

(No Model.)

C. E. CLEVELAND.
AUTOMATIC LUMBER TRIMMER.

No. 436,402.

Patented Sept. 16, 1890.

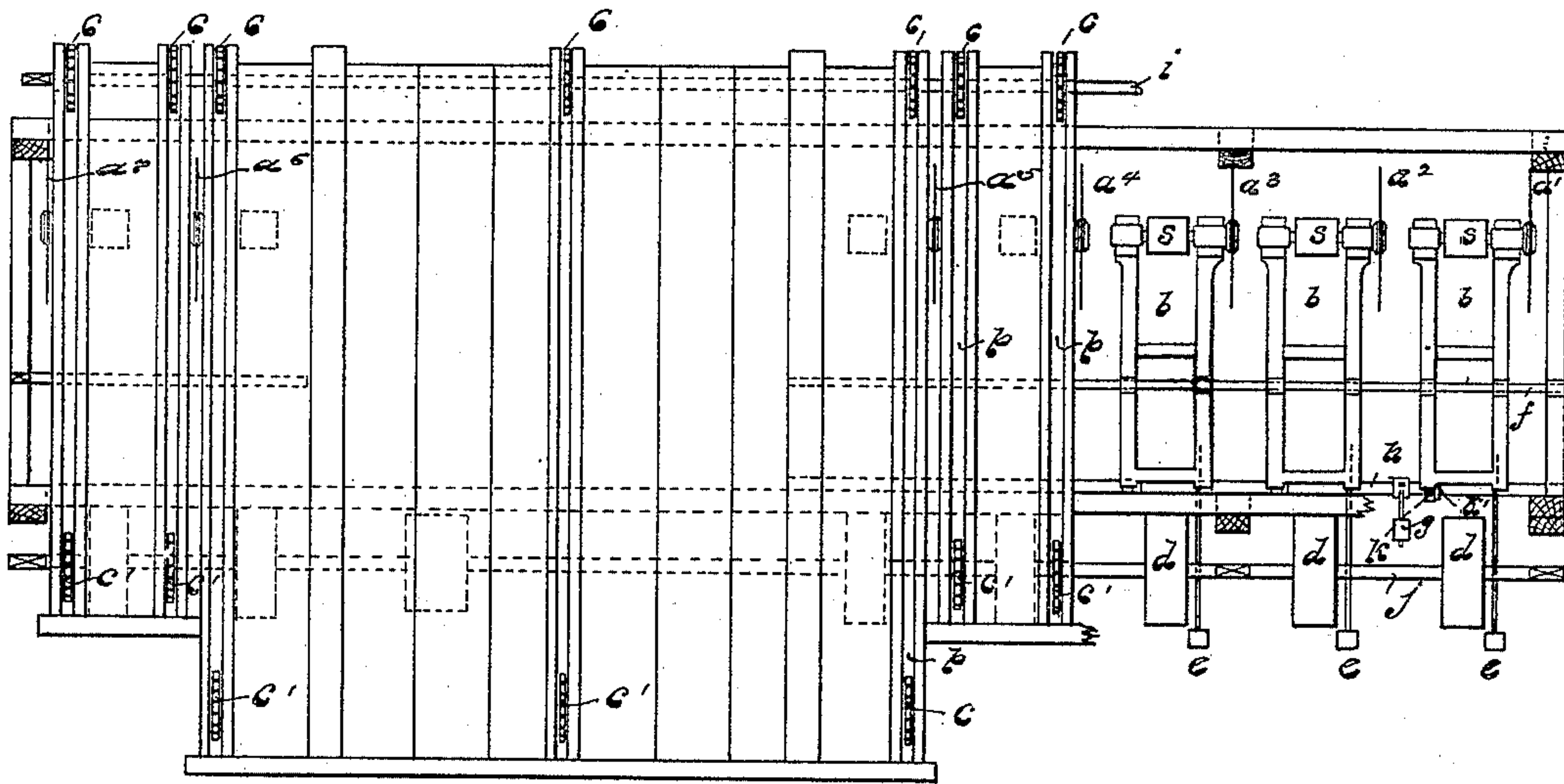


Fig 1

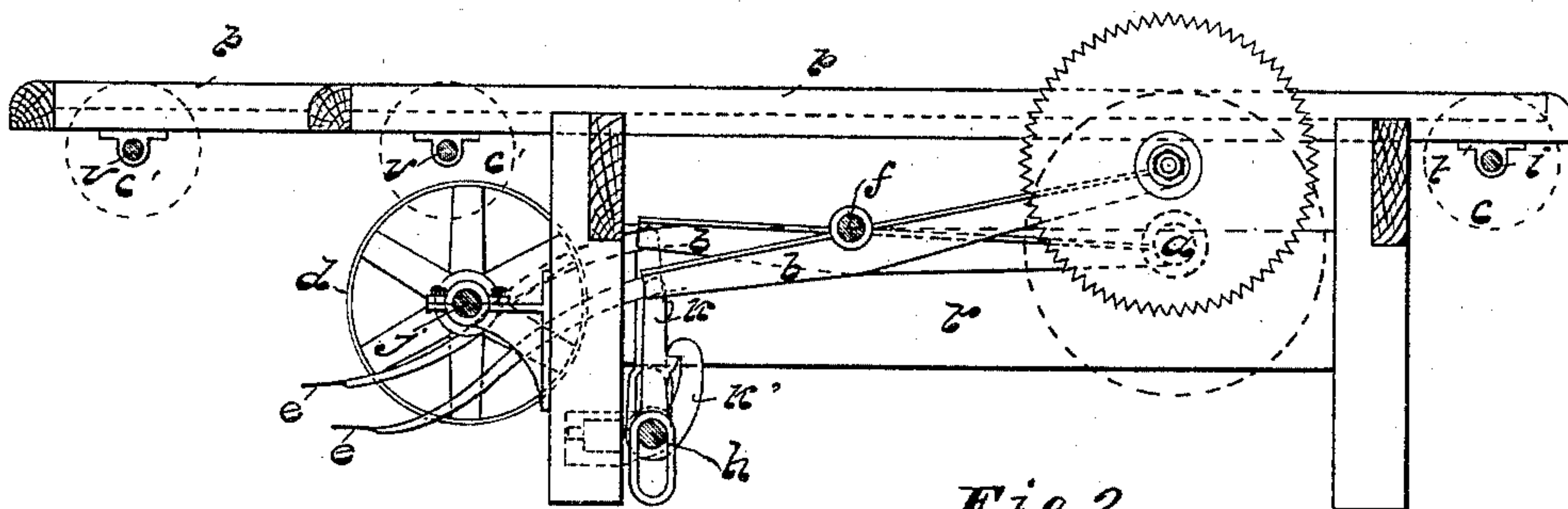


Fig 2

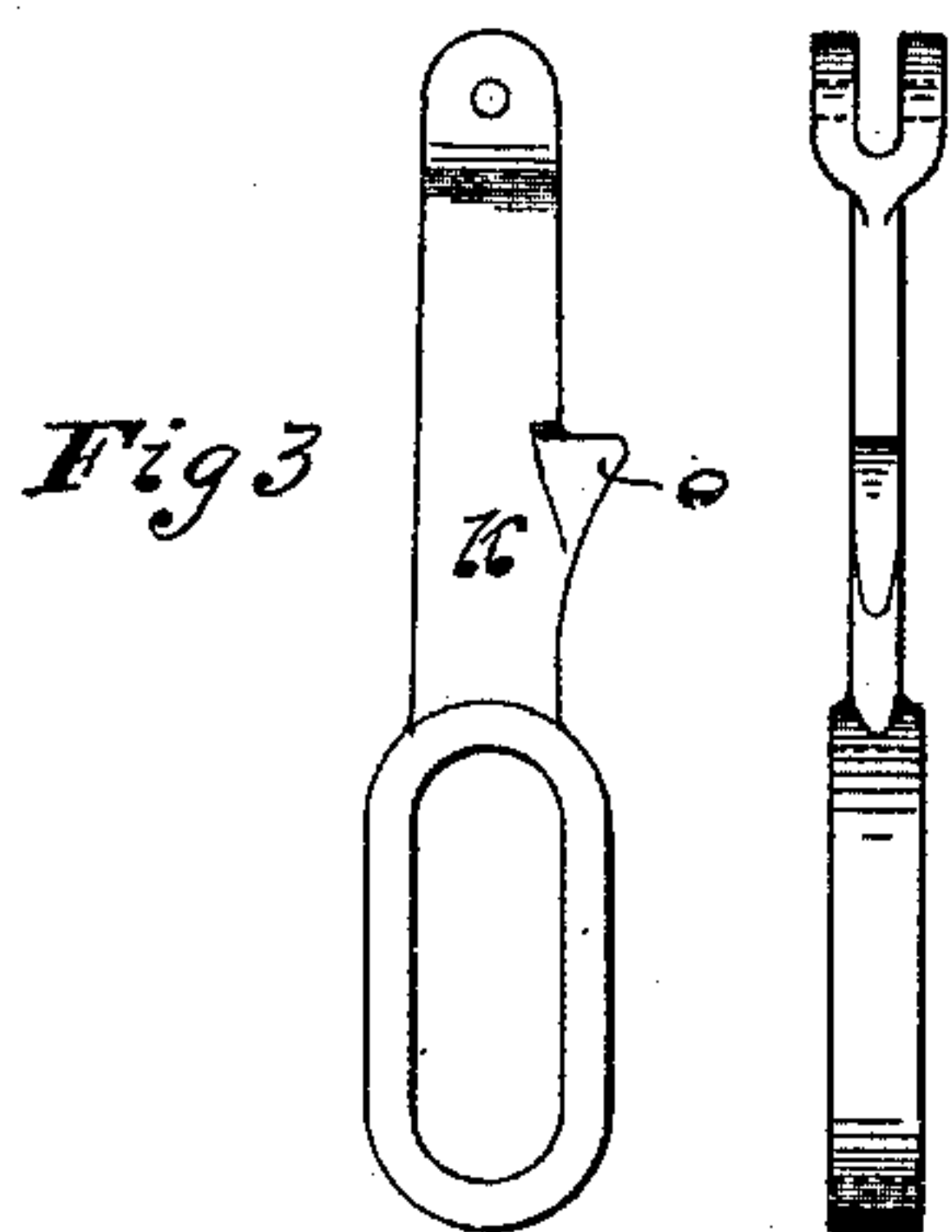


Fig 3

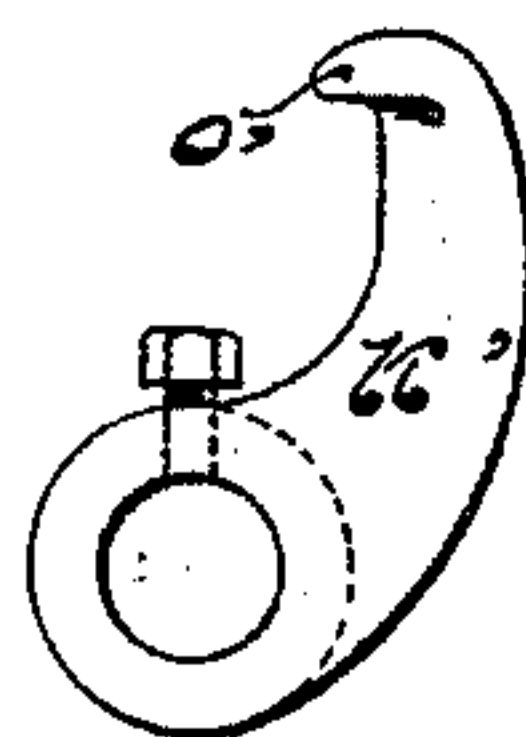


Fig 4

Witnesses:
Geo. Hildings,
C. H. Delroot.

Inventor.
Chas E. Cleveland.
By
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES E. CLEVELAND, OF FOND DU LAC, WISCONSIN.

AUTOMATIC LUMBER-TRIMMER.

SPECIFICATION forming part of Letters Patent No. 436,402, dated September 16, 1890.

Application filed May 13, 1890. Serial No. 351,636. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. CLEVELAND, a citizen of the United States, residing at Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Automatic Lumber-Trimmers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to that class of lumber-trimmers called "automatic," in which the raising of