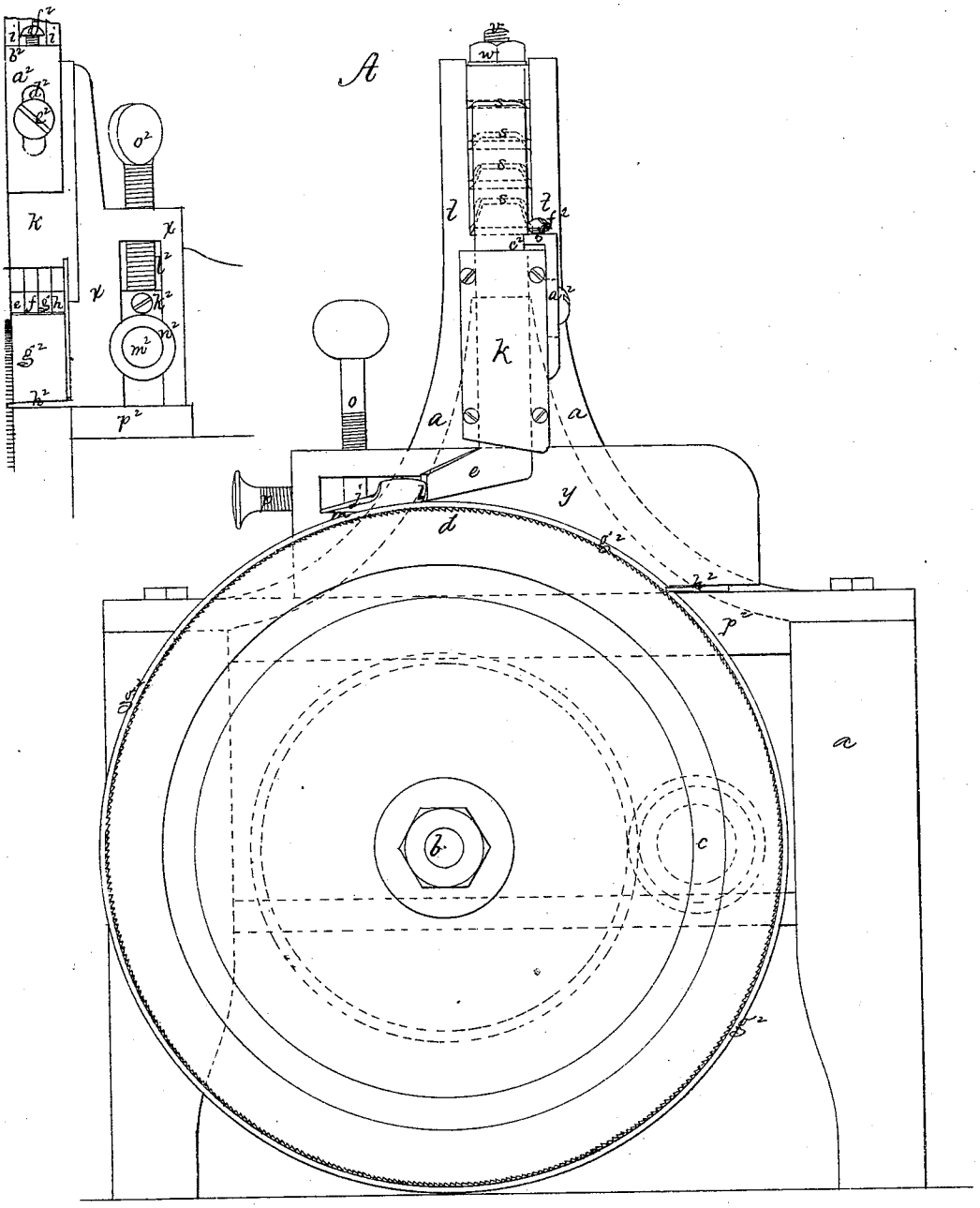
3 Sheets--Sheet 1.

