

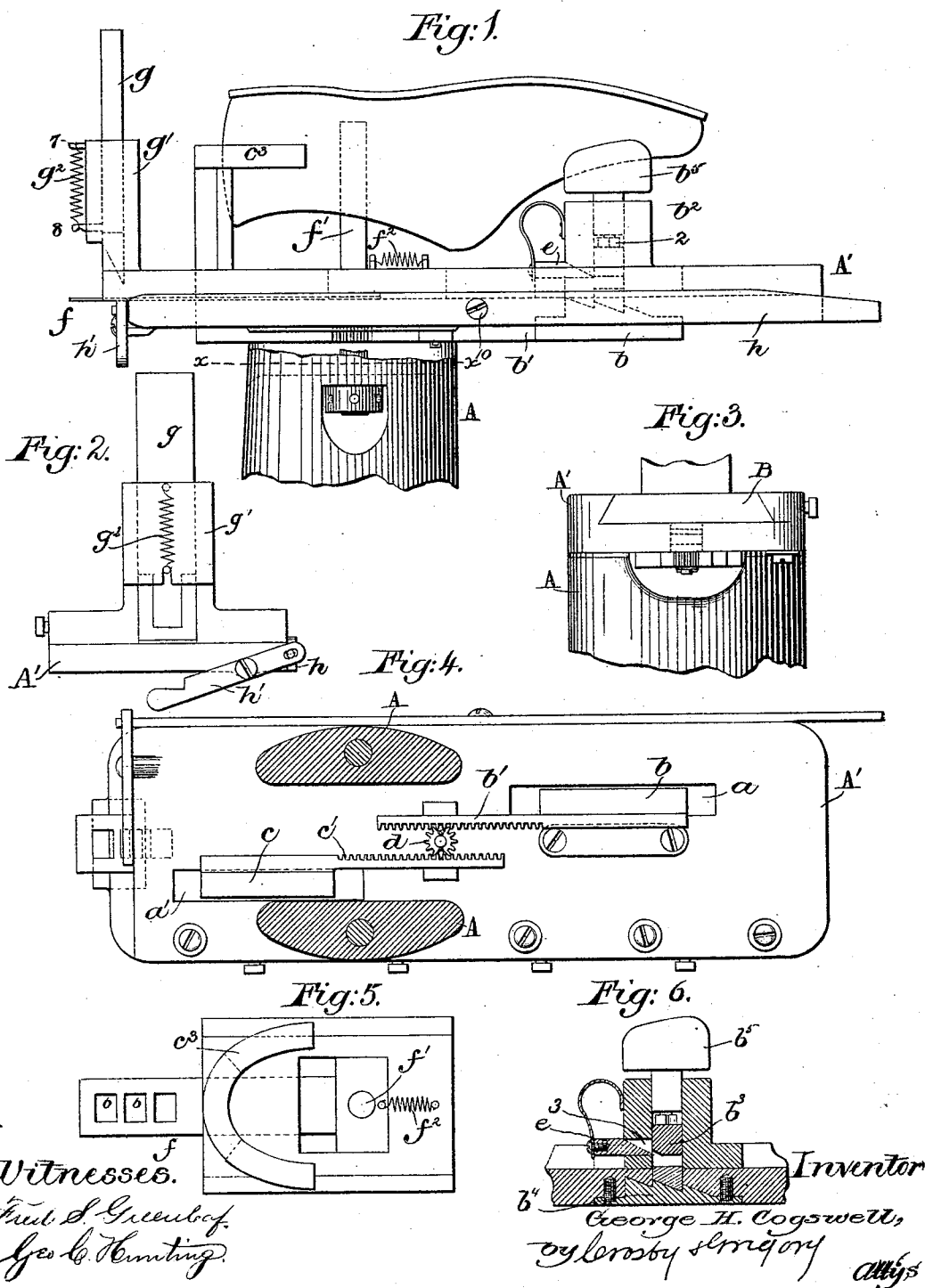
(No Model.)

2 Sheets—Sheet 1.

G. H. COGSWELL.
JACK FOR SOLE MACHINES.

No. 461,403.

Patented Oct. 13, 1891.



