

A. EPPLER, Jr.

MACHINE FOR CHANNELING AND FEATHER EDGING BOOT OR SHOE SOLES.

No. 387,058.

Patented July 31, 1888.

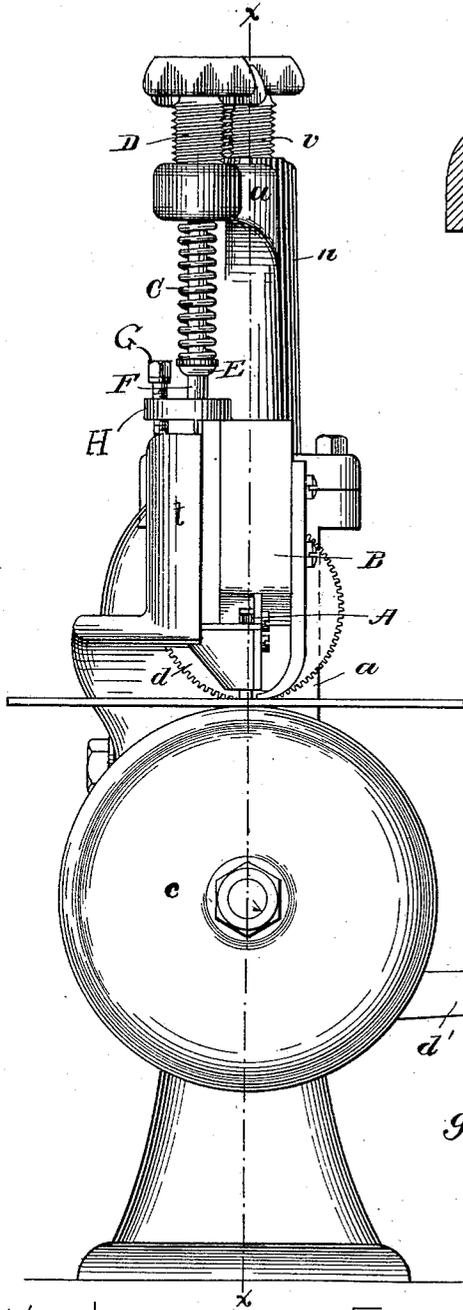


FIG. 2.

