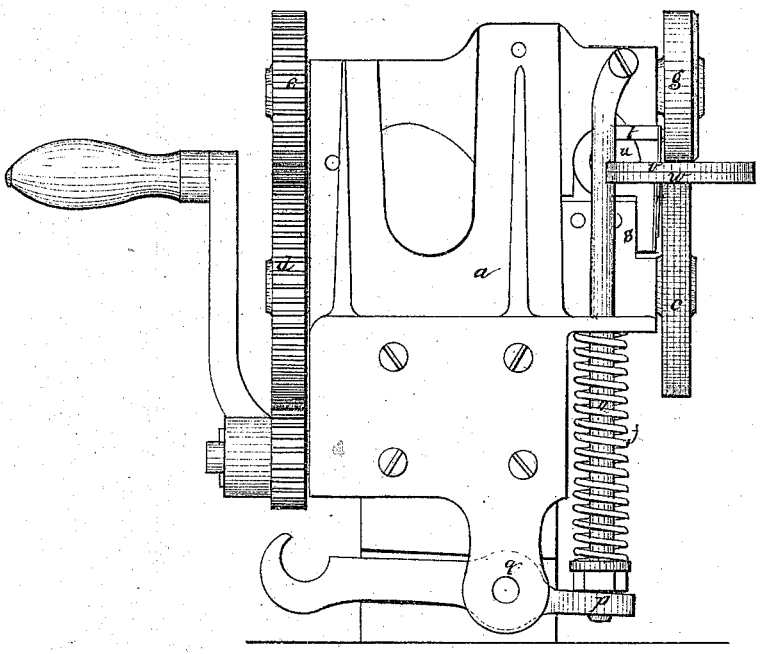
2. Sheets, Sheet. 1.

H. S. Vrooman,

Sole Machine.

No. 107,641. Patented Sept. 20. 1870.

A.



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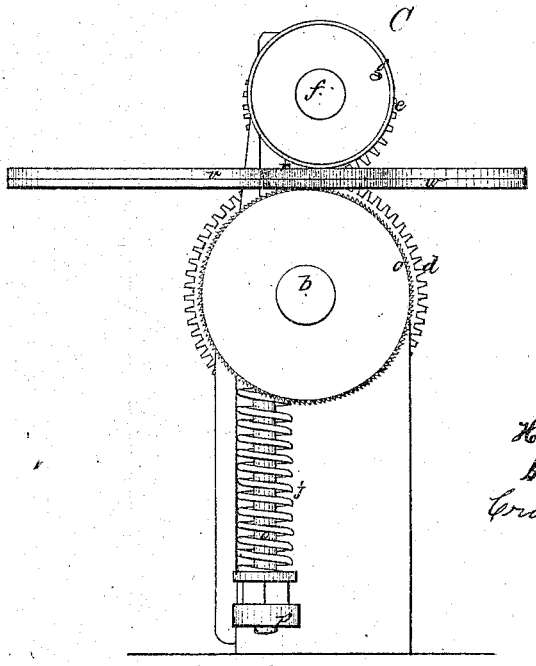


Witnesses
L. B. Holden.
M. M. Fosbrooke.

H. S. Vrooman
by his attys
Crosby, Halsted & Gould

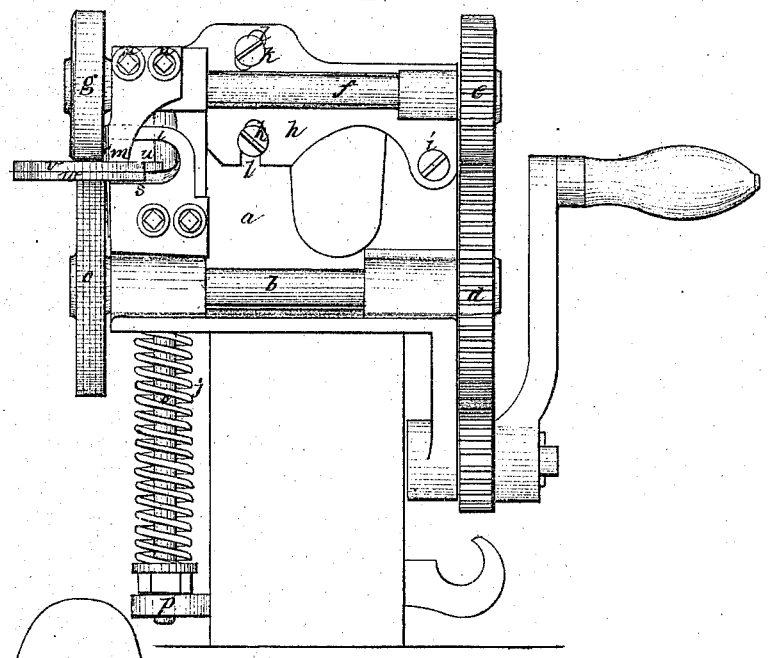
2. Sheets. Sheet. 2.

