O. ASHTON.

SHOE BEATER.

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1,009,713. Patented Nov. 28, 1911.

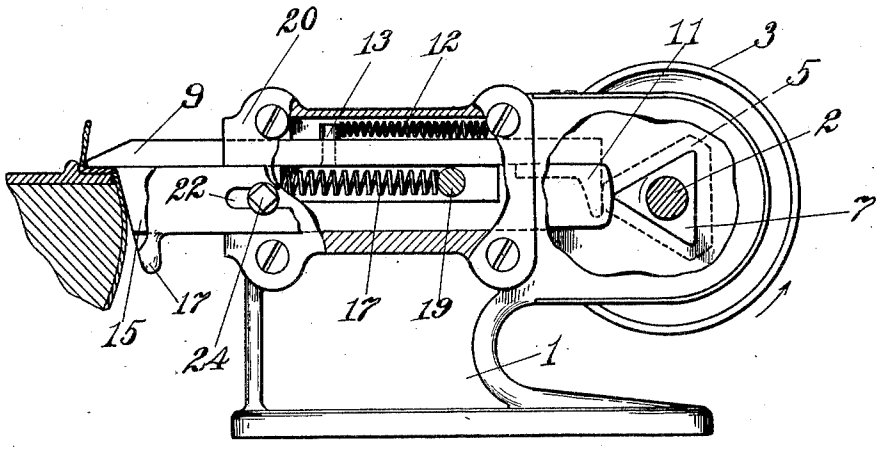


Fig. 1.

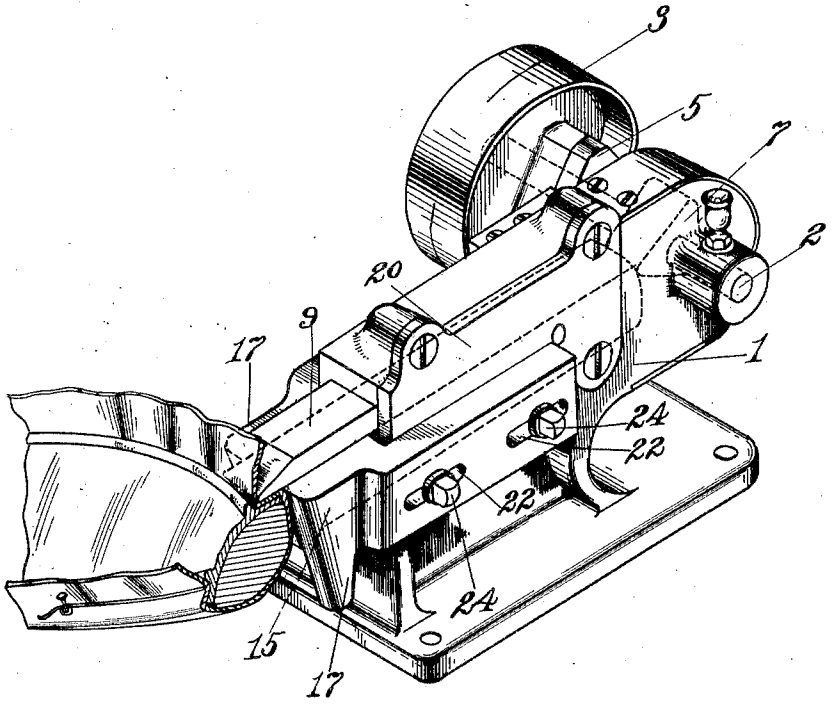


Fig. 2.

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SHOE-BEATER.

1,009,713. Specification of Letters Patent. **Patented Nov. 28, 1911.**

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To all whom it may concern:

Be it known that I, ORRELL ASHTON, a citizen of the United States, residing at Swampscott, in the county of Essex and State of Massachusetts, have invented certain Improvements in Shoe-Beaters, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to machines for shaping the upper to the marginal portion of a sole which is provided with a shoulder or lip, and to the side of the last adjacent such sole.

