

No. 878,475.

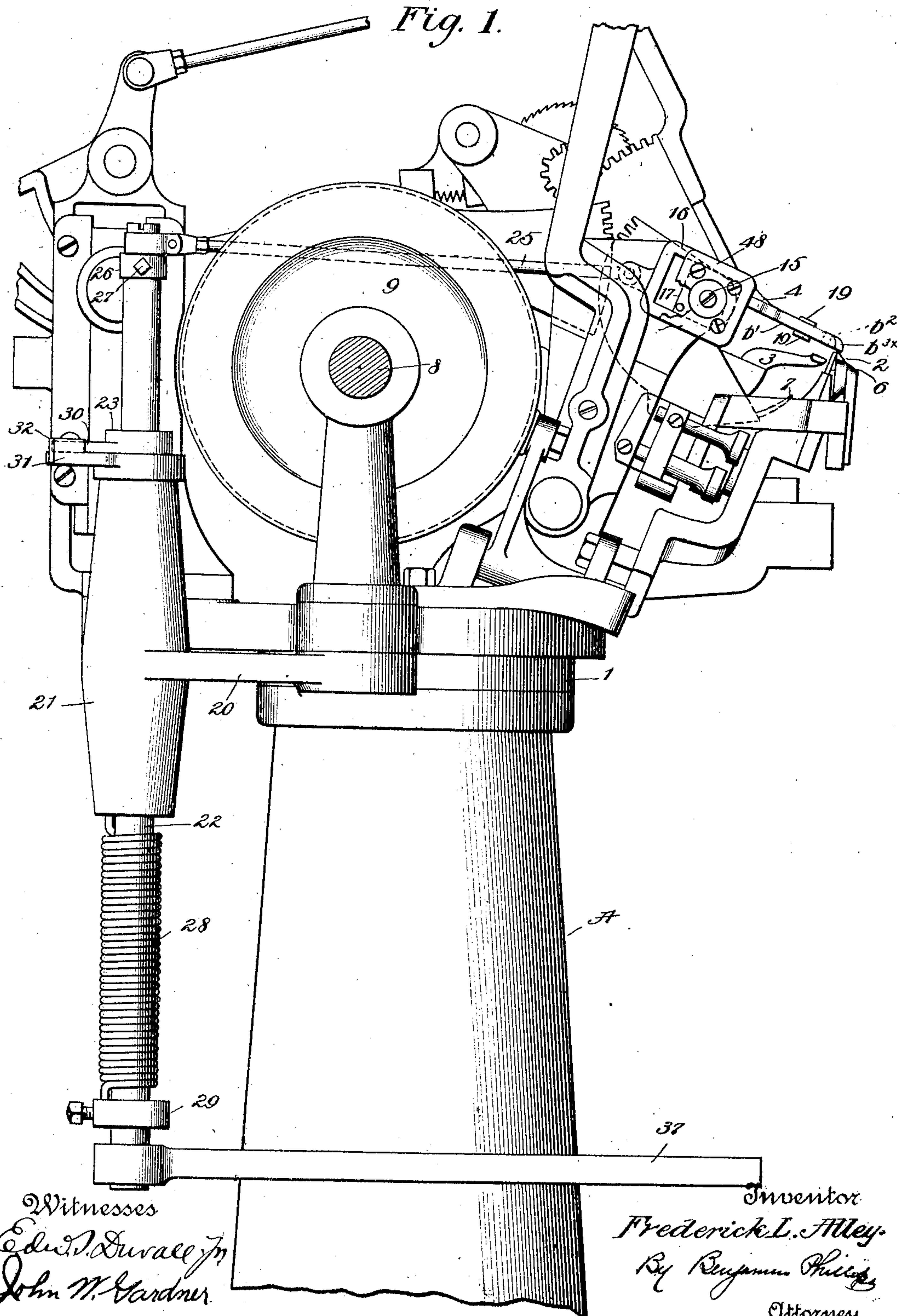
PATENTED FEB. 4, 1908.

F. L. ALLEY.

ROUGH ROUNDING AND CHANNELING MACHINE.

APPLICATION FILED NOV. 6, 1895.