H. S. Vrooman,

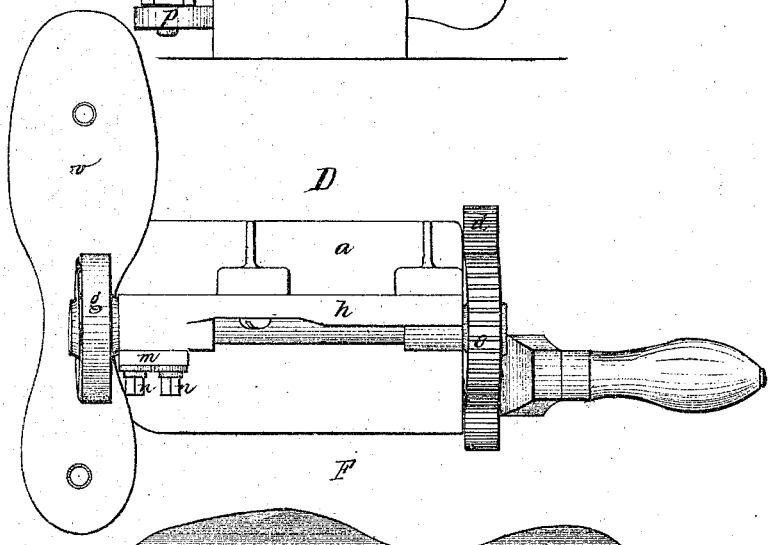
Sole Machine.

No. 107,641. Patented Sep. 20. 1870.

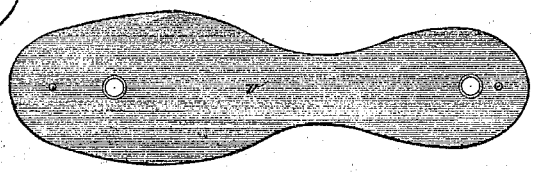
B.



D



F



Witnesses.
F. B. Hadley
Ab. W. Frothingham.

H. S. Vrooman
by his Attorney
Crosby, Halsted & Gould

United States Patent Office.

HENRY S. VROOMAN, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 107,641, *dated September* 20, 1870.

IMPROVEMENT IN ROUNDING-UP MACHINES FOR SHOES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY S. VROOMAN, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Machine for Rounding-up Boot and Shoe-Soles; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to details of construction and arrangement of parts of machines designed particularly for "rounding-up" boot and shoe-soles, or trimming their edges to proper shape, a pattern-plate, with the sole-forming leather placed beneath it, being fed through two feed-rolls, back of which rolls is an edge-gauge, and also a cutter, the gauge being so located that the edge of the pattern-plate only comes in contact with it, while the cutter is so located that the leather beyond the edge of the gauge is trimmed off near to the gauge, the shaving or waste passing through a suitable throat on the inner side of the cutter.

My invention consists in attaching this gauge to the lever or vertically-moving arm, in which the upper feed-roll shaft is journaled, so that the rise and fall of the arm always keep the gauge in proper position, relatively to the varyingly thick sole, as the latter is fed through the rolls.

The invention also consists in combining, with a gauge and top presser-roll, both fixed to a movable arm or lever, a spring, holding the presser-roll down to the surface of the sole or pattern-plate, and in combining, with this arrangement, a lever for relieving the feed-roll from the stress of the spring, to permit the introduction of a pattern-plate, and a sole to be trimmed.

Another feature of the invention consists in the employment of a pattern-plate, provided with a series of teeth on its surface, against which the sole is placed, the teeth entering the sole, and preventing it from slipping on the pattern-plate.

The drawing represents a machine embodying my improvements.

A shows a side elevation of the machine.

B, an opposite side elevation.

C, a front view of it.

D, a plan of the front part of the machine.

