

O. ASHTON.
SHOE IRONING DEVICE.
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1,048,637.

Patented Dec. 31, 1912.

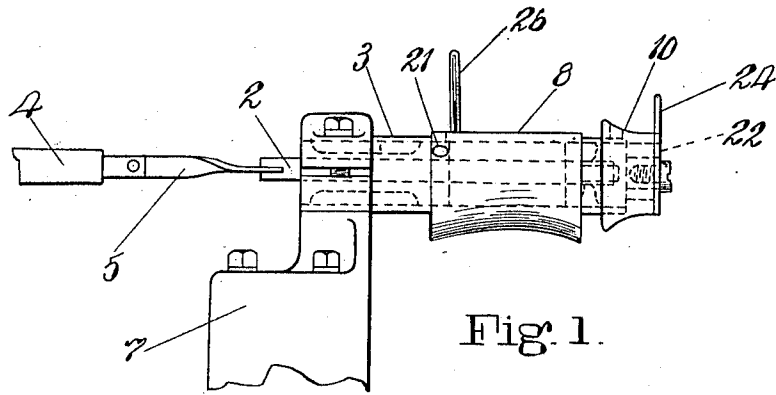


Fig. 1.

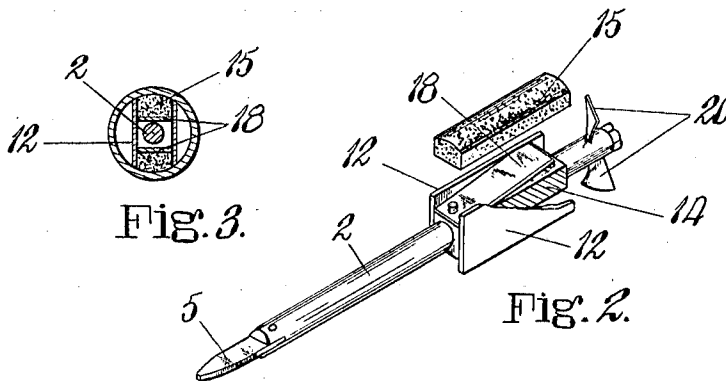


Fig. 3.

Fig. 2.

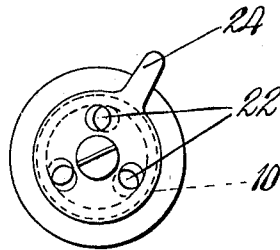


Fig. 4.

WITNESSES.

Elizabeth C. Cooper
O. Blanche Hargraves.

INVENTOR.

Orell Ashton
By his Attorney,
Nelson W. Howard

UNITED STATES PATENT OFFICE.

ORRELL ASHTON, OF SWAMPSCOTT, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHOE-IRONING DEVICE.

1,048,637.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Original application filed December 14, 1910, Serial No. 597,190. Divided and this application filed April 5, 1912. Serial No. 688,810.

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-Ironing Devices, 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 use in the manufacture of boots and shoes and more particularly to a machine for use in shaping and ironing the uppers of turn shoes to bring the upper into conformity with the shape of the last. This work has heretofore been done largely by ironing tools heated by gas flames and other outside sources of heat and also by friction devices engaging the outer face of the tool.

An object of the present invention is to provide a machine having a tool, which may, for example, be adapted to treat the body portion of the upper on the top and sides of the last and also to extend into the crease between the upper and the projecting edge of the sole, which is heated from an internally arranged device, the tool in this instance being stationary and the friction device being driven. The friction device comprises a rotating shaft or stem upon which is supported one or more friction blocks of asbestos, or other suitable material having similar characteristics, which are turned by the shaft within the tool and are free to press outwardly against the internal face of the blocks by centrifugal force. Weights loosely interposed between the friction blocks and the shaft determine the pressure with which the blocks will be forced outwardly against the ironing block as the shaft is rotated.

A further feature associated with this construction is found in novel means for regulating the temperature to which the ironing block will be raised by the action of this heating device. This is embodied in a fan, comprising blades mounted on the shaft that supports the friction blocks, which suck through the ironing block a current of air. For regulating the extent of this action the outer end face of the ironing block is provided with openings over which is adjust-

able a slide to vary the amount of cool air which may be admitted.

