

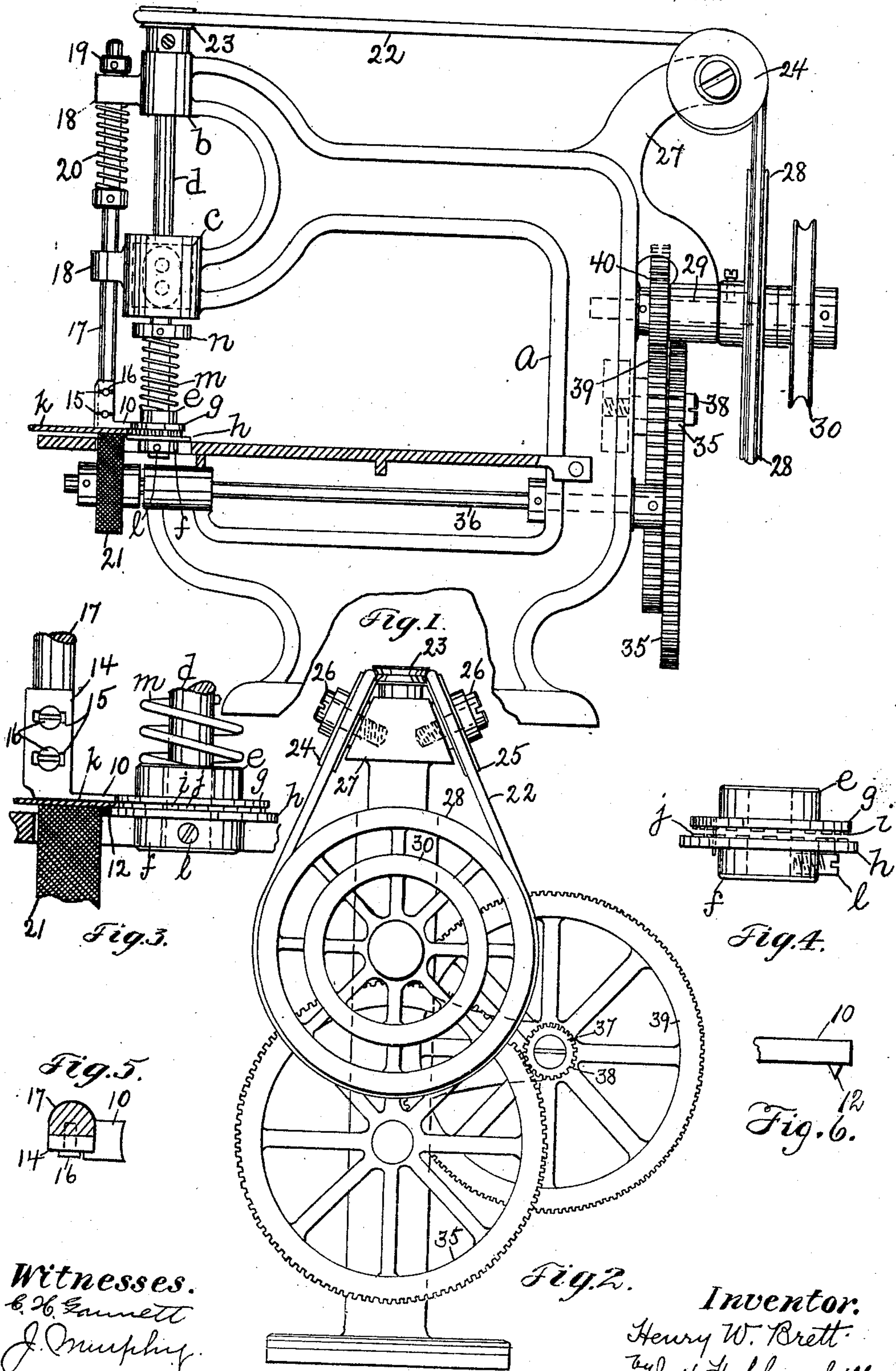
No. 830,563.

PATENTED SEPT. 11, 1906.

H. W. BRETT.

EDGE FINISHING MACHINE.

APPLICATION FILED DEC. 18, 1904. RENEWED APR. 5, 1906.



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UNITED STATES PATENT OFFICE.

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EDGE-FINISHING MACHINE.

No. 830,563.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed December 16, 1904. Renewed April 5, 1906. Serial No. 310,141.

