

D. H. THOMAS.
Machine for Skiving Stiffeners for Boots and Shoes.

No. 201,069.

Patented March 5, 1878.

FIG. 1.

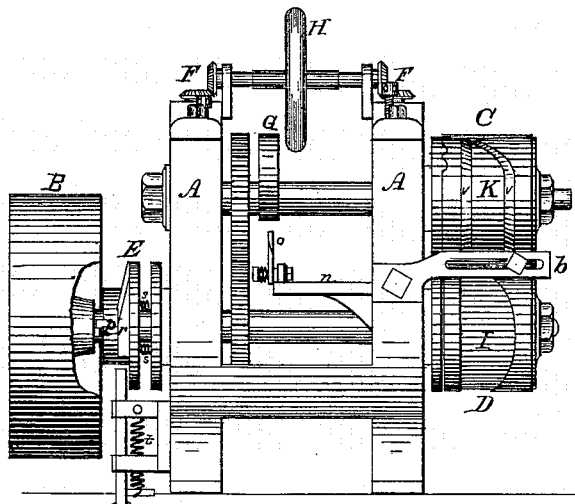


FIG. 2.

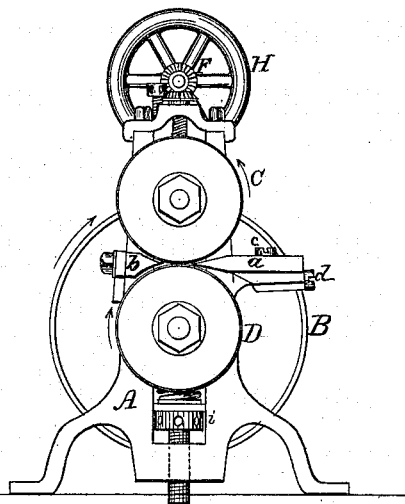


FIG. 3.

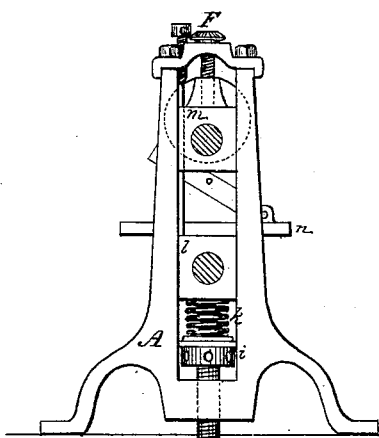
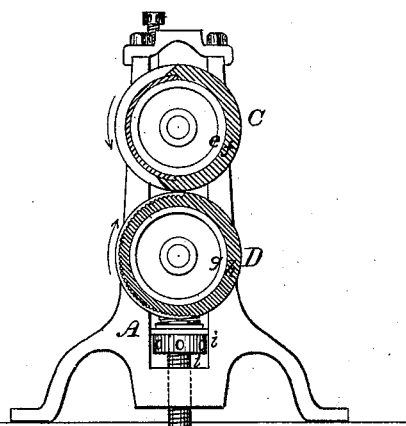


FIG. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID H. THOMAS, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN D. GRAY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR SKIVING STIFFENERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 201,069, dated March 5, 1878; application filed January 4, 1878.

To all whom it may concern:

Be it known that I, DAVID H. THOMAS, of Syracuse, Onondaga county, and State of New York, have invented a certain new and useful Improvement in Machines for Skiving Stiffenings for Boots and Shoes; and declare the following to be a full and complete description of the same, so as to enable any person skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide mechanical devices in a machine to skive, in a rapid and accurate manner, the stiffenings used in boots and shoes, and to finish them ready for use, obviating entirely hand-labor thereon.

To accomplish this desirable result I provide two feed-rolls with adjusting devices, hereinafter described. The rolls are secured to mandrels set in an upright frame, and are placed above each other. A feed-gage is secured midway on the frame, so as to carry the stock to be fed between the rolls. Opposite, and on the rear side of the frame, a knife beveled on both sides, of proper width, is secured in a horizontal position. The knife is slotted to permit a lateral adjustment, and is operated by set-screws. The mandrel of the lower feed-roll rests upon springs provided with an adjusting-screw, for giving a proper tension to the roll. The upper mandrel is elevated or depressed, to give the proper adjustment for thickness of stock, by means of geared screws, operated from the top of the upright frame.

