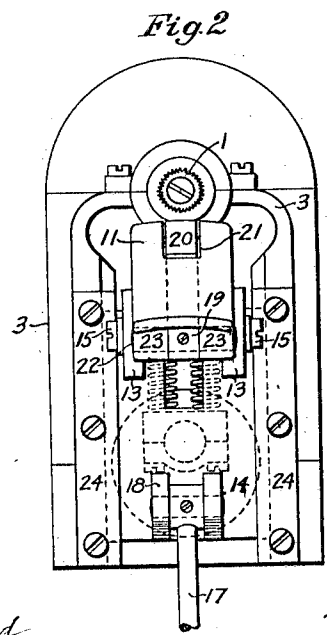
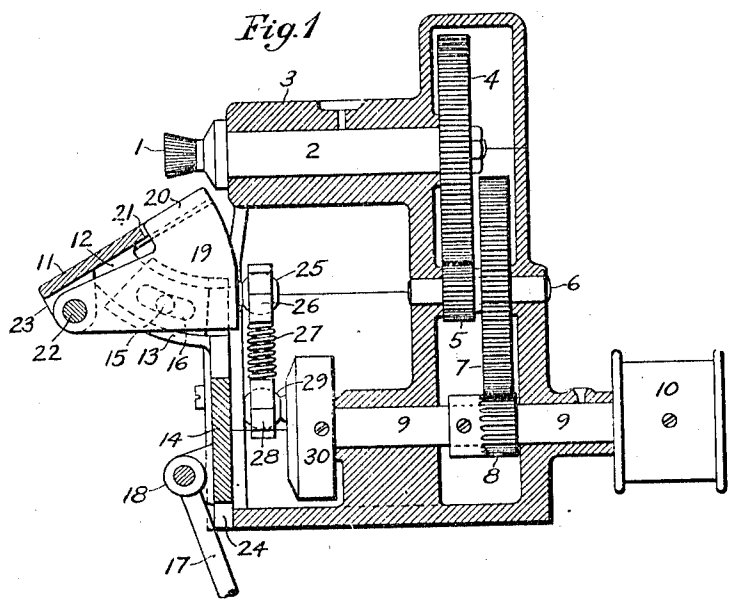


F. F. DORSEY.
MACHINE FOR FORMING ORNAMENTAL INDENTATIONS UPON LEATHER.
APPLICATION FILED JUNE 14, 1910.

1,048,506.

Patented Dec. 31, 1912.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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MACHINE FOR FORMING ORNAMENTAL INDENTATIONS UPON LEATHER.

1,048,506.

Specification of Letters Patent.

Patented Dec. 31, 1912.

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To all whom it may concern:

Be it known that I, FARNUM F. DORSEY, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Forming Ornamental Indentations upon Leather, and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to machines for forming ornamental indentations upon leather, particularly for forming indentations upon the upper surface of the welt or the sole margin of a shoe to simulate the appearance of a seam.

One object of the invention is to produce an indenting machine of simple construction which shall indent work rapidly and effectively.

Another object of the invention is to produce an indenting machine which shall feed the work positively by means of the indenting tool, but without danger of injury to the indented surface of the work.

To the above-mentioned ends I employ in my improved indenting machine an indenting tool engaging one side of the work, in combination with means engaging the opposite side of the work, and acting to subject the work to a rapid succession of impulses in the direction of the tool, whereby the work is forced intermittently against the tool to produce indentations of the required depth, while being intermittently released to a sufficient extent to permit a substantially constant feeding movement of the work.

Other objects and features of the invention will be set forth in connection with the following description of the illustrated embodiment thereof.

In the drawings:—Figure 1 is a side elevation of an indenting machine embodying the present invention, parts of the machine being shown in vertical section to disclose the interior mechanism; and Fig. 2 is a front elevation of the machine shown in Fig. 1.

The illustrated embodiment of my invention is an impression stitch machine and is provided with a frusto-conical toothed indenting roll or tool 1 of a form common in such machines. The roll 1 is mounted on

the forward end of a horizontal shaft 2, journaled in the frame 3 of the machine, and this shaft is rotated constantly during the operation of the machine to feed the work by the action of the roll.

The roll 1 and shaft 2 are rotated by means of a gear 4 fixed to the rear end of the shaft 2. The gear 4 engages a pinion 5 journaled on a horizontal shaft 6, and the pinion 5 is fixed to a gear 7 which engages a pinion 8 fixed to a horizontal power-shaft 9. The power-shaft is journaled in the frame of the machine, and is provided with a pulley 10 by means of which it may be connected with any suitable source of power.

