3 Sheets—Sheet 1.

C. BLIVEN.

PLANING AND SAWING MACHINES.

No. 184,136. Patented Nov 7, 1876.

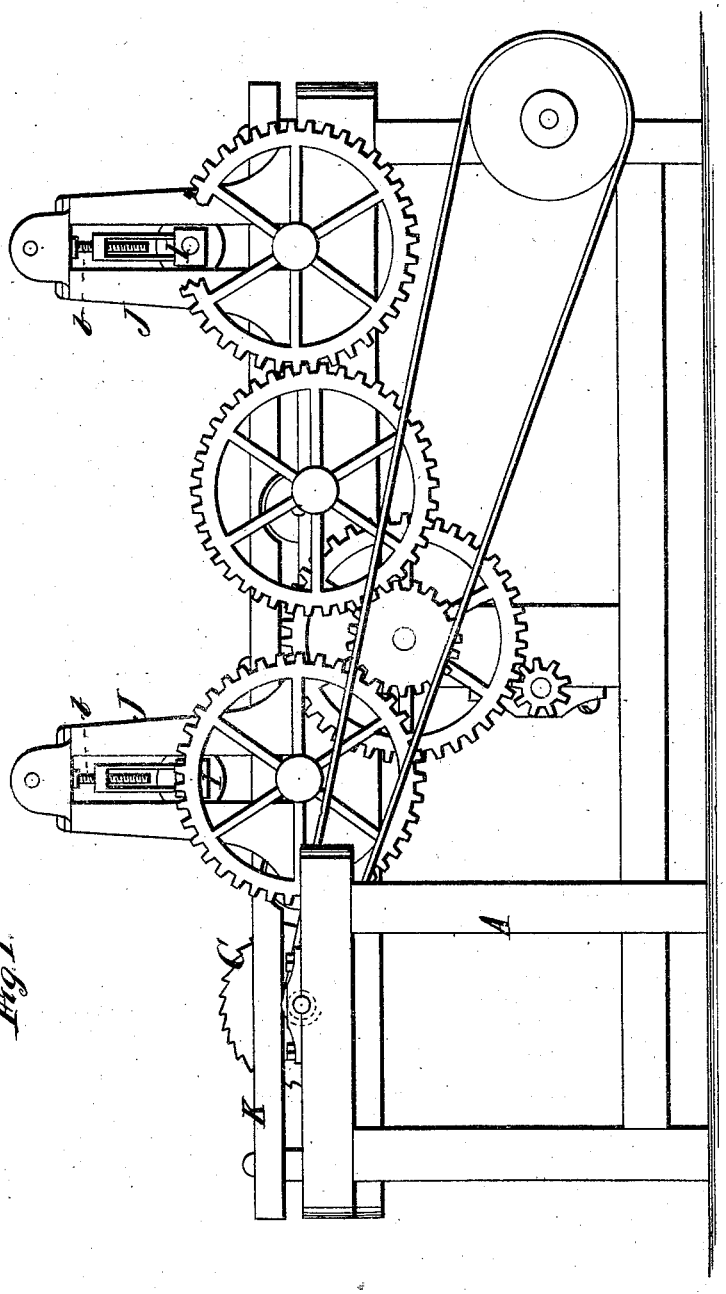

Fig 1.