The invention, while capable of use in the manufacture of turn shoes, is especially important in connection with the manufacture of Goodyear welt shoes, and has for its objects the forcing of the upper material into snug engagement with the feather edge and lip of the sole, and the production of a sharp and well defined edge at the margin of the shoe bottom, whereby the welt may be caused to lie flat upon and in close engagement with the upper, and the appearance of the shoe when finished will be materially improved. In the machine herein selected for illustration of the invention these objects are accomplished by a tool which is constructed and arranged to force the upper inwardly from the outer edge of the sole to the shoulder or lip thereon and to press the upper into close engagement with said parts, and by a blocking tool operating in connection with such upper-pressing tool to beat the upper at the side of the shoe and remove all wrinkles from the leather. These tools preferably have imparted to them through suitable hammering means a plurality of rapid blows which effects a substantial compacting of the leather, with the result that the upper is molded to the feather edge and lip of the sole and to the adjacent side of the last, and a well defined edge is produced at the margin of the shoe bottom. Such an arrangement of tools, with the appropriate operating instrumentalities for securing the objects herein referred to, constitute an important feature of my invention. In the preferred construction the tools are mounted to reciprocate toward and from the work in suitable guideways in the frame of the machine, and the tool for forcing the upper against the lip and feather edge of the sole moves in a path closely adjacent to the path in which the blocking tool moves so that said tools coöperate to shape the upper to the sole and to the side of the last, the operator moving the shoe along as the work progresses to present successive portions thereof to the action of the tools. In the illustrated embodiment of the invention the tools are given forward movements to beat the work by suitably shaped cams, and are given movements reversely by yielding means which operates to hold the ends of the tools against the cams.

Another important feature of the invention consists in an improved form of gage for positioning the shoe properly with reference to the tools. This gage comprises two members which are secured to the frame of the machine adjustably, and project on opposite sides of the blocking tool so as to determine the location of the shoe for the appropriate action thereon of the tools. By adjusting the position of the gage the force of the blows delivered to the shoe by the tools may be suitably controlled.

These, and other features of the invention, including important details of construction and combinations of parts, will be hereinafter more particularly described and claimed.

In the drawings: Figure 1 is a view in side elevation, partly sectional, of a machine embodying this invention, and a portion of a shoe in position for the operation thereon of the tools; and Fig. 2 is a perspective view of the machine, and likewise showing a shoe in similar position.

A frame 1 is provided with bearings for a shaft 2 which carries a pulley 3 for receiving power through the usual belt, from a suitable source. The shaft 2 has fast thereon the triangular cams 5 and 7, the cam 5 being larger than the cam 7, as shown. The frame 1 is provided with a recess forming a guideway for a reciprocating tool 9 which is shown as having a forward beveled end shaped to engage the marginal portion of a shoe upper, and an angular extension 11 at its rear end to engage the cam 5. A spiral, or other form of spring 12, is housed in the frame, and has one end attached to the frame and its other end at-

tached to a pin or stud 13 carried by the tool 9, said spring being normally under sufficient tension to hold the tool back against the cam 5. Below the tool 9 and the recess occupied by said tool, is a reciprocating blocking tool 15 having its forward end portion shaped to engage the upper at the side of a shoe, and its rear end shaped to engage the cam 7. A spiral or other form of spring 17 is attached at one end to the tool 15, and at its opposite end to a stud 19, or other fixed part carried by the frame 1, said spring being normally under a sufficient amount of tension to hold the rear end of the blocking tool against its operating cam 7. The recess in the frame 1 within which the tools 9 and 15 are housed is preferably closed by a cover plate 20, which may be fastened to the frame by screws, as shown.

A gage 17, for positioning a shoe relatively to the tools 9 and 15, is provided, and comprises two like members which are respectively located on opposite sides of the blocking tool 15, the shoe-engaging faces of said gage members being preferably slightly inclined to the rear in order to conform with the inward slant of the side of the shoe near the edge of the sole, as shown in Fig. 1. The rear portions of these gage members are shown as being recessed to fit over the cover plate 20, and the frame on the opposite side, in order to bring the forward ends of said members close up to the sides of the blocking tool 15, and slots 22 are formed in the gage members through which pass clamp screws 24 which also engage threads in the frame, for adjustably securing said members in position.