3 SHEETS—SHEET 1.



Witnesses  
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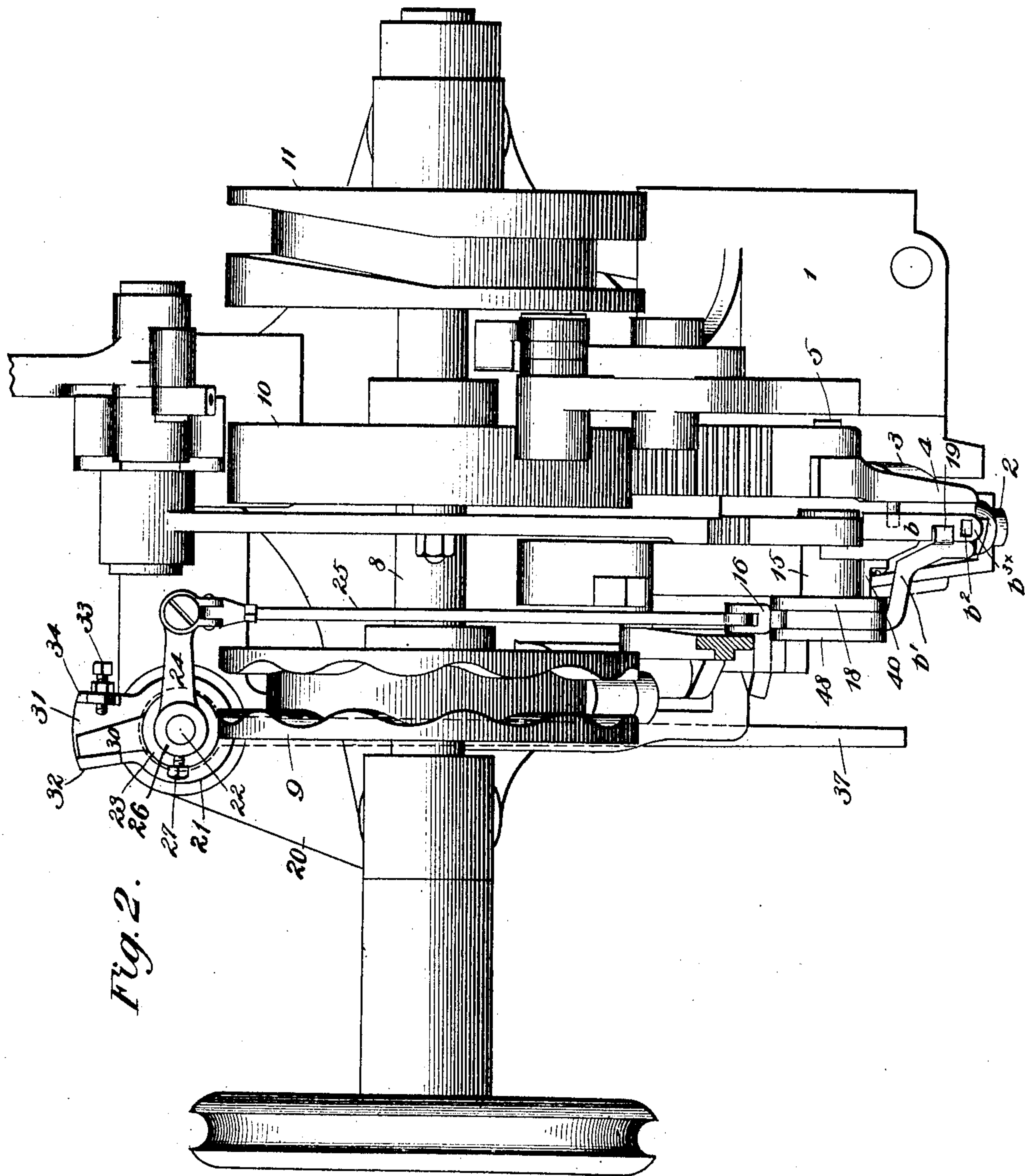
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# ROUGH ROUNDING AND CHANNELING MACHINE..

APPLICATION FILED NOV. 6, 1895.

