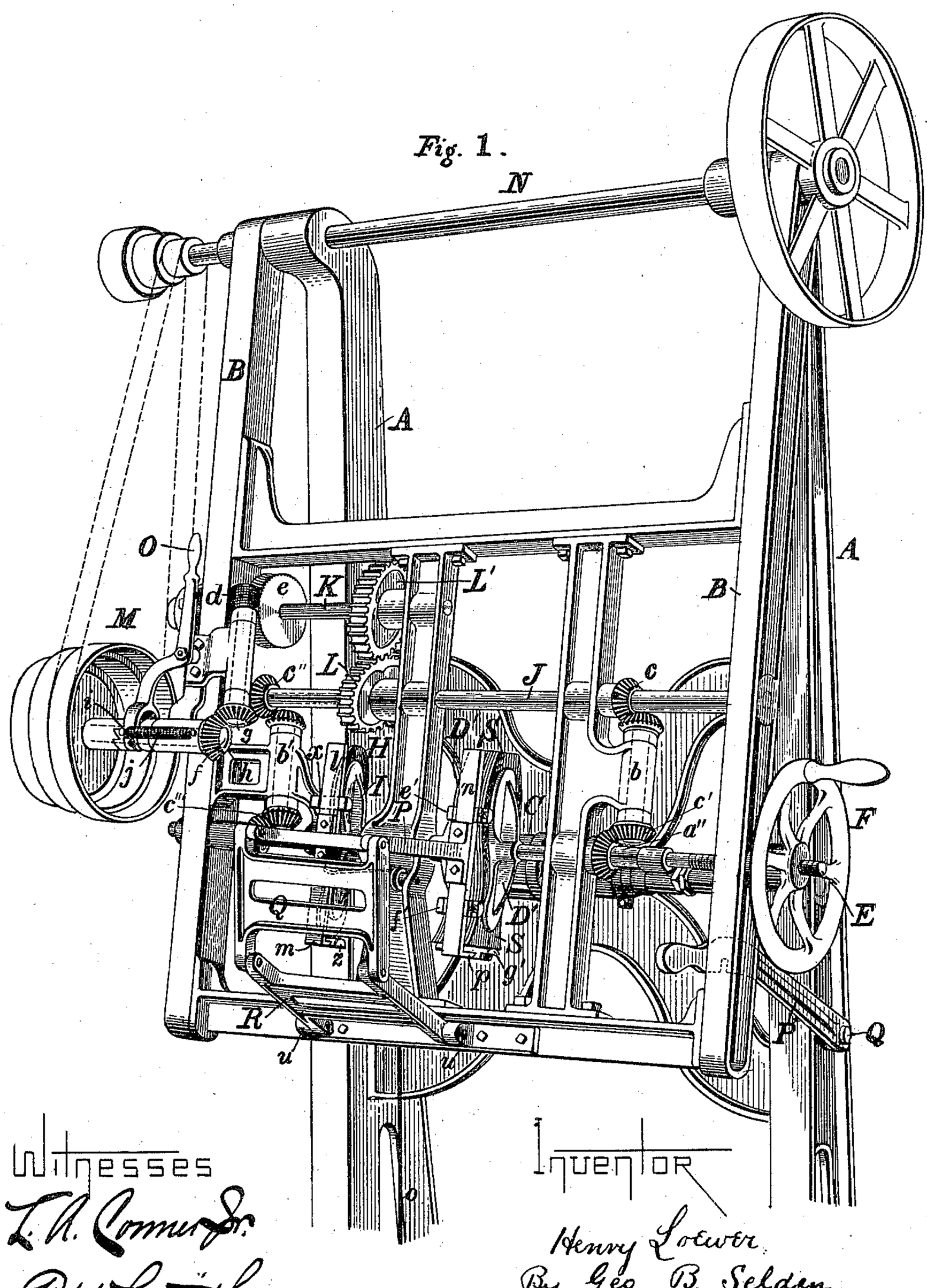
(No Model.) 2 Sheets—Sheet 1.

H. LOEWER.

SOLE ROUNDING MACHINE.

No. 584,820. Patented June 22, 1897.

Fig. 1.



