S. B. RANDALL.

Machine for Creasing and Finishing Leather-Straps.

No. 160,231. Patented Feb. 23, 1875.

FIG. 1.

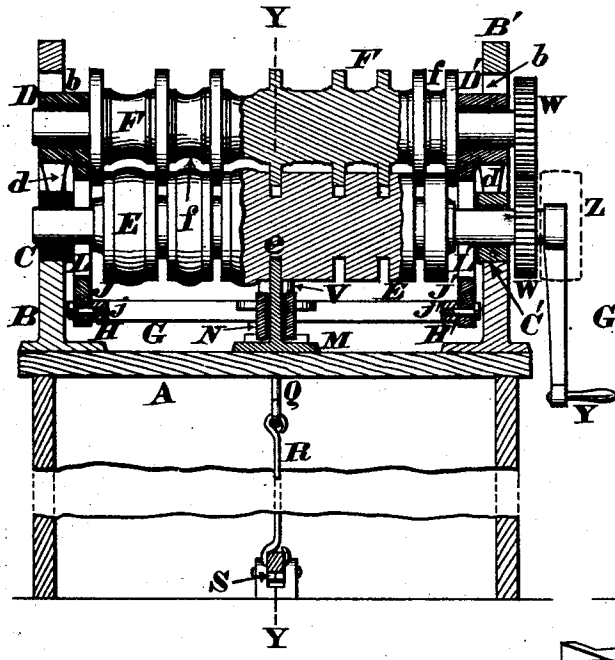


FIG. 2.

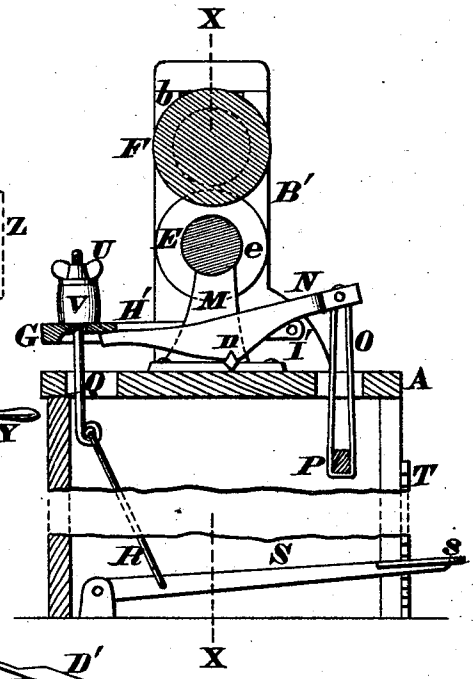


FIG. 3.

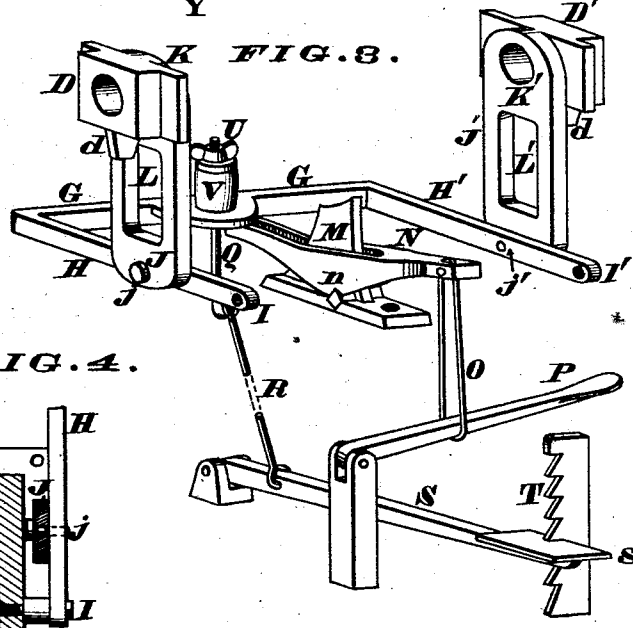


FIG. 5.

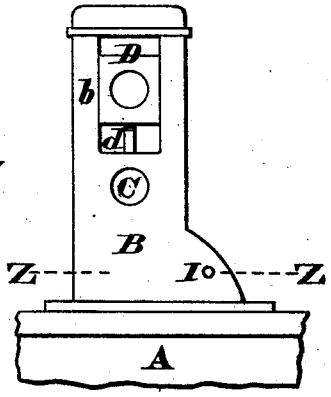
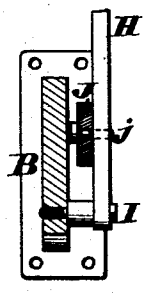


FIG. 4.



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Henry Tanner

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UNITED STATES PATENT OFFICE.

SILAS B. RANDALL, OF CINCINNATI, OHIO.

IMPROVEMENT IN MACHINES FOR CREASING AND FINISHING LEATHER STRAPS.

Specification forming part of Letters Patent No. **160,231**, dated February 23, 1875; application filed January 26, 1875.