C. STODDARD & H. J. NEWMAN.

Improvement in Skiving-Machines.

No. 130,330. Patented Aug. 6, 1872.



Witnesses.
Mo. W. Frothingham.
L. B. Kidder.

Curtis Stoddard,
Henry J. Newman.
By their Attys
Crosby & Fowler

3 Sheets--Sheet 2.

C. STODDARD & H. J. NEWMAN.

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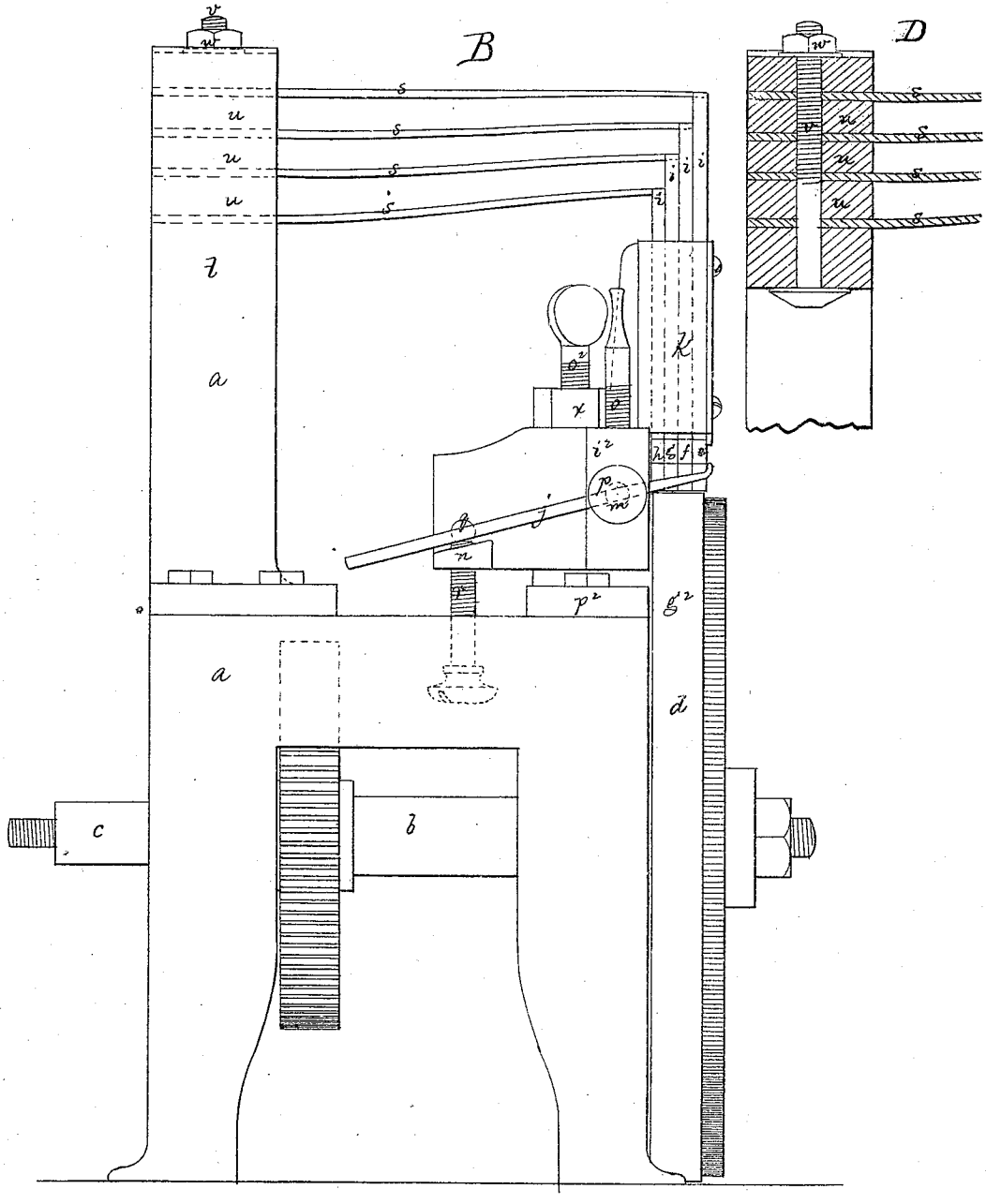


Witnesses.
M. W. Frothingham.
G. B. Kidder.