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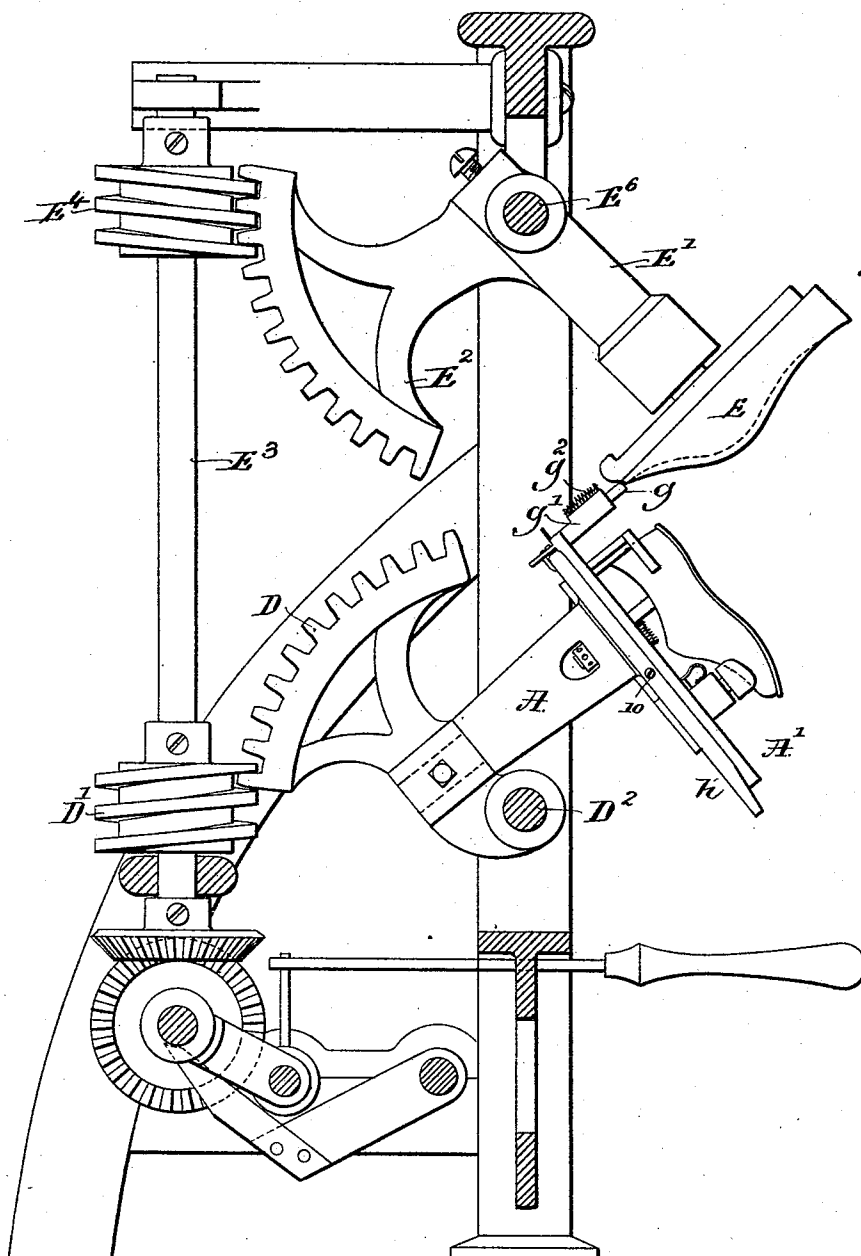
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Fig: 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE H. COGSWELL, OF BRADFORD, MASSACHUSETTS, ASSIGNOR TO THE
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JACK FOR SOLE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 461,403, dated October 13, 1891.

Application filed September 8, 1890. Serial No. 364,222. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. COGSWELL, of Bradford, county of Essex, State of Massachusetts, have invented an Improvement in
5 Jacks for Beating-Out Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object an improved construction of jack, whereby the sole
10 of a shoe while the shoe is yet upon the last on which it was lasted may be beaten out or pressed into shape and the sole leveled.

In accordance with my invention the jack-
15 standard has a head provided with a guideway for two carriages, one carrying a toe-rest and the other a counter or heel clamp, and a last-holding pin. The said carriages are connected together in such manner that they may
20 be moved toward and from each other in the said guideway according to the length or size of the boot or shoe being acted upon. The construction of the parts of the toe-rest is such that when the jack is adjusted for a
25 certain length of shoe the toe-rest is also automatically adjusted vertically to thus place the toe of the last in the proper position with relation to the form which acts on the sole of the shoe, the form and jack both moving in
30 arcs of circles. The last-holding pin is made movable independently of the carriage which supports the counter or heel clamp, and the device for moving the heel-pin to "jack," as it is called, the shoe into the counter or heel
35 clamp is so placed and made that it may be actuated automatically by the form as it comes into position to act on the sole of the shoe.