To all whom it may concern:

Be it known that I, SILAS B. RANDALL, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Machine for Creasing and Finishing Leather Straps, of which the following is a specification:

This is an improvement in those creasing apparatus which comprise a pair of grooved horizontal rollers, journaled in a vertical frame, and of which one roller is capable of being pressed toward the other for imparting the requisite depth of crease, and of being lifted therefrom for the insertion and the removal of the work; and my improvement comprises an arrangement whereby the upper or facing roller is made the movable one, its journal-boxes being capable of being slid up or down within the housings by means of two yokes, which rest upon, and are pivoted to, a double-armed lever, that can be elevated or depressed at will by the foot of the operator, so as to lift or to depress the facing-roller with an equal action on both extremities thereof, which thus preserves its parallelism with the lower roller in every position, so as to press with equal force on both edges of the work. These pressure and relief movements are entirely under control of the operator's foot, leaving his hands wholly at liberty to manipulate the work.

In the accompanying drawings, Figure 1 is a vertical section of the machine on the line X X. Fig. 2 is a section on the line Y Y. Fig. 3 is a perspective view of the devices that regulate the position of the facing-roller relatively to the supporting-roller, the said rollers and the frame being omitted. Fig. 4 is a horizontal section through one of the standards at the line Z Z. Fig. 5 is a vertical profile of one of the standards.

A represents a bench or frame of convenient height, upon which are firmly secured two vertical standards or housings, B B′, having circular orifices C C′ for the journals of my supporting-roller E. Vertical slots *b* in said standards serve to hold and guide slidable boxes D D′ of my upper or finishing roller F. Spurs or feet *d*, that project from the boxes D D′, limit the approximation of the two rollers, in order to guard the raised devices of the facing-roller from excessive pressure, and to prevent the too great crowding together of the gearing.

For the sake of simplicity and cheapness of construction, as well as to make impossible any vertical play or disturbance of the supporting-roller, I prefer to journal the same directly in orifices in the standard, as in Fig. 3; but the said roller might, of course, be journaled in boxes firmly pinned in the bottom of the standard-slot, as in Fig. 1.

The elevation and depression of the facing-roller are effected by the following instrumentalities: G H H′ constitute the middle portion and arms of a two-armed lever, having fulcrums at I I′. To this lever are pivoted, *j j′*, two yokes, J J′, of the form shown in Fig. 3. These yokes terminate at their upper ends in eyes K K′, which embrace the necks of the facing-roller, and said yokes have slots L L′, which enable them to straddle the necks of the supporting-roller. The yokes J J′ may constitute each one piece of metal, with the respective boxes D D′, as shown in Fig. 3. Rising from the bench is a pedestal, M, which, entering the middle groove *e* of the supporting-roller, preserves the same from sagging. Said pedestal also serves as a bearing for the fulcrum *n* of a lever, N, whose rear extremity bears underneath the two-armed lever G H H′ at the mid-length of the latter, and whose front end is connected, by a rod or a thong, O, with a treadle, P, that is hinged underneath the bench. A rod, Q, which is engaged with the two-armed lever at its mid-length, passes down, and is connected by thong R, or other means, with another treadle, S, having a lip, *s*, that is capable of being engaged in either notch of a ratchet, T. The rod Q is screw-threaded for a thumb-nut, U, between which and the lever G there is interposed a gum cushion, V. W, W, Y, and Z represent, respectively, the customary match-gears for compelling simultaneous rotation of the rollers, a crank for rotating them by hand, and a pulley for rotating them by power, the latter being indicated by dotted lines.

The operation of my improved creaser is as follows: The facing-roller being temporarily lifted by depressing the treadle P, the strap or straps to be creased are introduced in their

appropriate grooves. The facing-roller is then brought to bear upon the work with the desired amount of pressure by pressing with the foot on the treadle S, which pressure may be intensified or relaxed to any degree required by the work in hand, or may be maintained at any given point by engagement of the treadle in the proper notch of the ratchet, the rollers being, of course, at the same time rotated.

The cushion V inverts the pressure of the facing-roller with a sufficiently yielding character to compensate for unequal thicknesses of the stuff, and the nut U enables a more accurate tempering of the pressure than would be afforded by the ratchet alone.

Owing to the facility with which the separation of the rollers is accomplished, my above-described apparatus is peculiarly adapted for the production of waving and other complex creasings, such as are often desired to occupy a part only of the length of the trace or other strap.

I claim herein as new and of my invention—

1. In combination with the supporting-roller E in stationary bearings, and the facing-roller F in sliding bearings, the yokes J J′, double-armed pressure-lever G H H′, relieving-lever N, double treadle movements Q R S O P, and ratchet T, substantially as described.

2. The pedestal M, serving as a fulcrum-bearing for the lever N, in combination with the lower roller E, substantially as and for the purpose described.

3. The sliding boxes D D′, provided with spurs *d*, for the purpose designated, in combination with the adjustable upper roller F, substantially as set forth.

In testimony of which invention I hereunto set my hand.

SILAS B. RANDALL.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.