G. W. EMERSON, J. G. BUZZELL & C. W. COLLYER.

Machine for Opening and Pressing Seams in Leather Work.

No. 212,843. Patented Mar. 4, 1879.

Fig: 1.

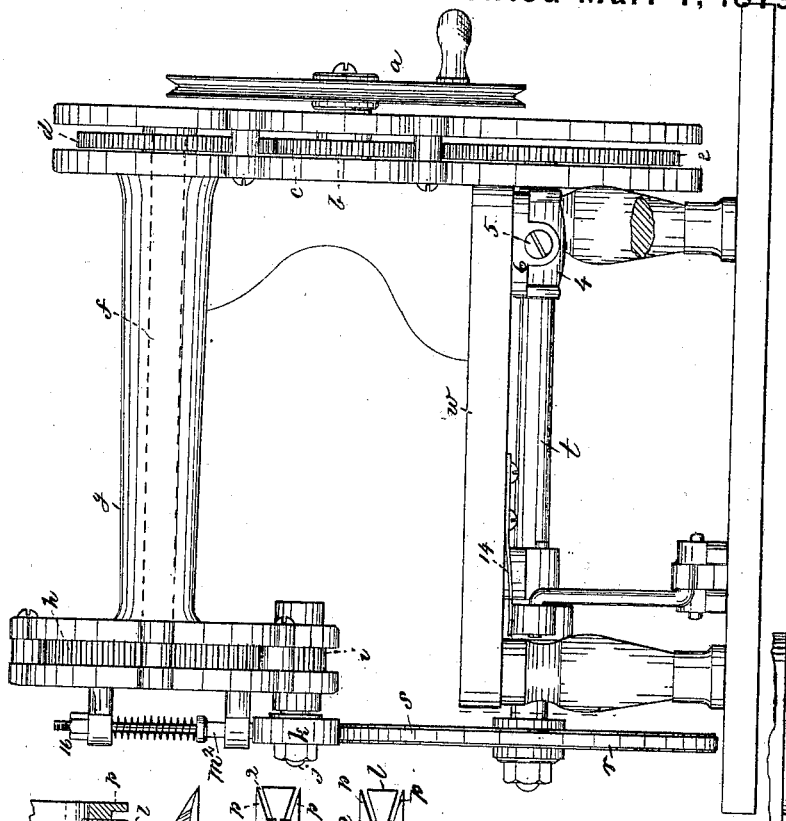


Fig: 3.

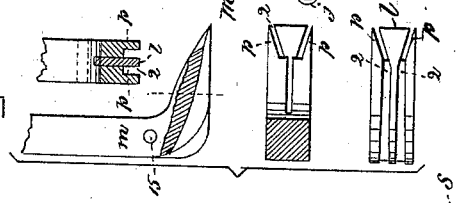


Fig: 2.

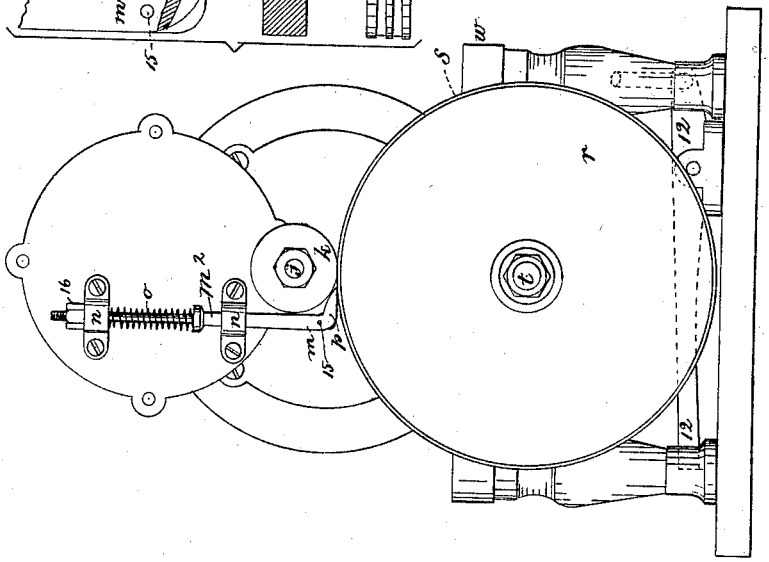
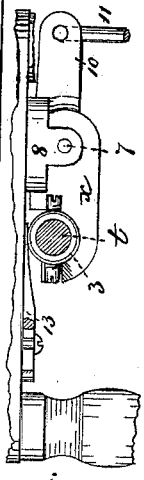


Fig: 4.



Witnesses.

L. F. Connor

W. E. Whitney.

Inventors

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UNITED STATES PATENT OFFICE.

GEORGE W. EMERSON, JOHN G. BUZZELL, AND CHARLES W. COLLYER, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR OPENING AND PRESSING SEAMS IN LEATHER-WORK.

Specification forming part of Letters Patent No. **212,843**, dated March 4, 1879; application filed November 23, 1878.

To all whom it may concern:

Be it known that we, GEO. W. EMERSON, JOHN G. BUZZELL, and CHAS. W. COLLYER, all of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Machines for Opening and Pressing Seams in Leather-Work, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to mechanism for opening and pressing seams in leather-work for boots and shoes.