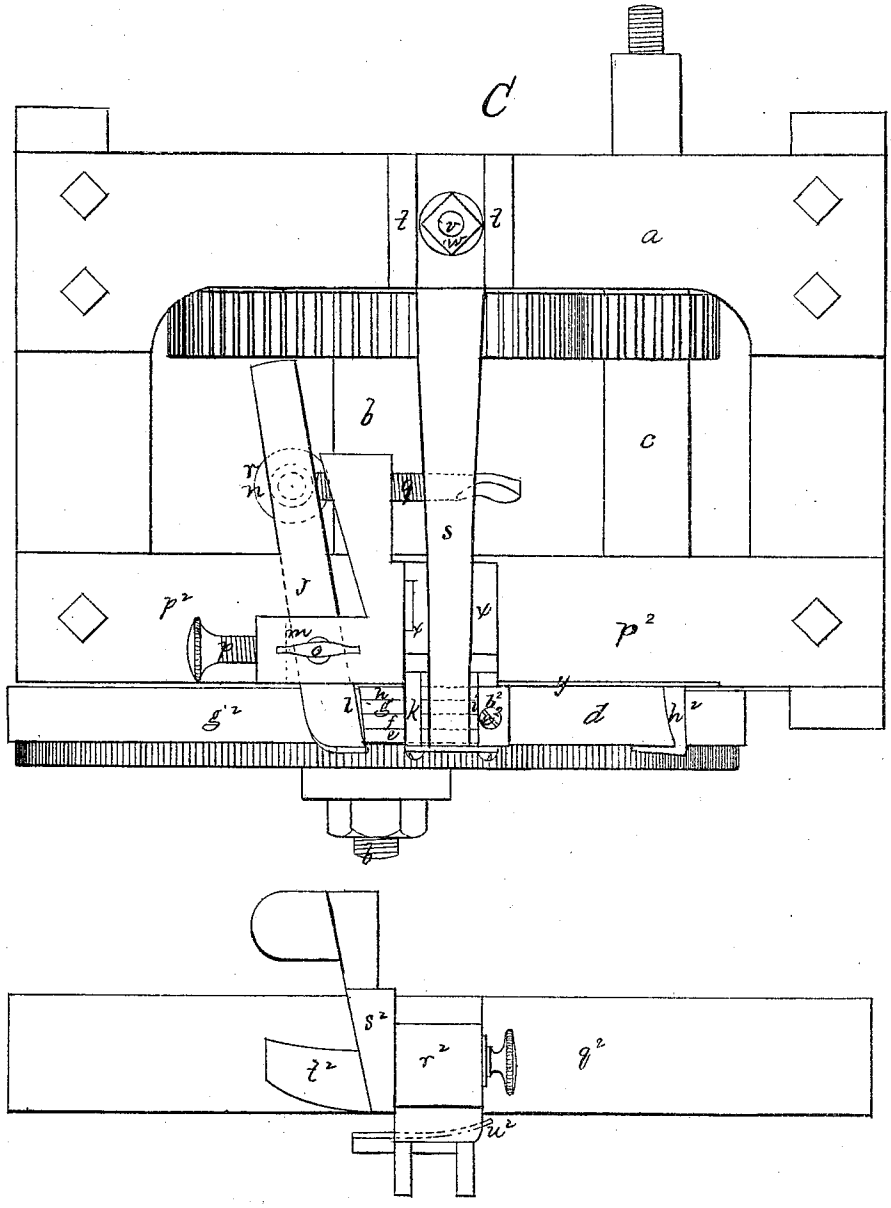
Curtis Stoddard.
Henry J. Newman.
By their Attys
Crosby & Gerlach

3 Sheets- Sheet 3.

C. STODDARD & H. J. NEWMAN.

Improvement in Skiving-Machines.