E is a view of the under side of the pattern-plate.

a denotes the frame of the machine, in which is journaled a shaft, *b*, carrying at its front end a toothed feed-wheel, *c*, and at its rear end a gear-wheel, *d*, which wheel is driven by any suitable mechanism, and meshes into and drives a pinion, *e*, on the rear end of a shaft, *f*, at whose front end is the upper and smooth feed-roll *g*, located directly over the toothed feed-wheel *c*.

The shaft *f* turns in bearings on a lever, *h*, which is pivoted at its rear end to the main frame, at *i*, and is fastened to the frame, near its front end, by screws, *k*, passing through slots, *l*, in the lever, the slots permitting slight vertical movement of the front end of the lever.

Just in rear of the feed-roll *g* is an edge-gauge, *m*, the shank of which extends up, and is fastened to the lever *h* by screws, *n*, the gauge being fixed relatively to the lever, and moving with it, though it is adjustably fixed to the lever, so that it may be set higher or lower, as the thickness of the pattern-plate may render necessary or advisable.

The lever and gauge are drawn down by the stress of a strong spring, *j*, the top of the spring pressing against a projection from the main frame, and the bottom against a nut and washer on the lower end of a rod, *o*, whose upper end is jointed to the lever.

The foot of the rod extends through a lever, *p*, fulcrumed to the main frame, at *q*, the rear arm of this lever being extended, and having at its end a hook or other provision for attachment of the rod of a pedal on the floor beneath the machine. By drawing down this lever-arm, the rod *o* is raised, and the top feed-roll thrown up from the feed-roll *c*.

The gauge *m* extends down below the horizontal plane of the bottom of the top roll, a distance equal to the thickness of the pattern-plate, the plate and sole being introduced between the rolls, with the plate uppermost.

In line with the front of the gauge, and with its cutting-edge close thereto, is a vertical knife or cutter, *r*, fastened at its lower end to a block, *s*, fixed to the frame *a*, and at its upper end to an arm, *t*, projecting from said block, there being a throat or space, *u*, between the arm and block, as seen at A and B.

The parts being thus constructed and arranged, the metal pattern-plate *v*, with the leather blank or sole-forming piece *w* laid against it, is introduced between the feed-rolls, (pattern uppermost,) the lever *h* being raised by the lever *p*, to permit free entrance of the pattern-plate and sole-blank. After such entrance the release of the lever causes the feed-roll to bear down hard upon the surface of the pattern-plate, so that, as the feed-wheels are rotated, the movement of the leather and pattern-plate together is insured. As the pattern-plate is held up to the face of the edge-gauge, the knife or cutter trims off the strip of leather projecting beyond said pattern-plate, and passing under it, the cut-off strip or chips escaping through the throat *u*.

As the periphery of the upper feed-roll is smooth-surfaced, and as the feed-teeth of the lower roll act

only on the leather, some provision is necessary to keep the sole in fixed position, relatively to the pattern-plate, while they are moving through the feed-rolls. For this purpose I serrate the surface of the pattern-plate which is in contact with the sole, or cover such surface with a series of small spurs or teeth, which, by the compression of the sole between the rolls, are forced into the leather, and prevent the sole from slipping.

Instead of making the smooth roll and gauge-frame movable, the frame to which the toothed feed-wheel is attached may be made movable; or the lower wheel may be journaled in a movable frame, or in movable journals, and the smooth roll in fixed journals, the gauge being held in position, relatively to the smooth feed-wheel, by a suitable spring acting from that portion of the frame in which the toothed feed-wheel is journaled, the object of the invention, namely, to control the position of the gauge relatively to the smooth feed-wheel, being accomplished by either of these modifications. I prefer, however, the specific construction and arrangement shown.

I claim—

1. In combination with feed-wheels and a rounding-up knife, a gauge, so arranged that the arm or frame, in which the upper and smooth roll is journaled, controls the position of said gauge.

2. In combination with a rounding-up knife, and with the gauge and smooth feed-roll, relatively fixed and located as described, a power-spring for producing the pressure upon the sole and pattern-plate between the feed-wheels.

3. In combination with said knife, feed-rolls, gauge, and spring, the rod *o* and lever *p*, so arranged that the stress of the spring may be reduced by the lever, to separate the rolls for introduction of the sole.

4. In combination with the feed-rolls, edge-guide, and rounding-up knife, a metal pattern-sole or plate, one surface of which is toothed or serrated, substantially as shown and described.

HENRY S. VROOMAN.

Witnesses:

FRANCIS GOULD,

S. B. KIDDER.