WITNESSES

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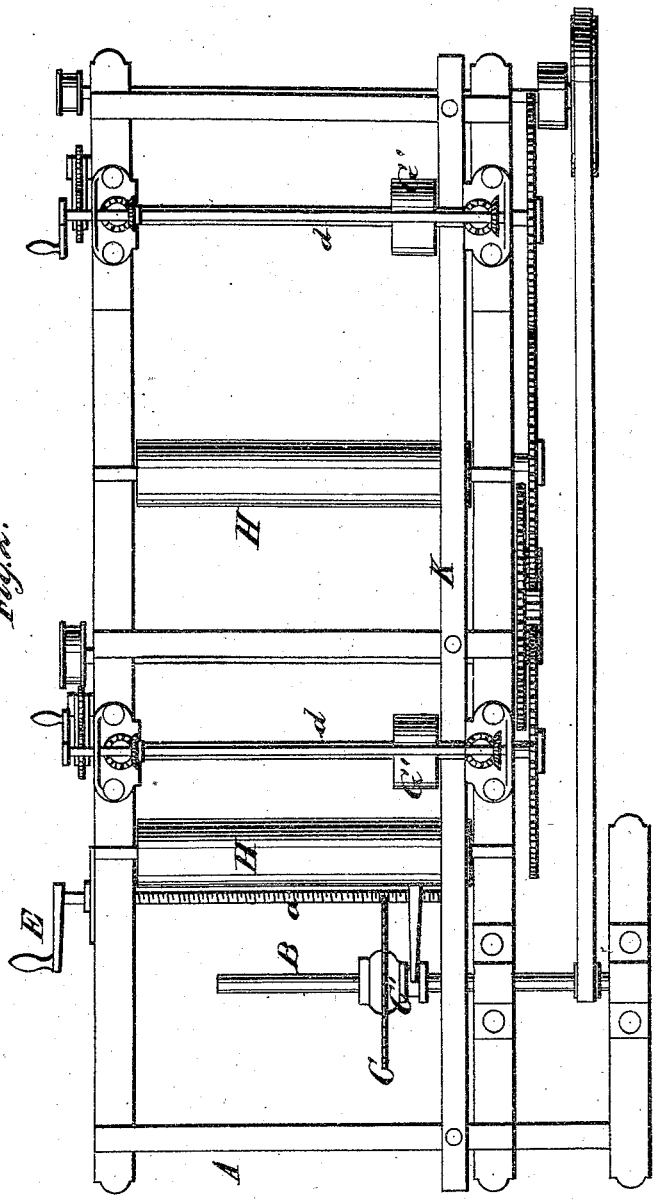
Fig. 2.



WITNESSES

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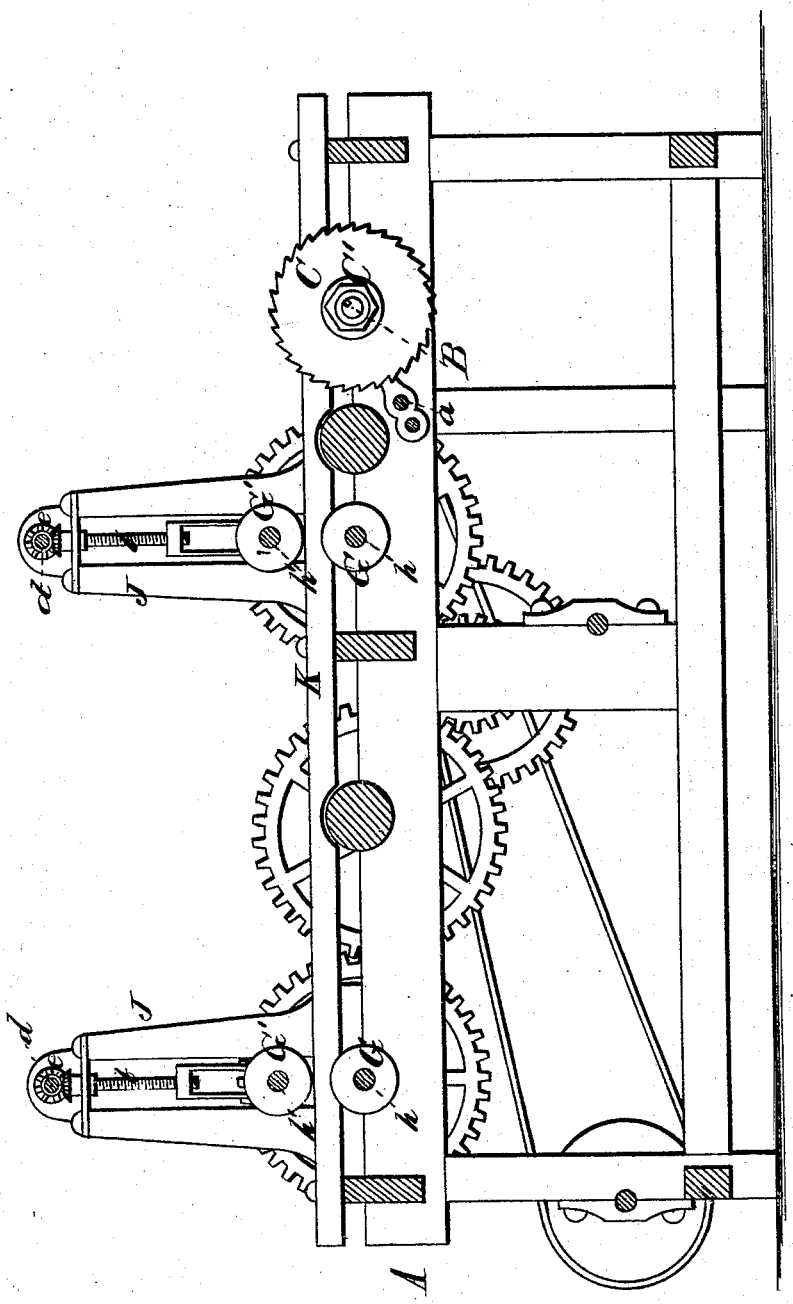