Witnesses

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

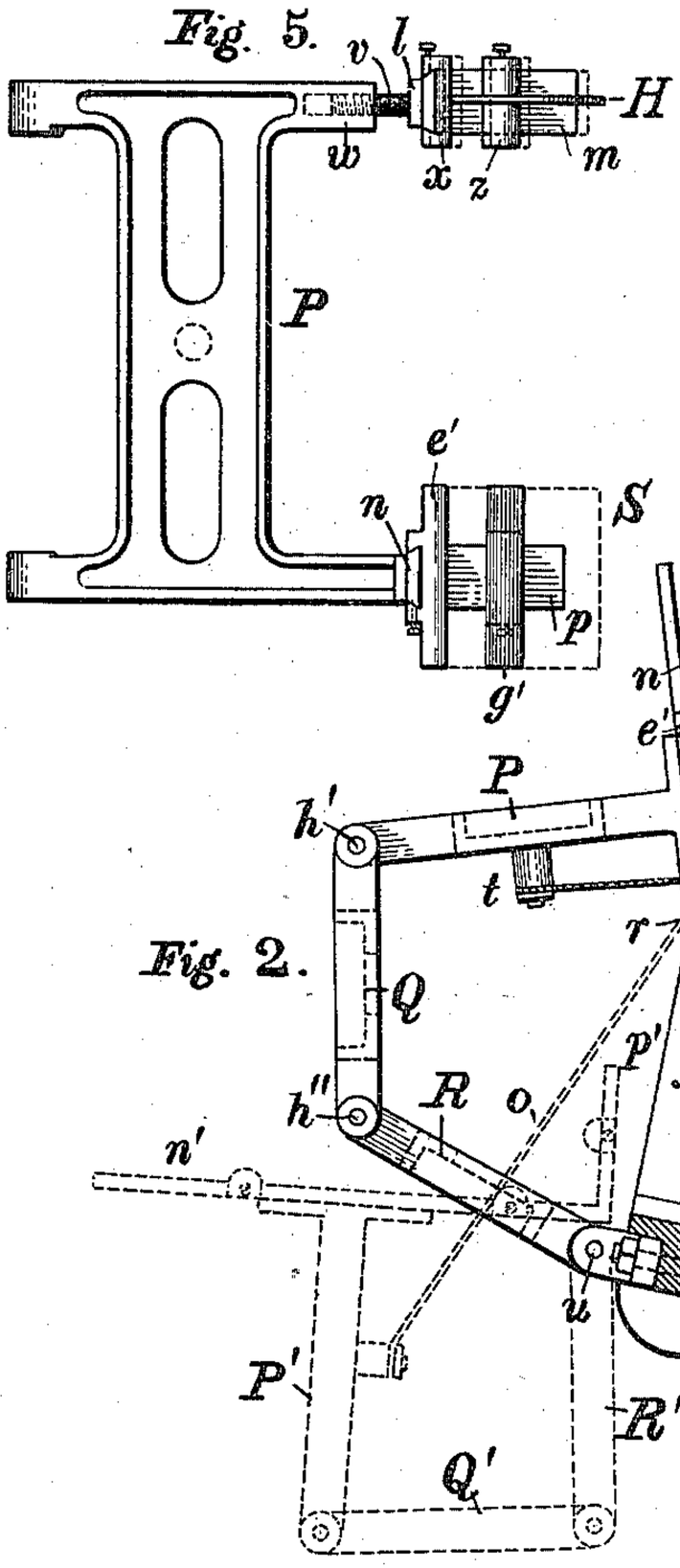


Fig. 2.

Fig. 4.