one of a series of saws causes one or more saws that may have already been raised to drop below the surface of the sawtable, as more fully hereinafter set forth.

The object of the present improvement is to provide a more simple and durable machine for the purpose above designated than heretofore used, and one which will trim both ends of lumber at one time and of any desired length, the saws being hung in tilting frames in such manner that raising one saw causes another or others to be simultaneously depressed. These objects I attain by the mechanism illustrated in the drawings, in which—

Figure 1 is a plan view of a seven-saw machine, the top or cover being partly broken away. Fig. 2 is an end view of the same, and Figs. 3 and 4 are details on an enlarged scale.

y, Fig. 2, denotes the frame, upon which are mounted the chain-races *p* and the tilting frame *b*, the driving-shaft *j*, and other parts of the machine.

Upon the shaft *f* are mounted the ordinary tilting frames *b*, carrying the saws *a'* *a*⁶, which are elevated by the foot-levers *e*. To each of these tilting frames *b* is fastened a catch-bar *k*, Fig. 3, and said bar is provided with a projection *o*. These projections cause the saw to be held in position when elevated for use, and they also disengage other saws and allow them to drop below the surface of the top, as will be hereinafter explained. Said bars *k* are slotted, as shown, and through the slots is inserted the rock-shaft *h*, said shaft being supported in suitable bearings in the frame *y* and counterbalanced by a weight *g*.

k', Fig. 4, is a catch-hook fastened by means of set-screws *m* to the rock-shaft *h*. This hook

has a lip or projection *o'* to engage projection *o* on *k*.

i is a feed-shaft supported in suitable bearings *t*. It is made to revolve in any ordinary manner. *C* are sprocket-wheels fastened to said shaft *i*.

