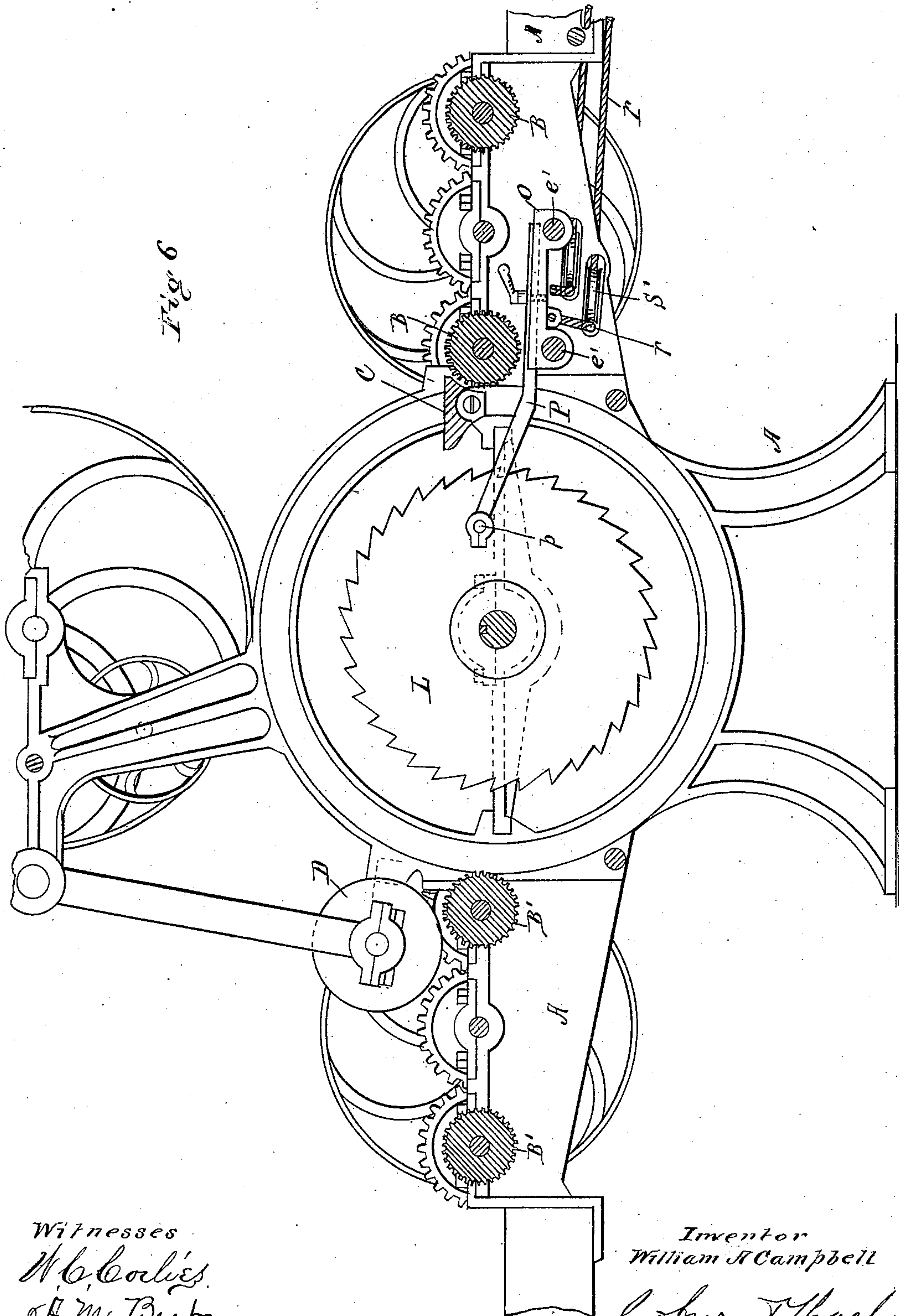
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# UNITED STATES PATENT OFFICE.

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## GANG-EDGER.

SPECIFICATION forming part of Letters Patent No. 312,250, dated February 17, 1885.

Application filed June 11, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. CAMPBELL, a citizen of the United States, residing at Marinette, in the county of Marinette and State of Wisconsin, have invented certain new and useful Improvements in Gang-Edgers, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a gang-edger containing my improvements. Fig. 2 is a plan view of the same. Fig. 3 is a perspective view of one of the guides and its operating mechanism. Fig. 4 is a detail end elevation showing device for moving and retaining the rock-shaft. Fig. 5 is a plan view on an enlarged scale, showing part of the mechanism for working the saws laterally. Fig. 6 is a sectional elevation on an enlarged scale, taken on line *x x*, Fig. 5.

My improvements relate to saw-mill machinery, and particularly to those parts by which the boards are evened and straight-edged, and which are known as "gang-edgers."

It is the object of my invention to provide mechanism for guiding the lumber through the machine in a perfectly straight line, to make rapid and perfect changes in the adjustment of the saws, and to provide guides which are adjustable to exactly correct positions with reference to the other mechanisms of the machine.

In a gang-edger containing my improvements, the frame A and general construction of the machine are of the customary form.