The mechanism employed consists of a rotating wheel which supports and feeds the material, a grooved seam-guide, and an ironing or seam-smoothing wheel, they operating together as hereinafter set forth.

Figure 1 represents, in side elevation, a machine embodying our invention; Fig. 2, a front-end view thereof; Fig. 3, sectional details and an under-side view of the seam-guide; Fig. 4, a detail of the devices for raising and lowering the feed-wheel.

In boot and shoe work the edges of the leather or other material next the seam and parallel with it have to be pressed or rubbed down smooth; and the object of our invention is to do this easily and rapidly upon a simple and easily-operated machine.

Power to drive the machine is applied to the wheel *a*, on a shaft mounted at the rear part, *b*, of the frame, and provided with a toothed wheel, *c*, located between and made to operate the two wheels *d e*, the former of which is secured to a shaft, *f*, (see dotted lines in Fig. 1,) extended through the goose-neck *g*, and provided with a toothed wheel, *h*, which, in turn, engages a pinion, *i*, on a short shaft, *j*, having at one end the smoothing or ironing wheel *k*, which, in operation, bears upon the edges of the leather or other material just at or near the seam, and smooths or flattens the said edges properly.

The seam-guide *m* is made as a foot having two prongs or toes, *p p*, between the inner walls of which the edges of the leather next the seam are received, and, resting in the groove or grooves of the said foot, is guided by the said groove.

The bar m^2, which holds the foot or guide, is held in ears *n*, pressed down upon the material by a spring, *o*, and the descent of the said guide is controlled by the nut 16. The material, during the time it is being guided as it is being smoothed and flattened by the ironer *k*, is sustained upon the periphery of a feeding-wheel, *r*, preferably, specially for thin material, covered with india-rubber, as at *s*.

This feeding and supporting wheel is of such width as to sustain the material on its right face just at or near the line of seam, the material falling down each side of the wheel, and having no other support, the wheel being elevated sufficiently for that purpose above the bed *w*. This wheel is connected with the end of a shaft, *t*, having bearings 3 4, the shaft being provided with a toothed wheel, *e*, at its rear end, by which the shaft derives its rotation.

The bearing 4 is supported by points or screws 5, extended through ears 6, attached to the rigid part *w* of the frame, while the bearing 3 is mounted at the end of a lever, *x*, pivoted at 7 upon a lug, 8, attached to the part *w*.

The rear end, 10, of lever *x* is, by a link, 11, connected with one end of a foot or other treadle or lever, 12, by which the said feed-wheel may be depressed to permit the introduction of the material between it and the lower face of the wheel *k*, which is mounted upon a fixed stud or shaft.

An adjusting device, 13, (see Fig. 4,) shown as a wedge, and mounted between the bearing 3 and the bed, regulates the upward position of the surface of the wheel *r*, and the force of the upward pressure of the wheel is regulated by the spring 14. (See Fig. 1.)

The india-rubber covering *s* is held in a groove in the periphery of the wheel *r*, and may be taken off whenever desired.

We have shown the guide provided with a central keel or opener, *l*, made attachable and detachable from between the prongs or toes *p* of the guide-foot by means of the pin 15, Fig. 3.

With thin material it is desirable to employ this keel to enter, spread, and force apart the edges of the leather at the seam before it passes between the ironer *k* and supporting-wheel *r*. The wheel or support *r* acts with an

upward pressure, to bear the material against the ironer, held by a fixed stud, and against the bottom of the upwardly-yielding foot or guide.

By making the rear end of the keel broad, as shown in Fig. 3, the projecting edges of thin material may be gradually forced over before reaching the ironing-wheel.

We do not broadly claim a keel irrespective of its particular construction as described by us.

This narrow feeding and supporting wheel produces less friction upon the right face of the material adjacent to the seam than would be the case if the material were sustained upon a rigid non-rotating support, and were moved over such support by means of feed-wheels at each side of it.

In a machine having an opener composed of a roller with an annular rib about it, to enter between the edges of the material at the seam, said annular rib remains between the material but for a very little time, and necessitates the use between it and the smoothing or ironing roller of an independent pressing roller or device to prevent the edges of the material coming together after leaving the opening-roller, and before reaching the smoothing-roller; but with a grooved guide, such as herein described, to embrace the edges of the material at the seam, the seam may be held substantially up to the point where it is operated upon by the ironing-wheel *k*.

We claim—

1. In a machine for pressing seams, the upwardly-pressed narrow feeding and supporting wheel to support the material at the line of the seam and move it, and an ironing-wheel at the opposite side of the material, combined with a grooved foot to receive the edges of the material in the said groove, and an adjusting device to limit the descent of the foot, the latter being adapted to hold and guide the material upon the supporting-wheel, substantially as described.

2. The seam-guide *m* and adjusting device to limit its descent, combined with a feeding and supporting wheel held pressed upward toward the bottom of the guide by a spring, substantially as described.

3. In a machine to open and press seams, the keel or seam-opener, of an increased thickness at its rear end, to act upon and gradually spread apart the edges of the material, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEO. W. EMERSON.
JOHN G. BUZZELL.
CHARLES W. COLLYER.

Witnesses:
GEO. W. GREGORY,
N. E. WHITNEY.