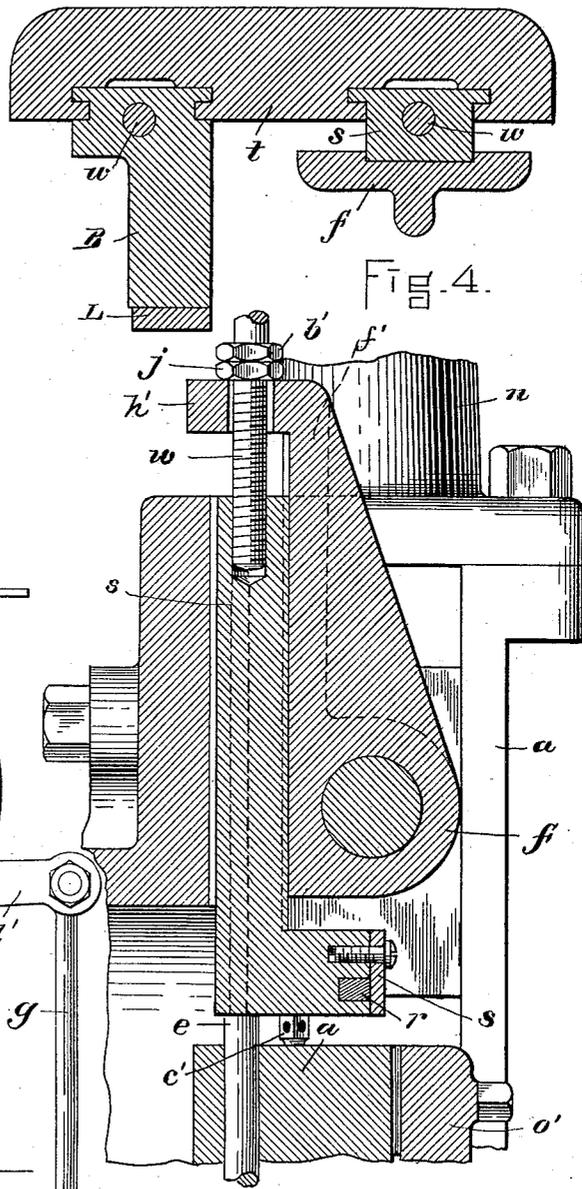


FIG. 4.

FIG. 3. INVENTOR,

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W. O. Ramsay.

A. Eppler Jr
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 Atty.

(No Model.)

3 Sheets—Sheet 3.

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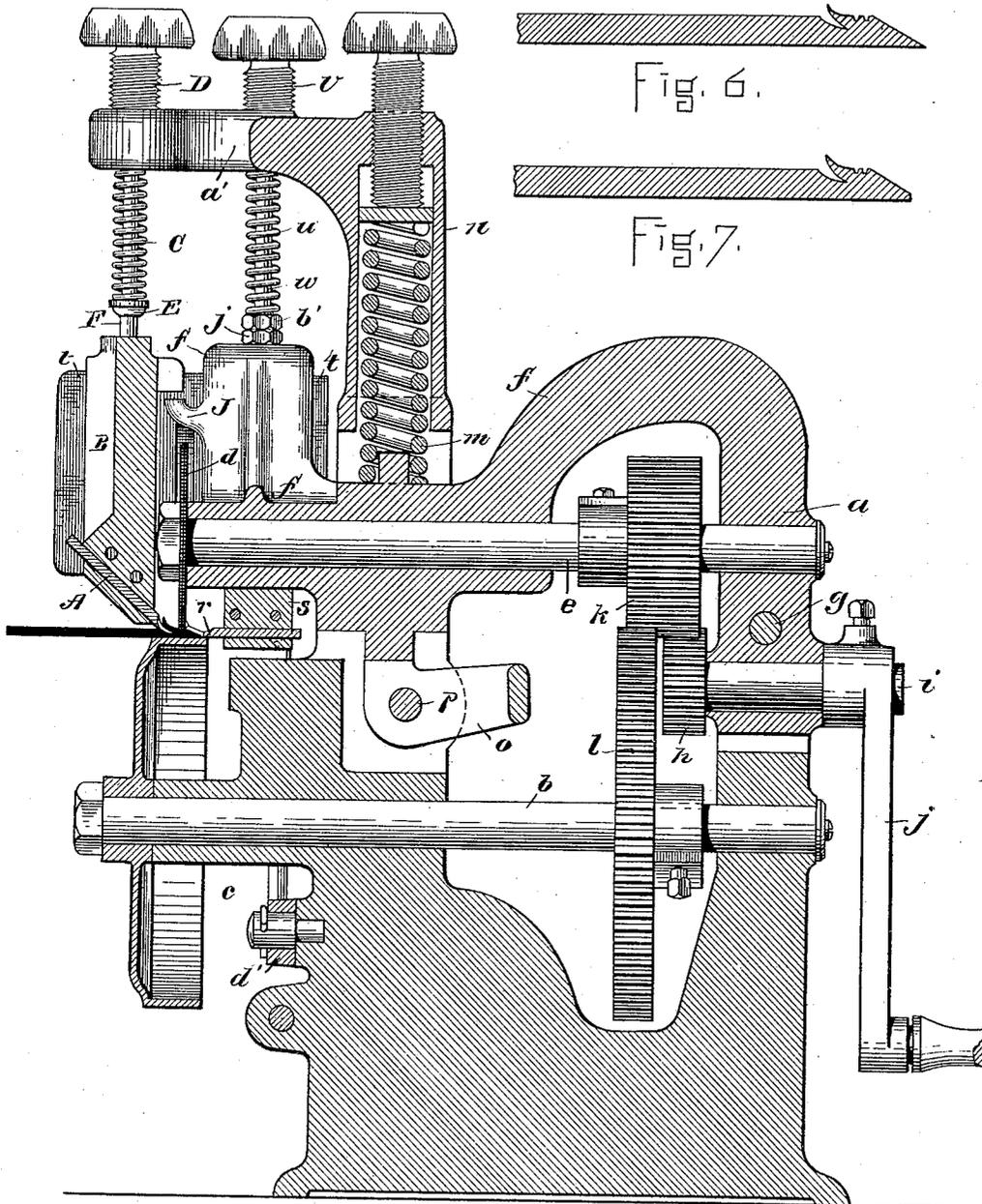