3 SHEETS.—SHEET 2.



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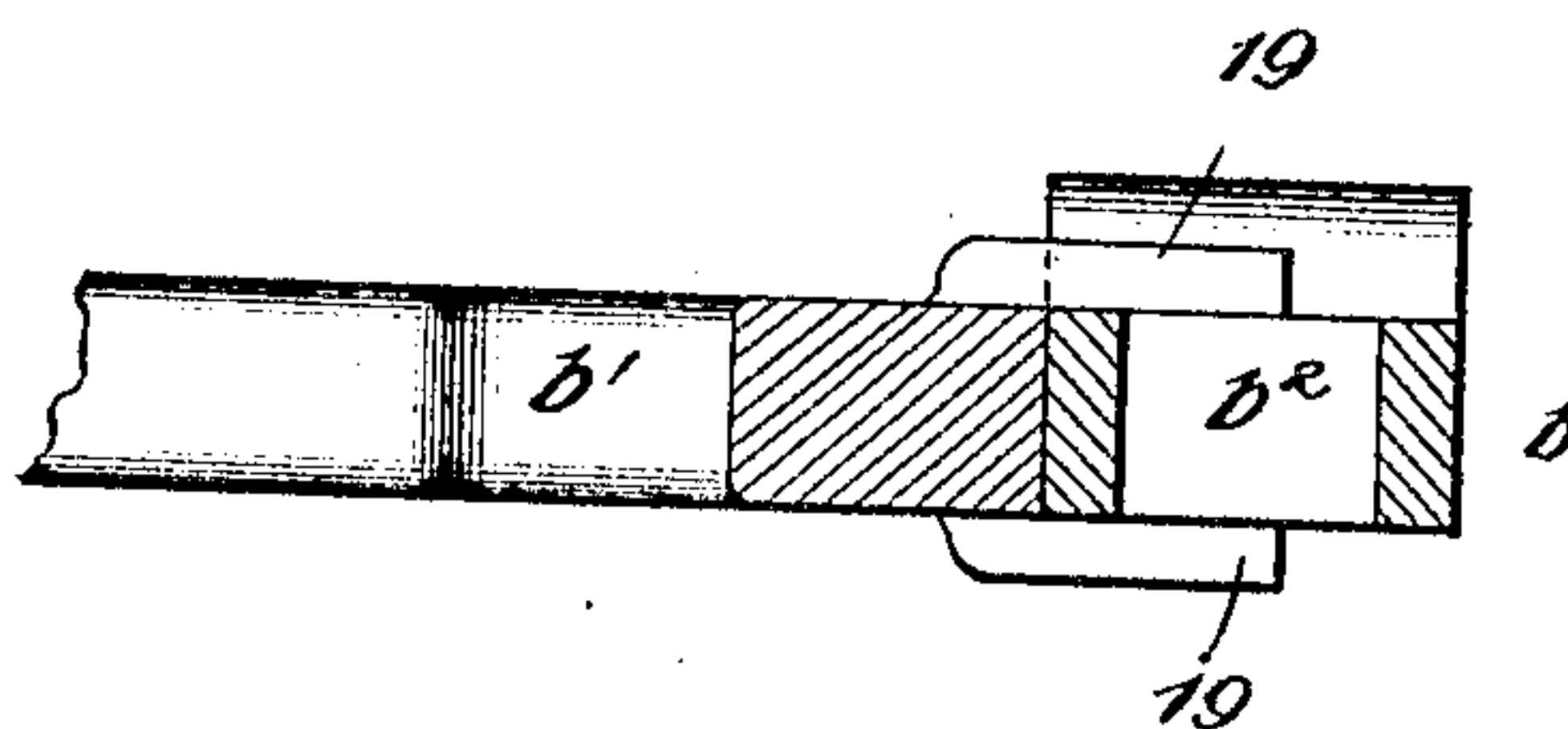
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ROUGH ROUNDING AND CHANNELING MACHINE.  
APPLICATION FILED NOV 2 1909