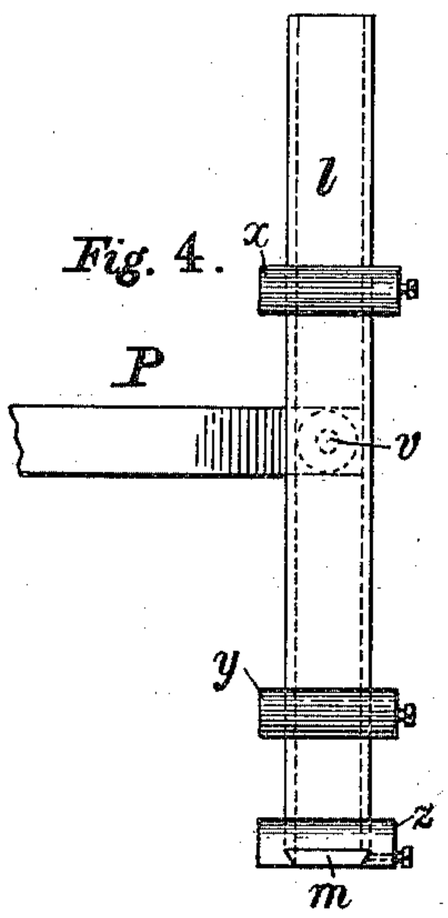
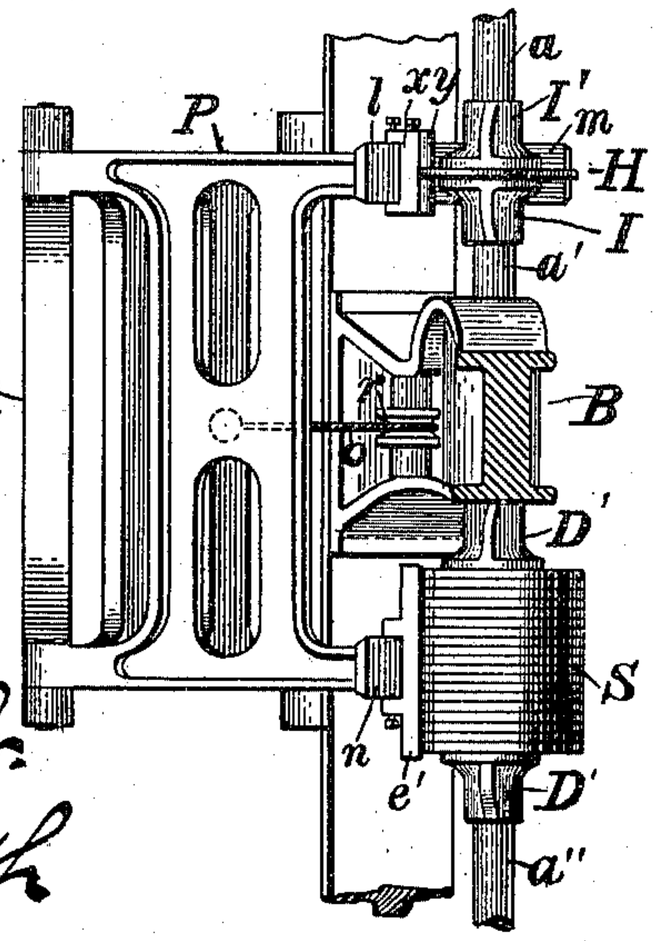


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY LOEWER, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE LOEWER SOLE-ROUNDER COMPANY, OF SAME PLACE.

SOLE-ROUNDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 584,820, dated June 22, 1897.

Application filed July 21, 1893. Serial No. 481,128. (No model.)

To all whom it may concern:

Be it known that I, HENRY LOEWER, a citizen of the United States, residing at Rochester, in the county of Monroe, in the State of New York, have invented certain Improvements in Sole-Rounding Machines, of which the following is a specification, reference being had to the accompanying drawings.

My present invention relates to an improved construction of the stock or blank guides employed on machines for rounding shoe-soles of that type first shown in the patent of Loewer and Blair, No. 407,735, dated July 23, 1889, and improved by myself, as shown in Patent No. 502,421, dated August 1, 1893.

My invention relates to an improvement in the construction of the movable blank-guide of such machines, whereby it is arranged to come in contact with both the pattern and the blanks, so that the position of the blanks in the clamps is determined directly from the pattern.

My invention is fully described and illustrated in the following specification and the accompanying drawings, the novel features thereof being specified in the claims annexed to the said specification.

In the accompanying drawings, representing my present improvement, Figure 1 is a perspective view of a sole-rounding machine containing my improved movable blank-guide. Fig. 2 is a side view of the movable blank-guide. Fig. 3 is a top view of the same. Fig. 4 represents one of the contacts detached. Fig. 5 is a plan view of the blank-guide, showing the relative adjustment of the parts which contact with the pattern and the stock.

A represents the main frame of the machine, which supports the rotary cutter and the pattern-guide, and B the movable or swinging frame, which carries the revolving sole-clamps and pattern, and which, in this particular instance, is pivoted at its upper end above the cutter. The cutter is represented at C, Figs. 1 and 3, and the pattern-guide at D, Fig. 3.

The operation of the machine is substantially similar to that described in the patents mentioned, the stock or blanks being rounded to the shape of the pattern as they revolve against the cutter. The stock or blanks S are inserted between the clamps D′ D′, one of which is arranged to be forced against the other by the screw E and hand-wheel F or other similar device.