Fig. 6.

Fig. 7.

FIG. 3.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR CHANNELING AND FEATHER-EDGING BOOT OR SHOE SOLES.

SPECIFICATION forming part of Letters Patent No. 387,058, dated July 31, 1888.

Application filed April 25, 1888. Serial No. 271,831. (No model.)

To all whom it may concern:

Be it known that I, ANDREW EPPLER, Jr., of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Feather-Edging and Channeling Boot or Shoe Soles, of which the following is a specification.

This invention has for its object to provide an improved machine for feather-edging and channeling soles to adapt such soles to be secured to the uppers of turned or welted boots or shoes.

The invention consists in the several improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of my improved machine. Fig. 2 represents an end elevation of the same. Fig. 3 represents a section on line *x x*, Fig. 2. Fig. 4 represents a section on line *y y*, Fig. 1. Fig. 5 represents a section on line *z z*, Fig. 1. Figs. 6 and 7 represent sections of a sole after it has been channeled and beveled.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents the supporting-frame, in which is journaled the shaft *b* of the work-supporting wheel or bed-roll *c*, on which the sole is supported while being feather-edged and channeled.

d represents the feed-wheel, which is mounted on a shaft, *e*, journaled in bearings in a yoke or frame, *f*, which is pivoted at *g* to the supporting-frame *a*.

The feed-wheel and bed-roll are positively rotated in opposite directions by a pinion, *h*, on a shaft, *i*, journaled in the yoke *f* below the pivot *g*, said shaft having a crank, *j*. The pinion *h* meshes with a gear, *k*, attached to the feed-wheel shaft *e*, and said gear *k* meshes also with a gear, *l*, on the roll-shaft *b*. The yoke or frame *f*, in which the feed-wheel shaft is journaled, is adapted to swing in a substantially vertical direction on its pivot *g* to permit the feed-wheel to rise and fall. Said yoke is pressed downwardly by a spring, *m*, inclosed in a housing, *n*, on the supporting-frame, said spring giving the feed-wheel a yielding pressure on the work. To enable the operator to raise the feed-wheel for the insertion and re-

moval of the work, I provide a lever, *o*, which is pivoted at *p* to the supporting-frame and has a shorter arm bearing against the under side of the yoke *f* and a longer arm, which is connected by a rod, *q*, with a treadle. (Not shown.) The depression of said treadle by the operator's foot raises the shorter arm of the lever, and with it the yoke *f* and feed-wheel *d*.

r represents the edge beveling or feathering knife, which has an inclined cutting-edge arranged to cut a beveled strip from the upper surface of a sole resting on the roll *c*. The shank of said knife is suitably secured to a slide or holder, *s*, which is adapted to move vertically in guides in an arm or bracket, *t*, affixed to the supporting-frame, said slide being held down with a yielding pressure by a spring, *u*, interposed between an adjusting-screw, *v*, in a fixed arm, *a'*, on the supporting-frame, and a nut, *b'*, on a rod, *w*, attached to and projecting upwardly from the slide, said rod entering an orifice in the adjusting-screw, and being adapted to move up and down therein.

