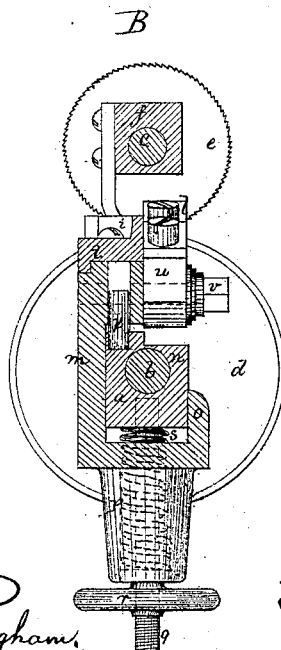
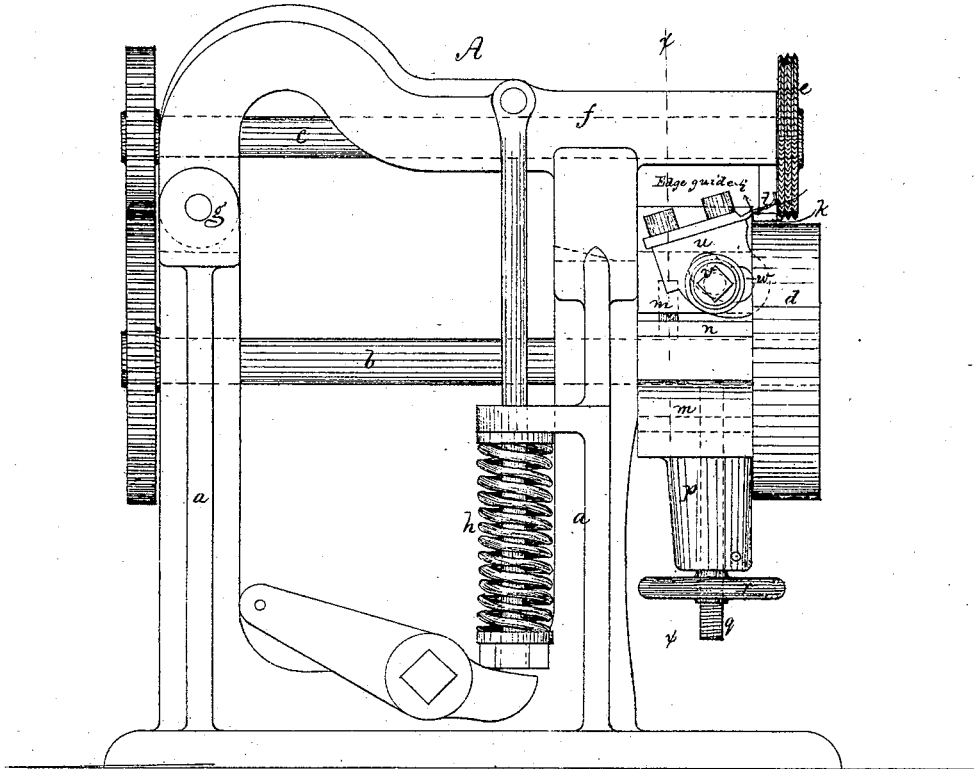


HENRY S. VROOMAN.

Improvement in Machines for Skiving Soles of Boots and Shoes.

No. 114,994.

Patented May 16, 1871.



Witnesses { I. B. Kidder
Mo. W. Frothingham.

Henry S. Vrooman-
By his Atty's
Corcoran, Halsted & Gould

United States Patent Office.

HENRY S. VROOMAN, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 114,994, dated May 16, 1871.

IMPROVEMENT IN MACHINES FOR SKIVING SOLES OF BOOTS AND 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 Improvements in Machines for Skiving or Feather-edging Soles for Boots and Shoes; 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.

United States Letters Patent No. 89,798, were granted to me on the 4th of May, 1869, (as the assignee of J. B. Sias,) for an "improved machine for skiving and channeling soles."

In such machine the skiving-knife was attached to and moved with the upper or movable arm of the machine, though it skived the lower or under surface of the sole, a smooth presser-wheel bearing upon the upper surface of the sole and a toothed feed-wheel acting against the under surface thereof. Such construction is objectionable in this, that the surface of the sole to be operated upon is concealed from the view of the operator.

In my present invention I make the top roller a toothed feed-roll, and give to the lower roll a smooth periphery, and the skiving-knife I attach to a movable block or cutter-stock, having provision for vertical adjustment, the edge of the sole being held down to the surface of the smooth wheel and to the action of the skiver by a suitable presser-foot, such edge passing between the top of the smooth wheel and the skiving-knife, thus enabling the action of the skiver upon the upper or flesh side of the leather to be freely observed by the operator.

My invention consists primarily in combining with an upper toothed feed-wheel and a lower smooth-surfaced feed-wheel a skiving-knife or cutter, arranged to act on the upper surface of a sole fed between it and the smooth feed-wheel, and preferably made adjustable as to height.

The invention also consists in the attachment of said cutter to a vertically-adjustable block or tool-stock, placed behind the smooth feed-wheel and made adjustable from the frame or head of the machine.