To all whom it may concern:

Be it known that I, HENRY W. BRETT, a citizen of the United States, residing in Dorchester, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Edge-Finishing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a machine for burnishing the raw edges of pieces of leather, whereby the said edges have imparted to them a smooth and finished appearance, and has for its object to provide a machine of the class described with which the under side or surface of the material may be finished so as to leave the same smooth and without a fuzz. For this purpose I employ a rotary burnishing-tool having a grooved periphery, the lower wall of which groove is of greater diameter than the upper wall, so as to afford a support for the piece of leather close to the edge of the same and with which coöperates a device for firmly holding the piece of leather close to the edge and substantially at the point of contact of the burnishing-tool with the edge of the leather. The holding device referred to may and preferably will be made in the form of a presser-foot, which may be provided with a beading-lip on its under side, so as to engage the portion of the leather resting on the projecting lower wall of the groove in the burnishing-tool, whereby a bead may be formed in the upper surface of the leather close to the edge of the same. The presser-foot may be adjustable toward and from the burnishing-tool, as will be described. The machine is provided with a feed-wheel, which is located in close proximity to the projecting lip or annular flange on the burnishing-tool, so as to coöperate therewith and form a substantially continuous support for the leather. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of a machine embodying this invention; Fig. 2, an end elevation looking toward the left in Fig. 1; Figs. 3 and 4, details, on an enlarged scale, to be referred to; Fig. 5, a detail in plan of the presser-foot shown in Fig. 1; and Fig. 6 a detail, on an enlarged scale, to be referred to.

Referring to the drawings, *a* represents a framework which supports the operative

parts of the machine. The framework *a* is provided with suitable bearings *b c* for a vertically-arranged shaft *d*, carrying an edge-burnishing tool, which is preferably composed of two parts or members *e f*, provided with annular lips or flanges *g h* and intermeshing projections or teeth *i j*, which latter coöperate with the flanges *g h* to form a peripheral groove in the burnishing-tool, into which the raw edge of a piece *k* of leather, such as vici kid or other thin stock employed for the vamps, toe-caps, and other parts of a boot or shoe, is inserted to have the raw edge burnished or rubbed to impart to it a finished appearance. The lower member *f* of the rotary burnishing-tool may be secured to the shaft *d*, as by a set-screw 1, (see Figs. 3 and 4,) and the upper member may be loosely mounted on the shaft *d* and movable thereon to widen the groove between the flanges *g h*, so as to accommodate material of different thickness. The upper member *e* is normally held down with its teeth *i* in engagement with the upper surface of the lower member *f* by a spring *m*, which encircles the shaft *d* and the tension of which can be adjusted by the nut or washer *n*, adjustable on said shaft. The flange *h* is made of greater diameter than the flange *g*, so as to afford a supporting-surface for the leather *k*, and said supporting-flange has coöperating with it a device located above the said flange and between which device and flange the leather is firmly clamped, held, or gripped close to and substantially in line with the point or portion of the edge which is tangential to the rear or burnishing wall of the groove and which is acted upon by said rear wall.

The device referred to may be made as herein shown and consists of a substantially flat and wide presser-foot 10, having its front edge in the arc of a circle of substantially the same radius as the flange of the upper member of the burnishing-tool, so that the said presser-foot may be brought substantially in contact with the periphery of the flange *g*, with the under surface of the foot in line with the under surface of the flange to practically form a continuation of said upper flange, and said presser-foot projects over the flange *h* of the lower member and firmly clamps, grips, or holds the leather while its edge is being burnished and in addition serves to smooth and finish the unusually rough under surface of the leather at its edge. The presser-foot 10 may be provided on its under side near its

edge with a lip 12, (shown best in Figs. 3 and 6,) with which a bead may be formed on the upper surface of the leather close to its edge, the lip cooperating with the projecting flange *h*.

The presser-foot may be made adjustable toward and from the rotary burnishing-tool, so as to enable the bead to be formed near to or away from the edge of the leather, and for this purpose the shank 14 of the presser-foot is provided with transverse or lateral slots 15, into which extend set-screws 16, employed to secure the said shank to a vertically-movable presser-rod 17, which is extended through lugs 18 on the framework *a* and is provided with a nut 19, which limits the downward movement of the presser-rod under the influence of a spring 20.

The presser-foot cooperates with a feed-wheel 21, which has its periphery substantially in line with the upper surface of the flange *h*, the said presser-foot and feed-wheel engaging the leather substantially in a radial line with the point of contact of the burnishing-tool with the edge of the leather, so as to firmly hold the said leather while its edge is being finished.