The roll 1 is adapted to enter the crease between the upper and the welt or sole margin of a shoe, as is usual in machines of this character, and the shoe is supported upon a work support 11 engaging the lower surface of the shoe sole. The work support is slightly convex on its upper surface, as shown in Fig. 2, to adapt it to properly engage the concave shank of a shoe sole, as well as the convex fore-part. The work support is also so mounted as to permit a slight adjustment of its angular position, and to this end it is mounted downwardly and rearwardly projecting circularly curved arms 12, engaging similarly formed recesses in forwardly projecting arms 13 on a slide 14. This arrangement is such that by sliding the arms 12 in the arms 13 the work support may be turned slightly in either direction about a horizontal axis located slightly to the rear of the inner extremity of the work support. The work support is fixed in adjusted position by means of two binding screws 15 engaging the arms 12, and passing through slots 16 in the arms 13. This method of adjusting the work support forms in itself no part of the present invention, as it is common in machines of the kind in question.

In order that the work support may suitably engage work of different thicknesses, it has provision for vertical movement toward and from the roll 1, and to this end the slide 14 is mounted to move vertically in guideways 24 at the front of the frame of the machine. By means of a rod 17 pivoted in lugs 18 on the front of the slide 14, the slide is connected with a treadle (not shown) of ordinary form. After the work has been inserted between the roll and the

work support, the treadle is operated to raise the slide and press the work yielding against the roll with an amount of force which may be varied according to the character of the work.

The means for subjecting the work to the successive impulsions hereinbefore referred to comprise a hammer 19, which is provided with an upwardly-extending face portion 20 arranged to work in a recess 21 in the work support. The hammer 19 is pivoted upon a short shaft 22 journaled in depending lugs 23 at the front of the work support. The hammer is vibrated about its pivotal support by connection with the power shaft 9. To this end a pin 25 with a spherical bearing surface is fixed at the rear extremity of the hammer, and a bearing block 26 is pivoted upon the pin 25 and connected by means of two springs 27 with a bearing block 28. The latter is pivoted upon a spherical pin 29 which is fixed in a crank disk 30 fixed on the forward end of the power shaft 9. When the power shaft is rotated, the springs 27 and the bearing blocks 26 and 28 act in the nature of a connecting rod to vibrate the hammer and the face 20 of the hammer is thus caused to pound the lower surface of the sole of the shoe at the marginal portion upon which the roll 1 operates. The springs 27 afford the necessary resiliency to permit the hammer to be arrested when in full engagement with the work regardless of the variations in the thickness of the work.

The hammer above described has a smooth broad face of sufficient size to prevent injurious indentations of the lower surface of the sole. The action of the hammer is to force the work intermittently against the indenting roll with sufficient pressure to cause the latter to indent the work, and in this manner the necessity of subjecting the work to a considerable constant pressure through the action of the work support is avoided. The work is therefore subjected to working pressure only intermittently, and between the successive engagements of the work by the hammer the work is substantially free to be moved by the rotation of the roll, and thus the work can be fed positively by the roll, without subjecting the indented surface of the work to any considerable strain in the direction of feed.

While I have shown a particular and well known form of rotary tool for forming indentations of a particular character, it will be obvious that the novel method of operation of my machine may be employed in indenting machines having tools of various characters adapted to form indentations of various forms. The invention is not, in general, limited to the embodiment thereof hereinbefore described and illustrated in the

accompanying drawings, but may be embodied in various forms within the nature of the invention as it is defined in the following claims.

I claim:—

1. An indenting machine having, in combination, an indenting tool engaging one side of the work, means for pressing the work and tool together with an amount of force which may be varied according to the character of the work, and means for intermittently forcing the work and tool together substantially as described.

2. An indenting machine, having, in combination, an indenting tool engaging one side of the work, a work support cooperating with the tool to hold the work against the tool, and means for hammering the opposite side of the work to force the work against the tool.

3. An indenting machine having, in combination, a rotary indenting tool engaging one side of the work, means for rotating the tool to feed the work, a work support cooperating with the tool to hold the work, and means engaging the opposite side of the work and acting to force the work intermittently against the tool.

4. An indenting machine, having, in combination, a frusto-conical toothed indenting roll adapted to engage the crease between the upper and the sole margin of a shoe, means for rotating the roll to feed the work, a work support cooperating with the roll to hold the work, and means engaging the underside of the sole and acting to force the work intermittently against the roll.

5. An indenting machine, having, in combination, a frusto-conical toothed indenting roll adapted to engage the crease between the upper and the sole margin of a shoe, means for rotating the roll to feed the work, a work support movable toward and from the roll, a hammer pivotally mounted upon the work support, means for moving the work support to cause it to engage yieldingly the under-side of the sole of the shoe, and means for vibrating the hammer about its pivotal support to cause it to hammer the under side of the sole.

6. An indenting machine having, in combination, a rotary indenting tool engaging one side of the work, means for rotating the tool to feed the work, a work support cooperating with the tool to hold the work, and blow-delivering means operating against the opposite side of the work to force the work against the tool.

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Witnesses:

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