The extent of the depression of the knife-holder by the spring *u* may be regulated by a screw, *c'*, which is inserted in a part of the supporting-frame under the knife-holder *s*, and serves as an adjustable stop or rest on which said holder bears.

The knife-holder *s* may be raised independently, at the will of the operator, by means of a lever, *d'*, pivoted to the frame of the machine, a rod, *e'*, interposed between one arm of said lever and the knife-holder, and a rod, *g'*, connecting the other arm of said lever with a treadle, (not shown,) the depression of which raises the rod *e* and the knife-holder.

I have also provided for the raising of the knife-holder *s* simultaneously with the feed-wheel, and to this end I have provided the pivoted yoke or frame *f*, which supports the feed-wheel, with an arm, *f'*, having at its upper end a lip, *h'*, through a hole in which the rod *w* of the knife-holder *s* passes, as shown in Fig. 5. A nut, *j'*, on said rod bears on the upper surface of said lip *h'*, so that when the yoke *f* is raised, as above described, by the lever *o* to raise the feed-wheel the knife-holder *s* is also raised. The knife-holder has no positive engagement with the yoke *f*, and is there-

fore free to be raised independently by the lever *d'*, when it is desirable to raise the knife *r* without raising the feed-wheel.

k' represents a foot or gage attached to the yoke *f* by screws *l' l'* passing through slots *m' m'* in the shank of said foot. The gage is formed to bear on the upper surface of a sole beside the feed-wheel, and it limits the penetration or sinking of the teeth of the feed-wheel into the sole. The gage is vertically adjustable by means of the slots *m'* and screws *l'*.

n' represents an edge-guide, which is adapted to project over the bed-roll *c* and guide the edge of the sole. Said guide is formed on a lever, *o'*, which is pivoted at *p'* to the supporting frame, and may be adjusted by means of two stop-screws, *r' r'*, which may be arranged to hold the lever rigidly or to give it any desired amount of play. The guide *n'* may therefore be held at any desired distance from the feed-wheel. When the stops *r' r'* are adjusted to permit the lever *o'* to oscillate, a rod, *s'*, may be connected to said lever, said rod being connected with a treadle and normally raised by a spring, so as to hold the guide *n'* over the bed-roll, as shown in Fig. 1, the guide being drawn back by the depression of the rod *s'*.

A represents the channeling-knife, which is arranged diagonally in a slide or holder, *B*, to which the shank of the said knife is attached in any suitable manner. Said holder is fitted to slide vertically in guides in the arm or bracket *t*, and is pressed downwardly by a spring, *C*, interposed between an adjusting-screw, *D*, in the arm *a'*, and a collar, *E*, on a rod, *F*, which is attached to the knife-holder *B*.

The depression of the holder *B* and the normal height of the channeling-knife are regulated by a screw, *G*, in an ear, *H*, on the holder *B*, said screw being arranged to bear on the arm or bracket *t*, and constituting an adjustable stop which limits the downward movement of the holder *B* and the channeling-knife, so that the latter can be adjusted to cut a channel of any desired depth. An ear or lug, *J*, on the arm of the yoke or frame *f*, is arranged to bear on the under side of a projection, *K*, on the channeling-knife holder *B*, so that the upward movement of the yoke *f* will lift the channeling-knife. It will be seen, therefore, that while the feed-wheel, beveling-knife *r*, and channeling-knife *A* are raised simultaneously by the lever *o*, to permit the ready insertion and removal of the work, the beveling-knife may be raised independently of the feed-wheel and channeling-knife and the channeling-knife may be vertically adjusted independently. The beveling-knife may also be vertically adjusted independently by means of the stop-screw.

The described independent adjustments of the beveling and channeling knives adapt them to soles of various thicknesses and enable the bevel formed by the knife *r* to extend entirely to the bottom surface of the sole, as shown in Fig. 6, or only partly to the bottom surface, as shown in Fig. 7.

A foot or gage, *L*, is attached to the channeling-knife holder, its lower portion being arranged to bear upon the upper surface of the sole in advance of the channeling-knife. Said gage is adjustable vertically like the gage *k'*.

