

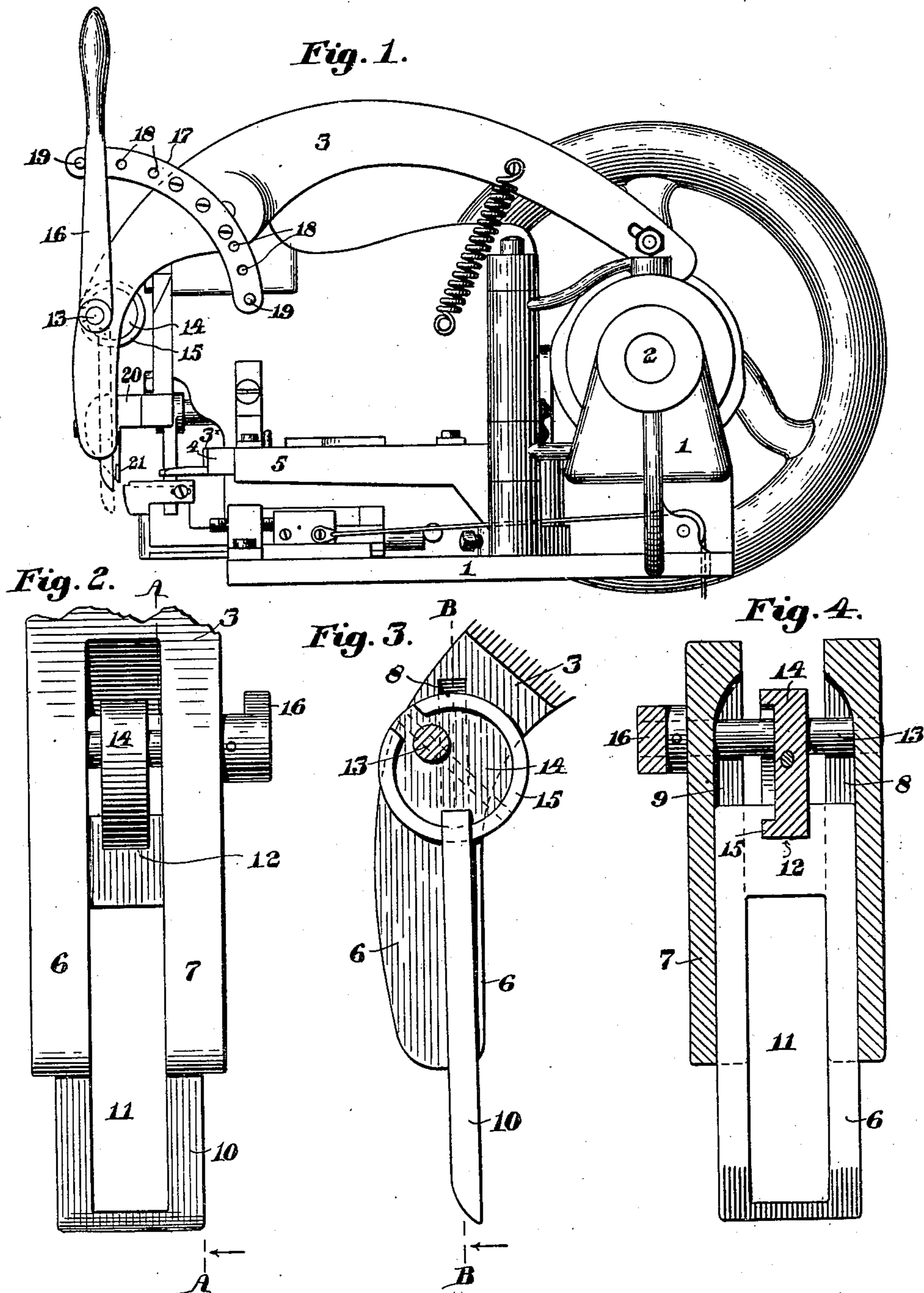
No. 700,624.

Patented May 20, 1902.

C. F. CUSHING.
SOLE ROUNDING MACHINE.

(Application filed Feb. 14, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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SOLE-ROUNDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 700,624, dated May 20, 1902.

Application filed February 14, 1901. Serial No. 47,305. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE F. CUSHING, a citizen of the United States of America, and a resident of North Abington, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Sole-Trimming Machines, of which the following is a specification.

My invention relates to sole rough-rounding and channeling machines, and is an improvement upon the invention shown and described in the Letters Patent No. 645,934, issued March 27, 1900, to which reference may be had for information as to the construction, arrangement, and operation of all the parts of the machine not shown in the drawings forming part of this application and not referred to in detail in this specification; and my invention consists in certain novel features of construction, arrangement, and combination of parts which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which my invention is clearly pointed out.

In the manufacture of boots and shoes it is sometimes desirable to so cut or shape the sole that that portion of the sole along the outside of the fore part of each shoe shall project a greater distance from the upper than around the toe or the inside portion of the fore part, thereby forming what is known as a "Baltimore edge." Many efforts have been made to accomplish this object by machinery and several attachments have been devised for this purpose and applied to sole-trimming machines of various kinds, but as a rule the devices have been so complicated in character that very little success has attended their use.