The rotary burnishing-tool is designed to be rotated at a substantially high speed, and this may be accomplished, as herein shown, by a belt 22, which is passed about a pulley 23 on the shaft *d*, over pulleys 24 25, mounted on stud-shafts 26, set at an angle to a supporting-arm 27 of the framework, and thence about a pulley 28, fast on the main shaft 29. The main shaft is provided with a driving-pulley 30.

The feed-wheel 21 is designed to be driven at a slower speed than the burnishing-tool, which may be accomplished, as herein shown, by suitable gearing, comprising a large gear 35 on the feed-wheel shaft 36, meshing with a pinion 37 on a stud-shaft 38, and a large gear 39, fast to the pinion 37 and meshing with a pinion 40 on the shaft 29. The presser-foot may be raised in any usual or suitable manner to permit the edge of the piece of leather, which may have a straight or curved edge, to be placed in position to be operated upon by the burnishing-tool.

In operation the edge of the work is inserted into the groove in the burnishing-tool, and the rear wall of the same acts to finish the raw edge of the work, and by means of the presser-foot overlapping the flange *h* of the burnishing-tool the under side of the work, which is usually the flesh side, is practically ironed and rendered smooth, thereby imparting to said under surface a finished appearance at its edge, thus removing the rough or fuzzy under surface of the piece of leather at the edge of the same and materially improving the finished product.

I do not herein claim, broadly, a rotary burnishing-tool provided with a grooved pe-

riphery and means cooperating therewith to support and hold the leather at a point substantially in a radial line with the point of contact of the burnishing-tool with the edge of the leather, as the same forms the subject-matter of United States Letters Patent No. 797,551, granted to me August 22, 1905.

I claim—

1. In a machine of the character described, in combination, a vertically-arranged shaft, a burnishing-tool mounted thereon and comprising an upper member movable on said shaft, and a lower member fast on said shaft, said members having interlocking teeth or projections forming the rear wall of a peripheral groove, and said members having annular flanges forming the upper and lower walls of said groove, the lower flange being of greater diameter than the upper flange, a feed-wheel having its periphery substantially in line with the upper surface of said lower flange, a presser-foot cooperating with said feed-wheel and overlapping the said lower flange to engage the portion of the leather resting on said lower flange, and means to rotate said feed-wheel and said burnishing-tool, substantially as described.

2. In a machine of the character described, in combination, a vertically-arranged shaft, a burnishing-tool mounted thereon and comprising an upper member movable on said shaft, and a lower member fast on said shaft, said members having interlocking teeth or projections forming the rear wall of a peripheral groove, and said members having annular flanges forming the upper and lower walls of said groove, the lower flange being of greater diameter than the upper flange, a feed-wheel having its periphery substantially in line with the upper surface of said lower flange, a presser-foot cooperating with said feed-wheel and overlapping the said lower flange to engage the portion of the leather resting on said lower flange, a lip on the under surface of the overlapping portion of said presser-foot, and means to rotate said feed-wheel and said burnishing-tool, substantially as described.

3. In a machine of the class described, in combination, a vertically-arranged shaft, a rotary burnishing-tool mounted thereon and provided with a peripheral groove having its lower wall of greater diameter than its upper wall, a presser-foot cooperating with the projecting lower wall of said groove to engage the work and force it into engagement with said projecting lower wall, and a feed-wheel in line with said presser-foot and having its periphery substantially in line with said wall of greater diameter for the purpose specified.

4. In a machine of the class described, in combination, a rotary burnishing-tool provided with a peripheral groove having its walls of unequal diameter, a feed-wheel having its periphery substantially in line with the

wall of greater diameter, and a presser-foot cooperating with said feed-wheel and overlapping the wall of greater diameter, substantially as described.

5 5. In a machine of the class described, in combination, a rotary burnishing-tool provided with a peripheral groove having its walls of unequal diameter, a feed-wheel having its periphery substantially in line with
10 the wall of greater diameter, and a presser-foot laterally adjustable with relation to said burnishing-tool and cooperating with said feed-wheel and overlapping the wall of greater diameter, substantially as described.

15 6. In a machine of the class described, in combination, a rotary burnishing-tool pro-

vided with a peripheral groove having its walls of unequal diameter, a device cooperating with the wall of greater diameter to force the work into engagement with the said 20 wall of greater diameter, and means to feed the work past the burnishing-tool and between said device and wall of greater diameter, substantially as described.

In testimony whereof I have signed my 25 name to this specification in the presence of two subscribing witnesses.

HENRY W. BRETT.

Witnesses:

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