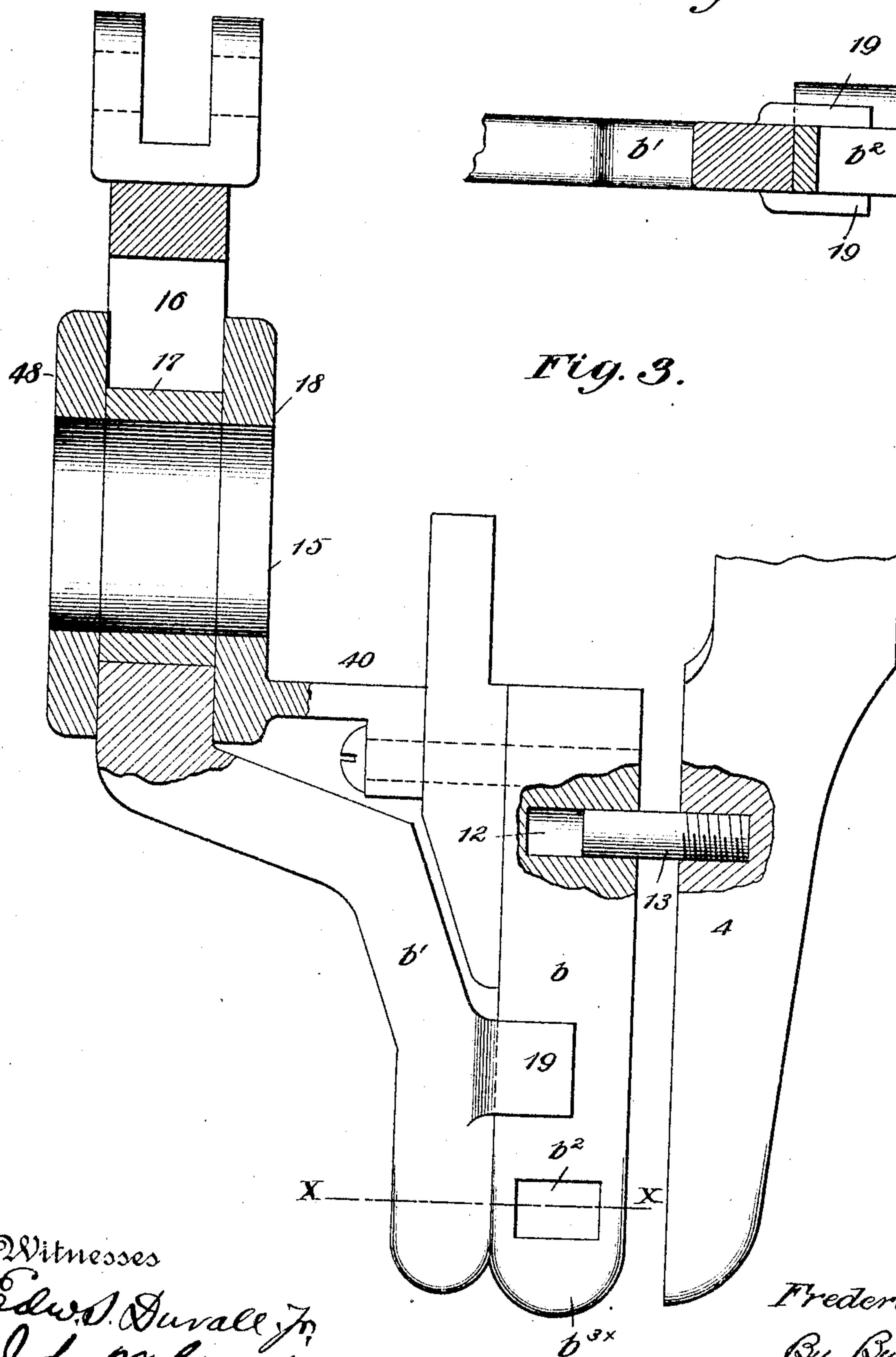
APPLICATION FILED NOV. 6, 1895.

3 SHEETS—SHEET 3.

*Fig. 4.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

FREDERICK L. ALLEY, OF LYNN, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## ROUGH-ROUNDING AND CHANNELING MACHINE.

No. 878,475.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Original application filed April 9, 1895, Serial No. 545,115. Divided and this application filed November 6, 1895. Serial No. 568,082.

*To all whom it may concern:*

Be it known that I, FREDERICK L. ALLEY, a citizen of the United States, residing at Lynn, in the county of Essex and Commonwealth of Massachusetts, have invented a new and useful Improvement in Rough-Rounding and Channeling Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of the present invention is to improve the work feeding and work controlling mechanism of machines of the above class, to make the operation of such machines more uniform and accurate when acting upon shoes, the soles of which have an edge of uniform width, and also to provide for accurate operation of such machines where the edge of the sole varies in width.

The present application is a division of my pending application for U. S. Letters Patent for roughrounding and channeling machines filed April 9th, 1895, Serial No. 545115.

The present invention, as applied to the machine shown and described in U. S. Letters Patent to H. Briggs #463967, dated Nov. 24, 1891 and to Briggs and Dancoll #511263, dated Dec. 19 1893, is illustrated in the accompanying drawings in which:—

Figures 1 and 2 are respectively a side elevation and top plan view of the machine shown and described in said Letters Patent showing my invention as applied thereto. Fig. 3 is an enlarged plan view (partially in section) showing the stationary and movable gage and a portion of the mechanism for actuating the latter, and Fig. 4 is a section taken on line X X Fig. 3.