H represents the pattern, which, when the soles are being rounded, bears against the guide D and determines the position of the swinging frame and the blanks relatively to the cutter. The pattern is supported by the pattern-clamps I I′, one of which is provided with dowel-pins, which pass through holes in the pattern and cause it to revolve with the clamps. The pattern and sole clamps are supported on suitable shafts, which revolve in journals in the swinging frame. In the arrangement shown the clamps are supported by the shafts *a a′ a″*. The pattern and clamps are caused to revolve simultaneously in any suitable manner, the means for accomplishing this in the machine represented being the shaft J, the shafts *b b′*, and the bevels *c c′ c″ c‴*. The shaft J is driven from the shaft K by the elliptic gears L L′, which transmit a variable rotary motion to the sole-clamps, the motion being slowed down during the trimming of the heels and toes.

The shaft K receives motion through the worm *d* and worm-gear *e*, shafts *f* and *g*, and bevels *h* from the pulley M, which is driven from the overhead shaft N. The upper shaft receives its motion from a main driving-shaft which is located near the base of the machine and from which the cutter-head shaft is belted. The shaft *f* is provided with a clutch *i*, operated by a hand-lever O. The clutch is normally held out of engagement by the spring *j*, so that the pulley M runs without turning the shaft *f* until the operator, having inserted the blanks in the clamps and moved the frame B up to the main frame, so that the pattern comes against the guide and the blanks in contact with the cutter, engages the clutch and starts the revolution of the sole-clamps and the pattern by a movement of the lever O. The clutch is thrown out or disengaged automatically on the completion of the revolution of the pattern and sole-clamps. The swinging frame is ordinarily held away from the main frame by the connection $P^{\times}$, pivoted at Q and provided with a notch or pin engaging with a lug or slot on the

frame B. On lifting the outer end of the connection P× the frame B is disengaged, and it is then allowed to swing toward the main frame. It will of course be understood that any other suitable arrangement of the parts may be adopted.

The movable blank-guide consists, essentially, of the bar or arm *l*, arranged opposite the pattern H, and the bar or arm *n*, arranged opposite the stock or blanks, and suitable supporting links or brackets. The arms *l* and *n* are each provided with extensions *m* and *p*, which reach under the pattern and the blanks and determine the vertical position of the latter. The blank-guide is arranged to be brought up to the pattern by means of a treadle, which draws down on the cord *o*, which runs around the pulley *r* and is attached to the link or bracket P at *t*, Fig. 2. The blank-guide is supported by the pivoted links P, Q, and R, the latter being pivoted to the frame at *u*, Figs. 1 and 2. The position of the parts when the blank-guide is moved away from the pattern and sole-clamps is represented by the dotted lines *n'*, *p'*, P', Q', and R' in Fig. 2. After having placed a pattern between the clamps I I' the operator depresses a treadle connected with the cord *o* and draws the blank-guide upward and inward from the position indicated by the dotted lines in Fig. 2 to that shown by the full lines, bringing the bar *l* (or the adjusting contact-pieces thereon) against the side of the pattern and the arm *m* (or its contact-piece) against the lower end of the pattern, in which case those parts of the guide which come in contact with the blanks are in position to correctly locate the blanks between the sole-clamps. The blanks being then inserted between the sole-clamps, with their ends and sides resting against the bars *n* and *p*, (or the contacts thereon,) the clamps are screwed together, so as to secure them in place, the blank-guide is withdrawn, and the blanks are submitted to the action of the cutter. As the position of the blank-guides *n* and *p* relatively to the sole-clamps is determined by the contact of the arms *l* and *m* with the pattern, it will be seen that the blanks are always correctly centered in each direction in the clamps.

The bars *l* and *n* are made adjustable relatively to each other in any suitable way, so that the amount of the allowance on the blanks for the cutting can be varied. In the construction shown in the drawings this is accomplished by means of the threaded rod *v*, Fig. 5, inserted in a threaded boss *w* on the link or bracket P. By means of this rod the arm *l* can be adjusted to and from the link, and consequently shifted in its relation to the arm *n*. The threaded rod *v* supports the arm *l*, which is varied in position relatively to the link and the arm *n* by turning the rod in the threaded opening in the boss. A fine thread is preferably employed on the rod *v*, twenty-four to the inch answering satisfactorily in practice, since two turns of the arm and rod in this case shift the position of the arm one-twelfth of an inch, the distance to which soles are usually graded in width.