No. 130,330. Patented Aug. 6, 1872.



Witnesses.
M. W. Frothingham.
S. B. Kidder

Curtis Stoddard.
Henry J. Newman.
By their Attys.
Crosby & Gould

UNITED STATES PATENT OFFICE.

CURTIS STODDARD AND HENRY J. NEWMAN, OF NORTH BROOKFIELD, MASSACHUSETTS.

IMPROVEMENT IN SKIVING-MACHINES.

Specification forming part of Letters Patent No. **130,330**, dated August 6, 1872.

To all whom it may concern:

Be it known that we, CURTIS STODDARD and HENRY J. NEWMAN, both of North Brookfield, in the county of Worcester and State of Massachusetts, have invented an Improved Skiving-Machine; and we do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

The invention relates to the construction and arrangement of mechanism of a machine for skiving boot-counters and other leather or leather-work. In our machine we employ a large feed-wheel having a serrated or friction feed-surface; and in combination with this wheel we use a series of presser-feet forced down by suitable springs, and each foot being actuated by its own individual spring, so that while the feet may act in concert they also act independently each from the others; and these springs we so arrange that one or more of them can be thrown out of action, leaving the others free to act. By such provision the pressure can be applied immediately adjacent to the edge of the work to be skived or over a greater extent of surface, and the pressure can be modified, as may be required. Our invention consists, primarily, in this provision. In skiving uppers and soft leather, the outer surface of which should be left smooth and unmarred by the marks of the feed-teeth, we employ a flexible strap or band circumscribing the periphery of the feed-wheel or interposed between the top surface of the wheel and the presser-feet, such flexible strip or band being, preferably, formed of rubber compound, and its upper face forming a friction-surface, which insures the feed of the leather compressed between it and the presser-feet, and effectually protecting the leather from the impress of the feed-teeth. The employment of this interposed flexible strip or band constitutes another important feature of the invention. The minor features will be understood from the description of the mechanism.

The drawing represents a machine embodying the invention.

A shows the machine in front elevation. B is a side elevation of it. C is a plan. D is a section, showing the manner of applying the presser-foot springs. *a* denotes the frame; *b*, the main shaft journaled in suitable stationary bearings and driven by a gear-connection with a winch-shaft, *c*, or by any other suitable means. On the front end of the shaft *b* is fixed the feed-wheel *d*. This wheel is peripherally toothed or serrated, and to secure the best form of surface at the feed-point or plane this wheel is made of large diameter, so that its feed-teeth act upon an extended surface of the work instead of only upon one line or very narrow surface thereof. Over this wheel are located the presser-feet, a gang of four pressers, *e f g h*, being shown, the vertical shanks *i* of these pressers being inclosed between guide-plates or in a guiding-box, *k*, which permits them to slide vertically. Just beyond one end of the presser-points is the skiving-knife or cutter *j*, said cutter being a straight bar with a cutting-edge, *l*, at the end of one side of it. This bar rests near its front end on a seat, *m*, and its rear end upon an ear, *n*, and it is clamped by a screw, *o*. Previously to being permanently or tightly clamped it is adjusted, as to its lateral angular position, by set-screws *p q*, and as to its vertical inclination by a set-screw, *r*, its inclination in each direction being varied in accordance with the thickness of the skiving to be removed or the line of the cutting-edge. Upon the top of each presser-foot shank the front end of a spring, *s*, bears, each shank having its own spring, and the rear ends of the set of springs being fastened in the upper part of an upright, *t*. The shanks *i* are unequal in height, and the springs *s* are separated at their fixed ends by blocks *u* placed between them, the springs and blocks being fastened in place by a bolt, *v*, and nut *w*. Thus each presser-foot moves, presses, and yields independently of the others, its pressure being imparted and governed by its own spring, and to throw the upper spring, or it and the one or more next below it, out of action, the nut is loosened and a key, *x*, is inserted between the block under the lower spring to be released and said spring, the position of the key lifting the springs, so that they will not act on the presser-foot shank, and thereby releasing the presser-feet, whose pressure is governed by said springs, leaving the other presser-feet under the stress of their