The present invention has for its object the production of a simple and compact device by which the objections to the devices heretofore in use may be entirely obviated, and to this end I apply to a rough-rounding machine, the main portions of which are constructed substantially the same as shown and described in the before-cited patent, my improvement, which is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a rough-

rounding machine having my improvement applied thereto. Fig. 2 is a partial front elevation of the guide-carrying lever and my adjustable guide drawn to an enlarged scale. Fig. 3 is a vertical section of said lever on line A A on Fig. 2 and showing the adjustable guide and its operating-eccentric in elevation, and Fig. 4 is a vertical section of said lever and the operating-eccentric on line B B on Fig. 3 looking in the direction of the arrow on Fig. 3 and showing the adjustable guide in elevation.

In the drawings, 1 is the frame of the head of the machine, constructed and arranged to be mounted upon a column or bench. (Not shown.) The driving-shaft 2 is mounted in bearings in said frame and has mounted thereon suitable cams for operating the crescent-shaped lever 3, the cutter-bar 3^x, the feed-point carrying-bar 4, and the feed and cutter bar carrying pivoted plate 5, all constructed, arranged, and operating as in said before-cited patent, the lever 3, through a guide which it carries and which will be hereinafter described, being laterally movable and co-operating with the work to impart to it a feeding movement with relation to the cutter. The front or short arm of the lever 3 is bifurcated to form two downwardly-projecting arms 6 and 7, the inner faces of which have formed therein rectangular grooves 8 and 9, respectively, in which is fitted, so as to be vertically movable therein, the gage-plate or guide 10, having cut therethrough the rectangular slot 11 and the L-shaped slot 12, as shown in Figs. 2 and 4. The arms 6 and 7 have fitted to suitable bearings therein a shaft 13, having fixed thereon between said arms the eccentric disk 14, having on one side thereof the laterally-projecting lip 15, extending nearly around said eccentric at its periphery and arranged to engage the L-shaped slot in said plate, as shown in Fig. 4. The shaft 13 has fixed thereon outside of its bearings in the arms 6 and 7 a lever 16, by which said eccentric may be moved about its axis to a limited extent to raise or depress the gage-plate 10 at the will of the operator. The lever 16 may be provided with a handle at its upper end, as shown in Fig. 1, and operated by hand, or its mov-

able end may be connected in any well-known manner to a treadle (not shown) and be operated by the foot of the operator. The lever 3 has secured thereto on the side thereof next 5 to the lever 16 the segmental plate 17, in which are formed a series of holes 18, in which are interchangeably set two pins 19, which serve to limit the movement of said lever 16 in either direction, as shown in Fig. 1. The 10 inner surface of the lower portion of the gage-plate 10 is serrated or roughened to give a firm hold on the surface of the sole when the shoe is being fed.

The frame 1 has secured thereto in a fixed 15 position a bracket 20, the lower portion of which projects outward through the slot 11 in the gage-plate 10 and downward to a point below the trimming-cutter and has secured to the inner surface of its lower portion a soft- 20 metal plate 21, against which said trimming-cutter contacts after passing through the sole precisely as described in said before-cited patent.

The operation of my invention is as follows: 25 The gage-plate 10 being in the position shown in Fig. 1 and a left shoe being placed in position, with its toe toward the right, and said gage-plate entering the crease between the sole and upper, with its inner surface bearing 30 against the welt and the machine being set in motion, the machine operating substantially as described in said prior patent will trim the sole edge to a uniform distance from the upper. If, however, it is desired to vary the 35 projection of the sole to form what is known in the trade as a "Baltimore edge," the operator when the shank has been trimmed moves the lever 16 toward the rear, thereby rotating the eccentric 14 and moving the gage- 40 plate downward transversely to the direction of movement of the knife, thus forcing the shoe downward and causing the cutter to act upon the sole at a greater distance from the junction of the upper with the sole. The 45 movement of the lever 16 may be gradual until it is arrested by the lever stop-pin 19, and when the trimming has reached a point a short distance from the curve of the toe the lever 16 is gradually moved in the opposite di- 50 rection until arrested by the upper pin 19, when the toe and the other side of the sole edge will be trimmed without further adjustment of the lever 16 and the gage 10.

The amount of variation in the projection 55 of the sole edge may be regulated by moving one or both of the pins 19 to greater or less distance from the end of the segmental plate 17, thereby varying the amount of vertical movement to be given to the gage-plate 10.

60 It will be seen that the gage-plate or guide and its entire adjusting mechanism are carried by and moved with the feeding-lever, which, in addition to its feeding function, thus acts as a guide-support, permitting my 65 improved Baltimore-edge attachment to be applied to rough-rounders of this type with merely simple changes to a single element.

I claim—

1. In a sole-trimming machine, the combination with a trimming-knife, of a movable 70 guide-support cooperating with the work, a guide arranged to move upon said support, and means wholly carried by and bodily movable with the guide-support for adjusting the guide at substantially right angles to the 75 plane of movement of the trimming-knife.