Similar letters and figures of reference refer to similar parts throughout the several views.

In the drawings 1 represents a suitable bed plate upon which the working parts of the machine are mounted, and which may be conveniently supported upon a suitable standard A.

Mounted upon the bed plate 1 is a work table 2, a four motion feed 3, a feed clamp 4 pivoted on the shaft 5, a vibrating channeling knife 6, an oscillating rough rounding knife 7, and the power shaft 8 carrying the cams 9, 10, and 11 by which the working parts are actuated, all of which together with their connecting mechanisms are fully shown

and described in the Letters Patent before cited and form no part of the present invention.

The reference letter *b* represents the cutter plate, provided with the throat *b*<sup>2</sup> which receives the rounding knife 7. The cutter plate *b* is free to tip longitudinally about the shaft 15 as an axis, and is connected with the feed clamp 4 by the pin 13, which is projected from the clamp 4 and fitted to a socket 12 in the throat plate, said plate being vertically movable with the clamp 4, without interfering with its feeding movement. The above described arrangement being substantially similar to that shown and described in said patents and forming no part of the present invention. In said patented machine it was proposed to form on the outer end of the cutter plate a gage to limit the inward motion of the shoe.

In connection with my present invention I have found it convenient to retain the gage upon the outer end of the throat plate as above described and the same is represented by the reference letter *b*<sup>3</sup>, and forms the fixed gage hereinafter referred to.

The reference letter *b*<sup>1</sup> represents the movable gage, which is also pivotally mounted upon the shaft 15, and as shown has a vertically swinging movement with the cutter plate *b* about the shaft 15 as an axis. The ends of the movable gage *b*<sup>1</sup>, the cutter plate *b* and feed clamp 4 are shaped to enter the crease between the upper and welt and cooperate with the feed 3 to grip the edge of the sole.

The gage *b*<sup>1</sup> is movable transversely to the direction of the feed, in the form of my invention shown in the drawing such motion of the gage *b*<sup>1</sup> is longitudinal and along the throat plate *b*, provision being made therefor in the pivotal connection between the gage *b*<sup>1</sup> and shaft 15 conveniently as follows:

To the gage *b*<sup>1</sup> is rigidly secured a link 16 arranged to slide along a block 17, which guides the longitudinal motion of link 16 and is mounted upon shaft 15 about which it is free to rotate. The block 17 is rigidly connected to, or made integral with, a plate 18, mounted upon the shaft 15, and free to rotate with the block 17 thereon. The plate 18 is rigidly connected by a bracket 40 with the throat plate *b*.

A plate 48 is secured to the out side of



block 17, and with the plate 18 holds the link 16 laterally in position.

The gage  $b^1$  is conveniently provided with the horizontal extensions or gibs 19, 19 which embrace the throat plate  $b$ . The above described arrangements being such that the gage  $b^1$  is swung vertically by the vertical swinging movement of the throat plate  $b$ , as imparted thereto from the clamp 4, and at the same time is free to move independently transversely to the direction of the feed for the purposes hereinafter described.

To actuate the movable gage  $b^1$ , during the operation of the machine, I have shown in the drawing the following described mechanism:—To the bed plate 1 is secured a bracket 20, which carries a vertical sleeve 21, preferably rigidly secured thereto. Through the sleeve 21 extends a rod 22, free to rotate in said sleeve 21 and held in position by the collar 23. Near the upper end of rod 22 is secured a laterally projecting arm 24, which is pivotally connected with the connecting rod 25, which is pivotally connected with the link 16 on the movable gage  $b^1$ .

In practice I find it preferable to secure the arm 24 upon the rod 22 by means of a collar 26, preferably integral with the arm 24 and held in position upon the rod 22 by a set screw 27, by means of which the lateral inclination of the arm 24 may be regulated.

The rod 22 is conveniently rotated by means of an operating lever 37, secured to the rod 22 at or near its lower end, and projecting toward the front of the machine into a convenient position to be controlled by the operator. As shown in the drawings the lever 37 is arranged to be operated by the knee of the operator, when standing in position to hold the shoe upon the work table 2.