particular springs. The edge of the piece to be skived is held and guided against a vertical face-plate, *y*, the inner side of the feed-wheel and the inner side of the inner presser-foot running against or in close proximity to the face of the plate; and when any of the presser-feet are thrown out of action the inner presser-feet remain in action and bear only upon the inner edge of the piece to be skived. The extent of downward movement of the presser-feet is limited by a plate, a^2, a lip, b^2, of which extends into a slot, c^2, made in one edge of each presser-foot shank. To adjustably vary this extent of downward movement the plate a^2 is made adjustable by means of a slot, d^2, and fastening-screw e^2, and a set-screw, f^2, the plate being set higher or lower, as may be required by the thickness or condition of the work to be skived. The feed-wheel is peripherally toothed or serrated to make the feed-surface, but we show applied to the wheel a band, g^2, preferably made of rubber compound, or of a material the adhesive surface of which will insure the feed of the leather to the action of the cutter as the feed-wheel is turned, the soft surface of the band protecting the surface of the work, so that it is left in the same condition as to surface as when it enters the machine. This band may be an endless apron running over the pulleys and between the feed-wheel and presser-feet or a flexible strip of suitable length. To keep it in position laterally a guide-hook or finger, h^2, may be used. The cutter is fixed in a block or frame, i^2, having a tail-piece, k^2, that enters a vertical slot, l^2, in the head *t*, the block being fastened in place by a screw-bolt, m^2, and washer n^2, or by other suitable fastening devices; and to vary the position of the cutter as may be required for stock of different thickness the block is raised or lowered by an adjusting-screw, o^2, the bolt m^2 being loosened to permit such adjustment and tightened when the cutter is properly positioned. The cross-beam or rail p^2, from which the head *t* extends, is preferably made removable, and when internally curved, or concave edges are to be skived, a rail, q^2, may be substituted for the rail p^2, such rail having an upright or head, r^2, to which is fastened a cutter-block, s^2, having a curved face, t^2, through which the cutter-shank extends, and a curved plate, u^2, back of and beneath the presser-feet, these two curved faces permitting the counter or other work or piece to be guided and turned to properly keep the edge up to the cutter and insure the removal of a skiving of uniform width or to uniformly skive the edge to be trimmed. Instead of making the rail removable, the heads t r^2 may alone be removable and interchangeable.

We claim—

1. In combination with the cutter *j*, the feed-wheel *d* and the independent presser-feet *e f g h*, each foot being actuated by an independent spring, substantially as shown and described.

2. The springs *s s*, separated by the blocks *u*, and held by the bolt *v* and nut *w*, the upper spring or springs being thrown out of action when necessary, substantially as described.

3. In combination with the series of presser-feet, the adjustable plate a^2, for determining and controlling the extent of descent of the presser-feet, substantially as described.

4. In combination with the serrated feed-wheel, the interposed flexible feed-strip or band, substantially as described.

5. In combination with the cutter-bar *j*, the adjusting and clamping screws *o p q r*, arranged substantially as shown and described.

6. In combination with the cutter-bar and adjusting-screw o^2, the adjustable cutter-block i^2, substantially as shown and described.

7. The removable and interchangeable head r^2, substantially as shown and described.

8. In combination with the head r^2 and the cutter and presser-feet, the curved guide-face t^2 and guide-plate u^2, substantially as shown and described.

CURTIS STODDARD.
HENRY J. NEWMAN.

Witnesses:
HIRAM KNIGHT,
JAMES MILLER.