C' are sprocket-wheels mounted loosely upon short studs or bearings *v*.

The saws *a'* *a*², &c., receive motion from pulleys *d*. These saws are separated into two groups—one for each end of the lumber. In the present instance two saws are arranged at the left—one *a'* fixed and the other *a*⁶ carried on a tilting frame—for trimming at that end and five at the other. These numbers may be varied, and also the particular distances of the saws from each other. It will be understood that each lip or projection *o'* is held in the path of a projection *o*, and that when a lever *e* is depressed the latter projection and the bar *k* corresponding to said lever descend, bringing projection *o* upon lip *o'* in such manner as to rock the shaft *h*, thereby raising the counterbalancing-weight *g*. This rocking of shaft *h* moves all the hooks *k'* and releases any that may have been previously engaged with a projection *o*; but in the case of the depressed lever and the bar the projection *o* simply moves lip *o'* out of its path until it passes down by it, whereupon the counter-weight *g* rocks the shaft back and throws lip *o'* over projection *o*, and thus the corresponding saw is held by it until it is released by another movement of the rock-shaft.

The operation of my improvement is as follows: Let it be assumed that the saws *a'* and *a*⁶ are set two feet apart, and that saws *a*⁶ and *a*⁵ are ten feet apart, and that saws *a*⁵, *a*⁴, *a*³, *a*², and *a'* are two feet apart, respectively, and let it be understood that saw *a* is elevated to trim a twelve-foot board. A board of sufficient length having been placed across the chain-races and carried forward by means of chain-carriers running over the sprocket-wheels *C* and *C'* and into contact with the saws *a'* and *a*⁵, both ends of the board will be cut, and the trimmed board will be exactly twelve feet in length. If, now, it is desired to trim both ends of a sixteen-foot board, it is placed upon the machine as before, and the operator depresses the lever *C*, which

causes saw a^3 to be elevated at the same instant saw a^5 is depressed by projection o of the bar k in its downward movement knocking against the lip o' on the catch-hook k , forcing it back and rocking the shaft h , thus releasing the tilting frame carrying saw a^5 and allowing it to drop by gravity below the surface of the chain-races and out of the way.

I am aware that saws have before been arranged and connected so that the raising of one would release another and permit it to fall below the lumber-table, and such machine is not of the present invention. In my improvement each saw is mounted in a frame to which the treadle is directly connected, the whole forming a simple lever by which the saw, when released, is carried below the table-surface without the aid of a spring or weights.

My latches and releasing devices have a novel form and are arranged on a rocking shaft, thus obviating the necessity of endwise movement of a latch-bar, and I have provided adjustable or alternative saws for cutting both ends of the lumber, and also my slotted catch-bars which embrace the rock-shaft positively limit the movements of the lever-frames in both directions, and by these means I have simplified this class of machines, while at the same time their efficiency has been increased.

Modifications may be made in the details of construction which have not been described above, and are shown in the drawings, without losing the characteristics of my invention. Hence I do not wish to be understood as limiting myself to the precise construction herein shown in all details.

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

1. In a lumber-trimming machine, the com-

bination of saw-supporting frames provided with depending slotted catch-bars having lips or projections with the rock-shaft having fixed thereto hooks with projections arranged in the paths of the lips, substantially as set forth.

2. In a lumber-trimming machine, the combination of saw-supporting frames provided with depending slotted catch-bars having lips or projections with the rock-shaft having fixed thereto adjustable hooks with projections arranged in the paths of the lips, substantially as set forth.

3. In a lumber-trimming machine, the combination of saw-supporting frames having depending catch-bars with the rock-shaft, the bars being provided with slots that embrace the shaft, whereby the upward and downward movements of the frames are limited by the engagement of the walls of the slot with the shaft, substantially as set forth.

4. In a lumber-trimming machine, the combination of the main frame having a table with a permanently-arranged saw a^7 at one end, a pivoted or fulcrumed lever-frame adjustably supporting a saw at the same end, and with other like frames supporting saws at the other end of the table, and treadles adapted to raise directly any adjustable saw to working position, whereby the lumber is constantly trimmed at one end and may be also, optionally, again trimmed at either end, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. CLEVELAND.

Witnesses:

WM. McDERMOTT,
W. H. BRYANT.