Figure 1 in side elevation represents a sufficient part of a beating-out or sole-leveling machine embodying my invention to enable the same to be understood; Fig. 2, a partial left-hand end view of the parts shown in Fig. 1; Fig. 3, a partial right-hand end view of the same; Fig. 4, a section in the line *x*, Fig. 1, looking upwardly; Fig. 5, a detail of the carriage, having the last-holding pin and heel-clamp; Fig. 6, a detail in section, showing the toe-rest, its carriage, and locking device. Fig.
40 7 represents my invention embodied in a sole-locking machine.

Referring to the drawings, (see Fig. 7,) the spindle A, the segmental toothed lever D connected to it, the sole molding or pressing form E, the leg E', the toothed segment-lever
55 E², the shaft E³, the worms E⁴ and D', and the means to rotate the said shaft E³ to turn the said segment-levers about or with the fulcrum E⁶ and D² are and may be as in United States Patent No. 296,486, to which reference may
60 be had, the machine constructed under said patent being known in the market as the "Little Giant Beating and Leveling Machine."

In accordance with my invention I attach to the upper end of the spindle A a head A',
65 having its upper side cut out to leave a guideway in which may fit and slide the carriages B and C, the said head having suitable slots, as *a a'*, through which are extended, respectively, the shanks *b c* of the said carriages, the
70 said shanks having connected to them, respectively, the rack-bars *b' c'*, which mesh with a common pinion *d* loose on a stud at the under side of the head, (see Fig. 4,) the said
75 racks engaging the said pinion at opposite sides of its center, so that in case either carriage is engaged by hand and moved in the said guideway the other carriage will be moved
80 in unison with it for a little distance, but in an opposite direction, the said carriages being so made movable in order that the jack may be quickly adapted to lasts of the size to be used.

The carriage B has erected upon it a hollow post *b²* in which is dropped a locking device *b³*, (shown by dotted lines Fig. 1, and
85 separately in Fig. 6,) the lower end of said locking device being wedge-shaped to rest on the teeth of a locking-block *b⁴*, said teeth having inclined backs and being so located that
90 the locking device may slip over the said teeth when the carriage B is moved toward the spindle for a shorter length of shoe, the locking device dropping behind the teeth and preventing the movement of the said carriage
95 in the opposite direction when the sole is being pressed.

The carriage B, by me called the "toe-rest" carriage, receives the shank of the toe-rest *b⁵*, suitably shaped to conform to the shape of
100 the top of the last. As herein shown, the shank of the toe-rest is terminated by an ad-

justing-stop 2 (shown as a set-screw) rotation of which in one or the other direction varies the effective length of the said shank, the said screw resting on the top of the said locking device. The locking device has at one side a slot 3 extended across it, as best shown in Fig. 6, into which may be pushed a wedge-shaped lifting-pin *e* whenever it is desired to lift the lower end of the locking device *b*³ above the teeth of the block *b*⁴, as when it is desired to pull the carriage to the right in Fig. 1, for a longer shoe.

The carriage C, called the "counter" or "heel clamp" carriage, has erected upon it a counter or heel clamp *c*³, preferably rigid and of suitable shape to embrace the heel part of the upper. This carriage receives in it the slide-bar *f*, upon which is erected the heel or last pin *f*¹, the said slide being normally held by the spring *f*² slightly away from the said counter or heel clamp. This slide has a series of holes or notches 6, in which may be inserted the wedge-shaped lower end of the jacking-bar *g*, adapted to slide vertically in a guide-post *g*¹, erected on the head A', the said bar being normally kept elevated by spiral or other spring *g*², connected at one end to a pin 7 of the post and at its other end to a pin 8 of the bar. The head has pivoted upon it at 10 a lever *h*, one end of which engages a lifting device *h*¹, which when that end of the lever nearest the toe-rest is lifted causes the lifting device to act on the pointed end of the jacking-bar, then down in a slot 6 and elevate it until the wedge-shaped part of the said bar is above the top of the slide *f*, when the spring *g*² completes the movement.

It will be noticed that when the toe-rest carriage is moved to the left, (see Fig. 1,) as is the case when a shorter last is to be used, the locking device is lifted, so that it acts as a toe-rest-lifting device. The inclined top of each tooth of the block *b*⁴ is a little higher than the one to the right of it in Fig. 1.