The operating lever 37, in the form of my invention shown in the drawing, is necessarily used only to rotate the rod 22 in one direction rotation in the opposite direction being imparted thereto by means of a suitably placed spring 28. The spring 28 may conveniently consist of a coiled spring, coiled about the rod 22, and having one end secured to the sleeve 21, and the other to the rod 22, or a suitable collar 29 rigidly mounted on said rod.

The extent of the rotation of the rod 22 (and the angular motion of the arm 24) may be conveniently limited by the following device:—The collar 23 carries a horizontally projecting arm 30, which turns along a flange 31 on the sleeve 21. The flange 31 is provided with the projecting lugs 32, 34, which project in the path of the arm 30, and which limit its swinging motion. The extent of the swinging motion of arm 30, permitted by the lugs 32, 34, may be conveniently rendered adjustable by means of the adjustment screw 33, which has a threaded bearing in the lug

34, and is arranged to come in contact with the arm 30, as it approaches said lug. The spring 28 acts to hold the arm 30 in contact with the lug 32, and when in such position, the relative inclination of the arms 30 and 24 is such that the gage  $b^1$  is held to the rear of the gage  $b^{3x}$ , and slightly out of operative position substantially as shown in Fig. 3.

The operation of my invention as adapted to the machine of the patents before cited is described as follows: The gages being in the position shown in Fig. 3 in which they are held by the action of spring 28, the feed clamp 4 is raised by its operative lever, raising the throat plate  $b$  by means of the pin 13, a shoe is then placed upon the work table 2, with the projecting edge of its sole between the feed 3 and clamp 4, and the clamp 4, with the throat plate  $b$  and the fixed gage  $b^{3x}$  carried thereby, is brought down thereon, and the machine set in operation. As the shoe is fed along and rounded and channeled by the rounding and channeling knives, it is first held by the operator against the fixed gage  $b^{3x}$ , the movable gage  $b^1$  being then out of operative position. When the shank has been trimmed, and it is desired to extend the edge at the fore part, or other required portion of the sole, the operator presses with his knee against lever 37, and by means of the connecting mechanisms before described advances the movable gage  $b^1$  which coming into operative position takes the shoe from the gage  $b^{3x}$ , and moves it transversely to the feed increasing the width of the edge of the sole left by the rounding knife. By means of the set screw 33, the limit of the outward motion of gage  $b^1$  is determined, and hence the limit of the increase that can be made in the width of the edge. As the operator releases the lever 37, the gage  $b^1$  is returned to its original position, and the shoe again guided by gage  $b^{3x}$ , the edge being cut to the original width.

It will be noted that the movable gage  $b^1$  and the feed clamp 4 form work-engaging fingers located on opposite sides of the cutter plate. I consider myself to be the first to make such a provision in a machine of this class and I consider the arrangement to be of great advantage in securing the proper presentation of the shoe to the rounding and channeling knives.

Having thus described my present invention and its mode of operation, I desire to say that I do not consider the same as limited to its application to said patented machine, or to the details of mechanism hereinbefore described, but

I claim as novel and desire to secure by Letters Patent of the United States

1. In a rounding and channeling machine, the combination with rounding and channeling knives and a four motion feed device, of a cutter plate, and two work engaging fingers,



one on each side of the cutter plate, the ends of which engage the crease between the upper and the welt, said fingers cooperating with a four-motion feed device to grip the work, substantially as described.

2. In a rounding and channeling machine, the combination with rounding and channeling knives and a four-motion feed device, of a cutter plate, and two work engaging fingers, one on each side of the cutter plate, the ends of which engage the crease between the upper and the welt, and mechanism for moving one of said fingers laterally in the direction of the feed to cooperate with the four-motion feed device to feed the work, substantially as described.

3. In a rounding and channeling machine, the combination with rounding and channeling knives, of a cutter plate arranged to support the welt, a work feeding device and two

work engaging fingers one on each side of the cutter plate the ends of which engage the crease between the upper and welt, substantially as described.

4. In a rounding and channeling machine, the combination with rounding and channeling knives, of a cutter plate arranged to support the welt, and means for guiding the shoe arranged to engage the crease between the upper and welt on both sides of the cutter plate, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two attesting witnesses at Lynn aforesaid this 2nd day of November A. D. 1895.

FREDERICK L. ALLEY.

Witnesses:

A. EVERETT SILSBEE,  
CHARLES W. GEER.