In the use of the machine the gage members 17, 17, are adjusted in such manner that the shoe will, when resting against the members, be so positioned relatively to the tools that the force of the blows delivered will be that desired for properly shaping the upper to the sole margin and to the side of the shoe. Upon rotation of the shaft 2 the cams 5 and 7 will impart vibrations to the tools 9 and 15, and a shoe being positioned against the gage, as shown in the drawings, the tool 9 will be rapidly reciprocated across the feather edge of the sole and will force the upper into close engagement with said edge and tuck it snugly into the corner formed by the feather edge and the lip. The blocking tool 15 at the same time will be caused to beat the upper at the side of the shoe, and opposite the sole margin closely adjacent to the point of operation of the tool 9, said tools thus coöperating to mold the upper to the sole and to produce a well-defined edge at the margin of the shoe bottom.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. The combination with upper blocking means, of upper creasing means arranged for reciprocating movements in the plane of the sole.

2. The combination with upper blocking means arranged for reciprocating movements in a plane parallel with the plane of the sole, of upper creasing means, and actuating mechanism to cause said creasing means to reciprocate in the plane of the sole.

3. In a machine for operating upon shoes, the combination with a tool arranged for reciprocating movements in the plane of the sole to force an upper inwardly from the outer margin of the sole and tuck it into the angle formed by the feather edge and lip, of a blocking tool arranged to beat the upper at the side of the shoe adjacent to the point of operation of the first-mentioned tool, an actuating mechanism for said tools.

4. In a machine for operating upon shoes, the combination of a blocking tool, means for positioning a shoe relatively to said tool, a tool arranged to force an upper inwardly from the outer margin of a sole and press the upper into close engagement with the feather edge and lip, and means to actuate said tools.

5. In a machine for operating upon shoes, the combination of a blocking tool, an adjustable gage for positioning a shoe relatively to said tool, a tool arranged to force an upper inwardly from the outer margin of a sole and press the upper into close engagement with the feather edge and lip, and means to actuate said tools.

6. In a machine for operating upon shoes, the combination of a reciprocating blocking tool, a gage comprising two members located on opposite sides of said tool to position a shoe relatively to the tool, a tool arranged to force an upper inwardly from the outer margin of a sole and press the upper into close engagement with the feather edge and lip, and means to actuate said tools.

7. In a machine for operating on shoes, the combination of a support containing a guideway, a blocking tool arranged to reciprocate therein, a tool for forcing an upper against the feather edge and lip of a sole also arranged to reciprocate in said guideway, and means to actuate said tools.

8. In a machine for operation upon shoes, the combination of a support containing a guideway, a blocking tool arranged to reciprocate therein, a tool for forcing an upper against the feather edge and lip of a sole also arranged to reciprocate in said guideway, means for actuating said tools positively toward the work, and yielding means for reversely actuating said tools.

9. In a machine for operating upon shoes, the combination of a support containing a guideway, a blocking tool arranged to reciprocate therein, gage members positioned on opposite sides of said tool to locate a shoe

relatively to the tool, a tool for forcing an upper against the feather edge and lip of a sole also arranged to reciprocate in said guideway, and means to actuate said tools.

10. In a machine for operating upon shoes, the combination of a support containing a guideway, tools mounted to reciprocate in said guideway, said tools being constructed and arranged to force the upper inwardly from the outer margin of the sole and against the lip and to beat the upper at the side of the shoe to produce a well-defined edge, and means to impart rapid vibrations to said tools.

11. In a machine for operating upon shoes, the combination of a support containing a guideway, tools mounted to reciprocate in said guideway and having their work-engaging faces in close proximity, said tools being constructed and arranged to force an upper inwardly from the outer margin of a sole against the lip and to beat the upper at the side of the shoe to produce a well-defined edge, and means to impart rapid vibrations to said tools.

12. In a machine for operating upon shoes, the combination of a support containing a guideway, tools mounted to reciprocate in said guideway and having their work engaging faces in close proximity, said tools being constructed and arranged to force an upper inwardly from the outer margin of a sole against the lip and to beat the upper at the side of the shoe to produce a well defined edge, means for positioning the shoe relatively to said tools, and means to impart rapid vibrations to said tools.

13. In a machine of the class described, the combination of two tools arranged in superposed relation and having their work engaging faces shaped to force an upper inwardly from a sole margin against the lip and to beat the upper at the side of the shoe, said tools being arranged to reciprocate in a plane substantially parallel with the sole, and means for actuating said tools positively toward the work, and yieldingly away from the work.

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

ORRELL ASHTON.

Witnesses:
JAMES R. HODDER,
ELIZABETH C. COUPE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."