In operation, the last having on it a shoe the sole of which is to be beaten out or pressed or leveled to shape, is slipped over the heel-pin *f*¹ in usual manner, the operator having previously put the toe-rest carriage into the proper position for a last of the size to be used, the operation of putting the said toe-rest carriage in place also positioning the counter or heel clamp carriage and counter or heel clamp. The counter or heel part of the shoe touches, or nearly so, the counter or heel clamp. The machine will now be started and the spindle will be moved to carry the shoe to the left, viewing Fig. 7, and in so doing the jacking-bar will be depressed, so that its wedge-shaped lower end will enter one of the notches 6 of the slide *f* and draw the said slide and its connected heel-pin *f*¹ toward the counter-clamp, and so as to firmly crowd the heel of the upper into said counter or heel clamp, so that the last will be held rigidly while the usual form E acts on the sole. The jacking-bar is depressed by a part of the form

E or its carrier, as the form is about coming down upon the sole to be leveled, and the straight part of the jacking-bar above its wedge-point enters the notch 6 of the slide *f*, the bar in such depressed position firmly locking the said slide. I have described how the said bar may be lifted when the shoe is to be removed. In operation the same form will be used to beat out from 2 to 7 size shoes; but for larger or smaller sizes the form has to be changed, and as the form and the spindle and last move in arc-shaped paths it is necessary that the toe-rest be at different heights, according to the size of the shoe, the smaller the size the higher the toe-rest, and vice versa, so as to bring the toe part of the shoe correctly up into the form.

This invention is not limited to making the teeth of the block *b*⁴ of different height, and in practice it will be seen that one feature of the locking device and bar *b*⁴ is to lock the carriages in adjusted position with relation to the heel-pin.

I claim—

1. In a jack for a sole-beating-out machine, the spindle, the head, the last-pin, and toothed block *b*⁴, combined with a toe-rest carriage, a toe-rest, and a locking device intermediate the said toe-rest, and the said block, to operate substantially as described.

2. In a jack, a last-pin, a head, a toe-rest carriage therein, a beveled-ended locking device, and a toothed block *b*⁴, combined with a lifting device or pin for lifting the locking device, substantially as described.

3. The head, the last-pin, the toe-rest carriage, the toe-rest placed therein loosely and having the lower end of its shank provided with an adjusting set-screw, and a locking device upon which said set-screw rests, to operate substantially as described.

4. The head, the counter or heel clamp and carriage to support it, and a toe-rest, combined with a heel-pin *f*¹ and notched slide *f*, loosely mounted in the said carriage, and the jacking-bar, to operate substantially as described.

5. In a jack for a sole-beating-out machine, a jack having a spindle, a head A', a carriage C, having a counter or heel clamp, a heel-pin for the last attached to a slide mounted in the said carriage and provided with notches or openings, and a toe-rest, combined with a guide and a jacking-bar located on the said head in position to be acted upon by the usual "form" of the machine, substantially as described.

6. In a jack for a sole-beating-out machine, the following instrumentalities, viz: a spindle, a head thereon having guideways, a toe-rest carriage, a toe-rest therein, a counter or heel clamp carriage, a counter or heel clamp, a heel-pin, racks connected with the said carriages, an intermediate gear between the said racks, and a locking device to hold the said carriages in adjusted position, to operate substantially as described.

7. In a jack for a sole-beating-out machine,

a spindle A, combined with a toe-rest, its supporting-carriage, a counter or heel clamp, its supporting-carriage, means to automatically connect and insure the movements of the said carriages in unison toward and from each other and with a slide and heel-pin mounted in the carriage containing the counter-clamp and made independently movable therein when jacking the shoe, substantially as described.

8. The spindle A, having a head, and the carriage C, having the counter or heel clamp attached thereto and made movable in the said head, and a toe-rest, combined with the slide *f*, made movable in and carried by the said carriage, and having a heel-pin, the spring *f*², to normally hold the slide away from the heel-clamp, and a jacking-bar or device to move the said slide independently of the said

carriage when jacking the shoe, substantially as described.

9. The spindle A, having a head, and the carriage C, having the counter or heel clamp attached thereto and made movable in the said head, combined with the slide *f*, made movable in and carried by the said carriage and having a heel-pin, and a jacking-bar or device to move the said slide independently of the said carriage when jacking the shoe, and the toe-rest carriage, and toe-rest, to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE H. COGSWELL.

Witnesses:

GEO. W. GREGORY,
A. S. WIEGAND.