The guiding mechanism in the machines now in use consists of two fluted feed-rollers placed one immediately in front and one immediately behind the saws. By this arrangement all the support for the board comes so near to its longitudinal center that any unevenness or imperfection in the surface of the board is apt to turn it from a right line and cause the edges to be curved or bow shaped. To remedy this evil, I have provided the fluted rollers B B B' B', the bar C, and the weighted roller D. I place my fluted rollers B B B' B' at some distance from the saws in order to give an extended surface for the support of the board. Near to and in front of the saws, on the same level with the tops of the rollers

B B B' B', is the bar C, which receives the downward pressure of the board caused by the action of the saw. Beyond the saw is the pressure-roller D, which, resting upon the board, presses it down upon the fluted rollers B' B' and enables them to carry it along. By thus spreading out the supporting feed-rollers and using the bar C and roller D, I am enabled to straight-edge the board with small chance that any ordinary cause will make it deflect from a right line.

In all cases where one side of the board has been straight-edged, or when it is desired to cut the broad boards into narrow strips, it is found to be desirable to have a true guide running parallel to the blade of the saw, against which the board may be aligned. This obviates the necessity of using a large number of saws on the saw-mandrel. The alignment should be made by the guide with reference to the fixed saw situated on the same side of the machine as the guide. These guides have long been used and are made wholly of wood, or of wood with an iron facing. The mechanisms for working them in and out toward and from the center of the table have been faulty and inadequate, and I have therefore constructed the following-described mechanisms, which give a true, rapid, and adequate movement to them.

The guides E E are securely fastened, by bolts or otherwise, to the blocks F F. These blocks run on the guides G G, which are at right angles and fastened to the rails at the top of the sides of the machine. The guides are also fastened to the rock-shaft H by the cranks *a a* and links *b b*. The rock-shaft H is provided at its outer end, next the operator, with a crank, I, securely keyed to it, by which it can be turned. There is a spring-pawl, *c*, attached to the crank, which engages with slots or holes in the quadrant *d'*, and holds the crank in any desired position. As the cranks *a a* are keyed securely to the rock-shaft H, and the links *b b* are pivoted or hinged to the cranks *a a* and the blocks F F by the bolts *e e* and *f f*, it is only necessary to move the crank I in order to give a corresponding movement to the guides E E, and by means of the pawl *c* and quadrant *d'* the crank and consequently the guides E E are retained in the de-



sired position. I make no claim, however, in this application to the guide mechanism above described, but reserve the right to claim the same in a separate application. Where nei-  
 5 ther side of the board has been straight-edged, it is necessary to move one or more of the saws which are attached to the saw-mandrel in order to properly edge the board and cut it into the desired widths.

10 In the accompanying drawings four saws are shown, two of which, J J, are securely fastened to the saw-mandrel, and two, L L, are attached by a spline and groove or other suitable device, so that they are laterally mov-  
 15 able on the mandrel. It is manifestly desirable that these saws should be provided with some device for moving them, whereby any movement of the parts in the hands of the operator will be immediately and directly  
 20 communicated to the saws. In the particular just spoken of all the gang-edgers are sadly deficient; but I have provided the following-described devices, which fully supply the requirements of the case.

25 M is a hand-wheel attached to the end of the frame by the suitable brackets, *m m*, and under this hand-wheel, and attached to its spindle is the drum M.

Running on the parallel rods *e' e'*, in front  
 30 of the saws, is the sliding cross-head O. Attached to the cross-head is the armed guide P. This guide is of iron, and shaped much like an old-fashioned tuning-fork, one prong passing on either side of the saw, and the  
 35 prongs provided with wooden pins *p p*, which fit in holes drilled near the ends of the prongs. These pins come against the saw-face on either side, and when the sliding cross-head is moved carry the saw along with it. Fastened to the  
 40 sliding cross-head is the wire rope *r*. This rope runs on the sheave S in the side of the frame, and, passing around the drum N and the sheaves S' and S<sup>2</sup>, comes back to the sliding cross-head O from the other side, and af-

ter being drawn tight is fastened to it. Thus 45 I have the endless rope *r* forming a tight band, which passes around the drum N and runs on the sheaves S, S', and S<sup>2</sup>, and to which is attached the sliding cross-head O. If the hand-wheel M is turned, the drum N, which is rig- 50 idly attached to its spindle, is turned also, and obviously a corresponding rapid and certain motion is communicated through the sliding cross-head O to the saw L. There is no lost motion or slack to be recovered. By 55 the above-described mechanism I can give a rapid and certain movement to the sliding saws.

Although I have shown but two sliding saws on the saw-mandrel in my drawings, still 60 any practical number may be used, and all operated as above.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 65

1. In a gang-edger, the combination, with the main frame, of two feed-rolls in front of the saws, two feed-rolls behind the saws, a work-supporting bar between the front feed-rolls and the saws, and a weighted presser- 70 roll above the rear feed-rolls, substantially as shown and described, and for the purpose specified.

2. In a gang-edger, the combination, with a saw splined on its mandrel, of a forked guide 75 embracing the same and secured to a cross-head mounted on suitable ways substantially parallel with the saw-mandrel, and a wire rope secured to the cross-head and passing over a sheave at each end of the ways, over 80 suitable guiding-sheaves, and around a drum operated by a hand-wheel, substantially as and for the purpose specified.

WM. A. CAMPBELL.

Witnesses:

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