I am aware that the combination, in a sole-channeling machine, of a bed-roll, a feed-wheel, a vertically-movable yoke or frame supporting the feed-wheel shaft and held down by a spring, and a lever whereby the yoke may be raised to elevate the feed-wheel is not new, and I do not therefore claim such combination.

I claim—

1. The combination of the bed-roll, the feed-wheel, the vertically-movable yoke or frame *f*, supporting the feed-wheel and provided with a depressing spring, a lever whereby said yoke may be raised to elevate the feed-wheel, the edge-beveling knife, the spring-depressed holder therefor, and means, substantially as described, for independently raising said knife, as set forth.

2. The combination of the bed-roll, the feed-wheel, the vertically-movable yoke or frame supporting the feed-wheel and provided with a depressing-spring, a lever whereby said yoke may be raised to elevate the feed-wheel, the channeling-knife and a spring-depressed holder therefor, arranged, as described, to be raised by the yoke *f*, and an adjustable stop to limit the downward movement of the channeling-knife, as set forth.

3. The combination of the bed-roll, the feed-wheel, the vertically-movable yoke or frame *f*, supporting the feed-wheel and provided with a depressing-spring, a lever whereby said yoke may be raised to elevate the feed-wheel, the edge-beveling knife, the spring-depressed holder therefor, a connection, substantially as described, between said holder and the yoke or frame *f*, whereby the holder and knife are raised by said frame, and means, substantially as described, for independently raising said knife and holder, as set forth.

4. The combination of the bed-roll, the feed-wheel, the spring-depressed vertically-movable frame supporting the shaft of the feed-wheel, means, substantially as described, for raising said frame, the edge-beveling knife, the vertically-movable holder for said knife engaged with said frame to be elevated thereby, and a vertically-adjustable stop which limits the downward movement of said holder, as set forth.

5. The combination of the bed-roll, the feed-wheel, the vertically-movable spring-depressed frame supporting the shaft of the feed-wheel, means for raising said frame, and the vertically-movable knife-holders *s B*, arranged to be raised by the yoke *f* and provided with depressing-springs, as set forth.

6. The combination of the supporting-frame, the bed-roll, its shaft, the yoke or frame pivoted to the fixed supporting-frame, the feed-wheel mounted on a shaft journaled in said yoke, the crank-shaft *i*, journaled in said yoke and connected, as described, by gearing with

the shafts of the bed-roll and feed-wheel, whereby said roll and wheel are positively rotated in opposite directions, a spring whereby the pivoted yoke and feed-wheel are depressed, a lever whereby said yoke and feed-wheel may be raised, and vertically-movable holders *s* B, provided, respectively, with an edge-beveling knife and a channeling-knife and arranged to be raised by the yoke *f*, springs *u* C, whereby said holders are depressed, and adjustable stops whereby the depression of said holders is regulated, as set forth.

7. The combination of the supporting-frame, the bed-roll journaled therein, the yoke or frame *f*, pivoted to the supporting-frame, the feed-wheel mounted on a shaft which is journaled in said yoke, the lever *o*, pivoted to the supporting-frame and adapted to raise the yoke, the vertically-movable knife-holder *s*, having the edge-beveling knife *r*, the spring *u*, whereby said holder is depressed, and the

pivoted lever *d'*, whereby said holder may be independently raised.

8. The combination, with the bed-roll, the feed-wheel, and the beveling and channeling knives, of the laterally-movable edge-guide, the pivoted lever supporting said guide, and adjustable stops for said lever, as set forth.

9. The combination, with the bed-roll, the feed-wheel, and the beveling and channeling knives, of the gages or feet *k* L, arranged to bear on the upper surface of the sole at opposite sides of the feed-wheel and in advance of said knives, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 16th day of April, 1888.

ANDREW EPPLER, JR.

Witnesses:

C. F. BROWN,
G. W. STATHAM.