The arm *l* is preferably provided with the contact-pieces *x* and *y*, which are adjustable lengthwise of the arm and bear against the sides of the toe and heel of the pattern. The arm *m* is also provided with the contact-pieces *z*, which bear against one end of the pattern. These contact-pieces are attached to the arms in any suitable manner so as to be adjustable. In the particular construction shown the bars are beveled on their sides, and the contacts are dovetailed to fit the bevels and provided with a clamping-screw to fasten them in any desired position. The arms may be employed without the contacts. In a similar manner the arms *n* and *p* may be provided with adjustable contacts *e'*, *f'*, and *g'*, which bear against the sides and one end of the sole-blanks when placed between the sole-clamps. The links or brackets P, Q, and R are pivoted together at *h' h''* in any suitable manner. The blank-guide may be supported in ways different from that shown herein within the scope of my invention. One of the pattern-clamps I I' is made adjustable lengthwise of the shaft, to permit the insertion of the pattern between them, dowel-pins passing through holes in the pattern being employed and the movable clamp held against the pattern by a suitable spring.

By the use of my improved blank-guide the operator of the machine is enabled to set the blanks in the clamps in the proper relations with the patterns quickly and accurately, and the production of the machine is increased.

I claim—

1. In a rounding-machine, the combination with clamps for holding the stock, and a pattern, of a stock-gage and a pattern-gage adapted to respectively bear against the stock and pattern, substantially as set forth.

2. In a rounding-machine, the combination with clamps for holding the stock, and means for holding the pattern on the same center as the stock, of a stock-gage and a pattern-gage adapted to respectively bear against the stock and the pattern, and means for adjusting the pattern-gage to the pattern.

3. In combination with the relatively-movable cutter-head, pattern and sole clamps of a sole-rounding machine, a movable blank-guide comprising a part which bears against the blank, and a part which bears against the pattern, and means for adjusting them in relation to each other, substantially as described.

4. In combination with a relatively-movable cutter-head, pattern and sole clamps of a sole-rounding machine, a movable blank-guide which comprises parts which bear against one side and one end of the pattern, and parts which bear against one side and one end of the blank and means for adjusting them with relation to each other, substantially as described.

5. In combination with the relatively-movable cutter-head, pattern and sole clamps of a sole-rounding machine, a movable blank-guide which comprises a part which bears against the pattern simultaneously with a part which bears against the blank and means for adjusting them with relation to each other, substantially as described.

6. In combination with the relatively-movable cutter-head, pattern and sole clamps of a sole-rounding machine, a movable blank-guide, comprising a part having adjustable contacts which bear against the side of the pattern and a part having adjustable contacts which bear against the side of the blank and means for adjusting the parts with relation to each other, substantially as described.

7. The combination, in a sole-rounding machine of the main frame carrying the rotary cutter and pattern-guide, and the revolving pattern and sole clamps, supported upon a movable frame, and a movable blank-guide comprising a part which bears against the pattern, and a part which bears against the blank, substantially as described.

8. The combination, in a sole-rounding machine, of the main frame carrying the rotary cutter and pattern-guide, and the revolving pattern and sole clamps, supported upon a movable frame, and a movable blank-guide comprising a part which bears against the pattern, and a relatively-adjustable part which bears against the blank, substantially as described.

9. The combination, in a sole-rounding machine, of the main frame carrying the rotary cutter and pattern-guide, and the revolving pattern and sole clamps, supported upon a movable frame, and a movable blank-guide comprising a part having adjustable contacts which bear against the side of the pattern, and a part having adjustable contacts which bear against the side of the blank, substantially as described.

10. The combination, in a sole-rounding machine, of the rotary cutter and pattern-guide, the revolving pattern and pattern-clamps, the revolving sole-clamps, and a movable blank-guide comprising a part which bears against the pattern and a part which bears against the blank, substantially as described.

11. The combination, in a sole-rounding machine, of the rotary cutter and pattern-guide, the revolving pattern and sole clamps, and the movable blank-guide, comprising a part which bears against the pattern and a part which bears against the blank, and a suitable support for the blank-guide which permits its movement to and from the pattern and sole clamps, substantially as described.

12. In combination with the relatively-movable cutter-head, pattern and sole clamps of a sole-rounding machine, a movable blank-guide, comprising a part which bears on the pattern and a part which bears against the blank, and supported on suitable jointed arms, substantially as described.

HENRY LOEWER.

Witnesses:
JOHN F. SWAN,
GEO. B. SELDEN.