Also, in attaching to this block both the cutter and the edge-guide, so that they move as one piece with the block, and thus maintain their relative position.

Also, in a provision for angular adjustment of the cutter from the point of the cutter as a center of motion, so that the point maintains the same position.

The drawing represents a machine embodying my improvement.

A shows the machine in side elevation.

B is a vertical section in the line *x x*.

a denotes the frame.

b and *c*, the two shafts upon the front ends of which are the two feed-rolls, *d e*.

The lower shaft turns in stationary bearings in the frame *a*, while the upper shaft is journaled in bearings in an arm, *f*, pivoted at one end to the top of the rear standard of the frame *a*, as seen at *g*, and having its opposite end with the upper feed-roll *e* drawn down by a stout spring, *h*, the stress of which clamps the sole to be cut between the two feed-rolls, so that they insure the progressive movement of the sole edge to the action of the cutter as they rotate in the proper direction.

The lower roll has a smooth periphery, which is made wide enough to sustain the edge of the sole where the cut is to be made, and below the upper feed-roll the inner side of the wheel extends up to the vertical guide-surface *i*, against which the edge of the sole is held.

The upper feed-roll *e* is made with peripheral teeth, as seen in the drawing, the teeth taking hold of the sole surface and insuring its feed. This wheel is made thin, and between its rear side and the edge-guide is a presser-plate, *k*, the shank of which is fastened to the arm *f*, the bearing-surface of the plate being about flush with the points of the lower teeth of the feed-roll *e*, and serving to hold down to the surface of the roll *d* the part of the sole to be scarfed or skived, this part of the sole being in the transverse vertical plane of the skiving-knife or cutter *l*.

The cutter *l* is inclined, as seen at *A*, and its shank is fastened upon the top of a block or tool-stock, *m*, made movable, vertically, with respect to the upper surface of the lower feed-roll, upon which the sole lies horizontally, as follows:

The block extends down on one side of the front bearing *n* of the lower shaft, and thence across under the bearing, with an upward extension, *o*; and from the bottom of the block a stud, *p*, projects, as seen in the drawing. Through this stud a screw-pin, *q*, passes, the top of the pin entering and being fixed in the bearing *n*.

Upon the screw-threaded lower end of the pin a nut-threaded hand-wheel, *r*, works, the top of the thread bearing against the bottom of the stud by the stress of a suitable spring.

The bearing *n* is stationary, and the block is forced down against the hand-wheel by the stress of a stout spring, *s*. By turning up the hand-wheel on the screw the block is forced up with the wheel and raises the skiving-knife to such height as may be desirable, and by turning down the wheel the spring *s* causes the block to follow the wheel and lowers the skiving-cutter, so that, as will be readily observed, the cutter is both raised and lowered for its adjustment by manipulation of the wheel *r*, both feed-wheels and the

presser-plate *k* remaining stationary under such change of the cutting-tool, and the tool being adjusted relatively to the under surface of the sole, or the top of the lower roll, instead of with relation to the upper surface of the sole.

The edge-guide *i* is set close to the lower feed-wheel and up against the cutting-edge of the skiver, and its shank *i* is screwed fast to the top of the block *m*.

The screw may pass through a slot in the shank, so that the position of the guide may be slightly varied, forward or backward; but when fixed in position relatively to the block the guide, shank, and block move as one piece, the guide and knife thus maintaining their relative position under the adjusting movements of the knife, a point of much importance, as it would otherwise, or if each had to be separately adjusted, be nearly or quite impossible to keep the proper relation between the guide and knife.

The skiving-knife or cutter is directly attached to an auxiliary block, *u*, which block is attached to the main block by a screw-bolt, *v*, which passes through a curved slot, *w*, in the block *u*. The curve of this slot is circular, and is struck from a point at or near the point of the cutter, and its purpose is to permit the cutter to be adjusted angularly and to so make such adjustment as to leave the position of the point of the cutter unchanged.

To keep the block *u* in proper position a guide-pin, *x*, extends from the frame *a* up into the block, the block sliding vertically upon the pin.

Instead of attaching the cutter to the auxiliary

block made with the curved adjusting slot, the cutter itself may be made with a shank having such curved slot, the cutter being in such case fastened directly to the block *m* by the screw *v* extending through the curved slot in the shank of the cutter.

I claim—

1. The combination of an upper toothed or serrated feed-wheel, *e*, and a presser-plate, *k*, attached to the arm or part of the frame upon which the shaft of the toothed or serrated feed-wheel is journaled, with a lower smooth-surfaced feed-wheel and a cutter or cutters attached to the arm or part of the frame to which the shaft of the smooth wheel is journaled, but arranged to act upon the upper surface of the sole fed between the wheels.

2. The combination, with an upper and a lower feed-wheel and the presser-bar *k*, of the cutter-block to which the skiving-knife or cutter is attached, made vertically adjustable from the head or frame of the machine, substantially as described.

3. In combination with an upper and a lower feed-wheel, the edge-guide, cutter-block, and cutter, all arranged and combined so that they move vertically as one piece.

4. In combination with the feed-rolls, the cutter or auxiliary cutter-block *u* made adjustable angularly, substantially as described.

HENRY S. VROOMAN.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.