2. In a sole-trimming machine, the combination with a trimming-knife, of a movable guide-support cooperating with the work, a guide arranged to move upon said support, 80 an eccentric journaled in the guide-support arranged to control the movement of the guide, and means for operating the eccentric.

3. In a sole-trimming machine, the combination with a trimming-knife, of a movable 85 guide-support cooperating with the work, a guide arranged to move upon said support, an eccentric journaled in the guide-support arranged to control the movement of the 90 guide, means for operating the eccentric, and means for limiting the movement of said eccentric, both of which means are carried by the guide-support.

4. In a sole-trimming machine, the combination with a trimming-knife, of a movable 95 guide-support cooperating with the work, a reciprocatory guide mounted upon said support, means carried by the guide-support and bodily movable therewith for moving said 100 guide to vary the distance between its end and the trimming-knife, and stops also carried by the guide-support for limiting the movement of the guide in either direction.

5. In a sole-trimming machine, the combination with a trimming-knife, of a movable 105 guide-support cooperating with the work, a reciprocatory guide mounted upon said support, means carried by the guide-support and bodily movable therewith for moving the 110 guide to vary the distance between its end and the trimming-knife, and adjustable stops also carried by the guide-support for limiting the movement of the guide in either direction whereby the width of the sole outside the up- 115 per may be varied.

6. In a sole-trimming machine, the combination with a trimming-knife, of a movable support cooperating with the work and provided with guide-supporting grooves, a guide 120 mounted in said grooves and adapted to be moved to vary the distance between its working end and the trimming-knife, and a cam journaled in the support and coacting with the guide to control the movement thereof. 125

7. In a sole-trimming machine, the combination with a trimming-knife, of a movable support cooperating with the work and provided with guide-supporting grooves, a guide 130 mounted in said grooves and adapted to be moved to vary the distance between its working end and the trimming-knife, a cam journaled in the support and coacting with the guide to control the movement thereof, an

arm operable to move the cam, and adjustable stops for limiting the movement of the arm, said arm and stops being carried by the guide-support.

5 8. In a sole-trimming machine the combination of a trimming-knife, a guide-support, a guide arranged to be moved endwise in said support, an eccentric cam journaled in the guide-support arranged to control the movement of said guide, and vary the relative positions of its working end and the trimming-knife during the trimming operation, and means under the control of the operator for moving said cam, and limiting-stops for regulating the extent of movement of said guide.

10 9. In a sole-trimming machine the combination of a trimming-knife, a pivoted feeding-lever, a reciprocatory gage mounted in the working end of said feeding-lever, a cam for moving said guide endwise to vary the distance between its working end and the trimming-knife, an arm for controlling the movement of the cam, said cam and arm being carried by the feeding-lever, a segmental plate secured to said feeding-lever and provided with a series of pin-holes, and stop-pins adapted to be interchangeably mounted in said holes to vary the movement of said arm.

15 10. In a sole-trimming machine the combination of a trimming-knife, a guide-support, a guide arranged to be moved endwise in said support, and means wholly carried by and bodily movable with the guide-support under the control of the operator whereby the relative position of said guide and trimming-knife may be varied during the trimming operation.

20 11. The combination with a trimming-knife, of a feeding-lever, an independently-movable guide mounted upon the lever, and means carried by the lever for actuating the guide.

25 12. The combination with a trimming-knife, of a feeding-lever, an independently-movable guide mounted upon the lever, and an eccentric carried by the lever for actuating the guide.

30 13. The combination with a trimming-knife, of a feeding-lever, a guide movable

upon the lever, a shaft journaled in said lever, and an eccentric mounted upon the shaft and coacting with the guide. 50

14. The combination with a trimming-knife, of a feeding-lever, a guide movable upon the lever, a shaft journaled in said lever, an eccentric mounted upon the shaft and coacting with the guide, and a lever carried by the shaft. 55

15. The combination with a trimming-knife, of a feeding-lever, a guide movable upon the lever, a shaft journaled in said lever, an eccentric mounted upon the shaft and coacting with the guide, a lever carried by the shaft, and means for limiting the movement of the lever. 60

16. The combination with a trimming-knife, of a feeding-lever, a guide movable upon the lever, a shaft journaled in said lever, an eccentric mounted upon the shaft and coacting with the guide, a lever carried by the shaft, and adjustable means for limiting the movement of the lever. 65

17. The combination with a trimming-knife, of a bifurcated lever, and a guide adjustably mounted between the bifurcations. 70

18. The combination with a trimming-knife, of a lever divided at its end to form arms, a guide movably mounted upon the arms, and an eccentric journaled between the arms and coöperating with the guide. 75

19. The combination with a trimming-knife, of a lever, a guide movably mounted upon the lever and provided with an L-shaped slot, and an eccentric having its periphery entering and substantially conformed to the slot. 80

20. The combination with a knife, of a lever divided at its end to form arms, a guide movably mounted upon the arms, an eccentric journaled between the arms and coöperating with the guide, and means for rotating the eccentric carried by the lever. 85

Signed by me at Boston, Massachusetts, this 12th day of February, 1901.

CLARENCE F. CUSHING.

Witnesses:

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