To form the stiffening I provide a system of cylindrical sleeves having a grooved mold of the stiffening to be skived. These fit snugly on the upper feed-roll, and are held firmly in place by a collar and nut. The face of the sleeve for the lower feed-roll is corrugated, or provided with spurs, to catch and draw the stock through the feed gage and rolls. Motion is communicated to the feed-rolls by a pulley on the shaft or mandrel of the lower feed-roll, and by gears on the upper.

In order to secure uniformity and perfect work in the different sizes and shapes of stiffenings skived, I found it necessary to provide an automatic stop movement to have the feed commence at a given point. This I accomplish by means of a clutch on the driving-

shaft, provided with a graduated cam-wedge, upon which a tripping-bar catches and disengages the clutch at the desired point. The clutch is forced into position and engages the driver by a spring or springs, which operate when pressure is applied to the tripper. The tripper-bar is sustained between two lugs, and is carried into position by a spring when pressure is released on the tripper.

In the drawing forming a part of this specification, like letters indicate corresponding parts, in which—

Figure 1 is a front elevation of the machine. Fig. 2 is a side elevation; Fig. 3, an end view with rollers detached; Fig. 4, a cross-section of the feed-rolls.

The letter A represents the upright stanchions of the frame, upon and between which the journaled bearings of the feed-roll mandrels are sustained. B shows the driver attached to and communicating motion to the shaft of the lower feed-roll, which is transmitted to the upper feed-roll by gears. (Shown in Fig. 1.) C and D represent the upper and lower feed-rolls, on which is shown the before-described cylindrical sleeve, with skiving mold or slot K and the corrugated face I.

The feed-gage is shown at *b*, Fig. 1, and the skiving-knife, beveled on both sides, is shown at *a*, Fig. 2. The adjusting devices are shown by *c* and *d*. The tension-spring of the lower feed-roll D is shown in Fig. 3, at *k*, and the adjusting device of the upper feed-roll, consisting of the bevel-gear screws, is shown at F, and the operating hand-wheel at H, Figs. 1 and 2.

P, Fig. 1, is the clutch operating to engage the driver by the spirals *s s*. E is the graduated cam-wedge attached to the clutch, forming, in combination with the bar to which the tripper *u* is attached, the automatic stopping device. The tripper-bar, connected with *u*, is shown sustained by two lugs, and drawn in position by the spiral *t*, Fig. 1.

The cylindrical sleeves K for the upper feed-roll are chambered out, as shown in the cross-section view, Fig. 4, and have a facing of hard rubber inserted, to form an elastic backing for the face of the stock skived.

It will be observed that when motion is com-

municated to the driver B, and the tripper is applied, the feed commences at the intersection of the upper extremity of the corrugated face of the lower feed-roll and the lower extremity of the mold in the upper, were their peripheries continued, as shown in Fig. 4. By this arrangement the stock is skived into a perfectly-formed stiffening, which process requires merely a revolution of the feed-rolls. The tripper-bar, disengaged by the graduated cam, acts as a brake, and stops the rolls at the right point, thus forming an automatic device for regulating the application of power and stopping the rolls.

It will be readily seen that the shape and size of the stiffening can be varied in any manner desired by a proper grooved slot or mold in the face of the cylindrical sleeve, with corresponding corrugations in that of the lower, and the machine may be adapted to any kind of work by merely substituting proper molds.

I am aware that portions of the mechanism and movements employed in constructing my improved machine are old; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The cylindrical sleeve C, provided upon its face with a grooved mold, K, having an elastic backing, in combination with the sleeve D, provided on its face with corrugations or spurs to coincide with the mold K, and the driver B, substantially as shown and specified.

2. In a machine for skiving stiffenings, the sleeve C, constructed with a grooved mold, K, upon its face, and adapted to be secured on a feed-roll, the beveled adjusting-knife *a*, in combination with a feed roll or support, D, as herein described, and for the purposes specified.

3. In combination with the roll C, constructed with a mold, K, upon its face, the adjusting bevel-gear screws F F, substantially as shown and specified.

4. In combination with the feed-rolls C D, provided, respectively, with cylindrical sleeves, constructed with the mold K and corrugations I, a tension-spring, *k*, in the manner and for the purposes specified.

5. In a machine for skiving stiffenings, in combination with a cylindrical sleeve, C, constructed with a mold, K, for skiving stiffenings, an automatic stop device, substantially as shown, and for the purpose specified.

6. In combination with the feed-rolls C D, constructed to receive cylindrical sleeves, provided with a mold, K, and corrugations I, the knife *a* and the feeding-gage *b*, as herein set forth and described, and for the purposes specified.

DAVID H. THOMAS.

In presence of—

GEORGE W. HEY,

JOHN Y. TERRY.