Fig. 3.

WITNESSES

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George E. Upham.

INVENTOR,

Charles Bliven.

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES BLIVEN, OF NORFOLK, VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO WILLIAM B. ROGERS, OF SAME PLACE.

IMPROVEMENT IN PLANING AND SAWING MACHINES.

Specification forming part of Letters Patent No. **184,136**, dated November 7, 1876; application filed April 19, 1876.

To all whom it may concern:

Be it known that I, CHARLES BLIVEN, of Norfolk, in the county of Norfolk and State of Virginia, have invented a new and valuable Improvement in Planing and Sawing Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my saw attachment for planes, and Fig. 2 is a plan view of the same. Fig. 3 is a longitudinal vertical sectional view thereof.

The nature of my invention consists in the construction and arrangement of a saw attachment for planing-machines, as will be hereinafter more fully set forth.

In the annexed drawings, A represents the frame-work of my machine, at one end of which, in suitable bearings, is placed the horizontal saw-arbor B. C is the saw, provided with a hub, C′, which is feathered on the arbor B and moved laterally on the same, so as to cut any required width of lumber, and is to be set to correspond with the movable cutter-heads on the planing-machine. The saw is adjusted by means of a shaft, *a*, passing through the sides of the frame A, and having a crank, E, at one end. A portion of this shaft is threaded and passes through one end of an arm, D, the other end of which is forked and straddles the saw-hub in a circumferential groove thereon. The lumber being sawed passes over a bed of rollers, H, and between two feed-rollers, G G′. The lower roller G has stationary journal-bearings, while the journals of the upper roller G′ have their bearings in boxes I I, movable up and down in slotted standards J J. These boxes are adjusted by means of vertical screws *b b*, which are connected by gears *e e* with a shaft, *d*, so that, by turning said shaft, the two boxes will be raised or lowered simultaneously, to adjust the roller G′ to the lumber. The rollers G G′ are both turned down for a certain portion of their length; or it may be considered that they are simply shafts, with a narrow roller fastened on each, and as such I will hereafter designate them, the shafts being lettered *h h′*. It will thus be seen that the larger parts or rollers only act upon the board being sawed off to feed the same, but this action propels the whole piece along until the saw has made its cut, the uncut portion passing freely between the two shafts *h h′*. Then the left-hand piece or uncut part is drawn back and placed in position against the guide K to make the second cut, while the cut board is fed straight along into the planing-machine. Two sets of these feed-rollers are used, as shown.

The various rollers are connected together and operated by gearing, which should be so arranged that the feed-rollers will make two revolutions while those on the planing-machine make but one, which takes the second piece along fast enough to catch the piece preceding it.

By this attachment to a planing-machine, the labor of two men can be saved, and the planing-machine will perform more work than it can do without this attachment.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the saw-arbor and adjustable circular saw, of the feed-rollers G G′, constructed as described, to catch the cut piece and give the uncut piece room to pass freely through, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES BLIVEN.

Witnesses:

JOHN F. ACKER, Jr.,

C. H. MCEWEN.