Conveniently a thermometer may be associated with the tool to show to the operator the condition of the block at all times and thus enable him to increase or decrease the temperature of the tool.

The several features of the invention will be more fully understood from the following description of the machine and the invention will then be pointed out in the claims.

Figure 1 is a side elevation of the apparatus; Fig. 2 is a perspective of the heater; Fig. 3 is a cross section of the ironing tool and the heater; and Fig. 4 illustrates the arrangement for regulating the temperature to which the ironing tool will be heated.

The machine in which the present invention is more conveniently embodied is adapted especially for performing the shaping operations required on a shoe to bring it into conformity with the last and is fully shown and described in my co-pending application, Ser. No. 597,190, of which application the present application is a division although it can be used as an independent machine.

The machine includes a shaft 2 journaled in a sleeve 3 in the frame 7 of the machine which in this embodiment is connected to a rotating shaft 4, driving other tools for operating on the shoe, by a twisted resilient steel strip 5 constituting a non-positive connection between the two shafts. The shaft 2 extends into an ironing block 8 and it may be also extended into a second ironing block 10 of different contour than the block 8. The block 8, which is rigid with the shaft bearing 3 has a cylindrical opening concentric with the shaft and the portion of the shaft which is within the block 8 carries a cage formed by the parallel plates 12 rigidly attached to a rectangular section 14 of the shaft and forming on the upper and lower sides of the shaft, as it is shown in Figs. 2 and 3, guideways for friction blocks 15 each of which is preferably made of asbestos and is loose enough in its guideways to be pressed outwardly by centrifugal force into contact with the inner face of the block 8 when the shaft 2 is rotating. The degree or the amount of friction and therefore the de-

gree of heat developed in the ironing block 8 is regulated by one or more weights in form of plates 18 loose in the guideway between the block 15 and the shaft. The construction of these parts is such, as clearly appears in Fig. 3, as to provide an air space or channel on the opposite side of the plates 12 and the shaft 2 is extended beyond said plates and provided with vanes or blades 20 adapted to fan the air through said spaces, and toward other parts of the machine. The block 8 may have outlet openings as at 21 and said block or the block 10, as shown in Figs. 1 and 4, has inlet openings 22 through which cool air is taken in by the fan and caused to absorb heat from the ironing block 8 for reducing the temperature of that block when it is too hot. A circularly moving slide having a handle 24 is pivoted on the end of the ironing block and has holes which may be brought into any degree of register with the holes 22 for regulating the admission of cool air.

A thermometer 26 may be arranged in position to indicate to the operator the temperature of the ironing block.

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

30 1. A shoe shaping machine having, in combination, an ironing device and means for heating said device comprising a block arranged for rotation within said device and mounted for outward pressure by centrifugal force against a face of said device during rotation.

40 2. A shoe shaping machine having, in combination, an ironing device and a shaft provided with eccentrically mounted friction elements held outward by centrifugal force against an internal wall of said device during rotation of the shaft to heat the ironing device.

45 3. A shoe shaping machine having, in combination, a stationary ironing block having a shaped work smoothing external face and a cylindrical opening, a shaft arranged concentrically with relation to said opening, friction members connected eccentrically to the shaft and arranged within said opening to be pressed against said block by centrifugal force when the shaft is rotated.

50 4. A shoe shaping machine having, in combination, an ironing device and a heater therefor comprising a shaft provided with a cage, friction blocks within the cage arranged for outward pressure by centrifugal force against an internal wall of the ironing

device, and weights also confined within the cage arranged for varying the outward pressure of the friction blocks.

5. A shoe shaping machine having, in combination, a non-rotary ironing device having a shaped upper smoothing face and a cylindrical chamber, a driven shaft having a cage within said chamber, and asbestos blocks in said cage arranged to be pressed outwardly into frictional rubbing engagement with the walls of said chamber to heat said ironing device.

6. A shoe shaping machine having, in combination, an ironing device having a metallic lined cylindrical chamber and a driven shaft carrying an eccentrically mounted block of asbestos which is pressed outwardly into frictional rubbing engagement with the metallic wall of said chamber by centrifugal force as the shaft is turned.

7. A shoe shaping machine having, in combination, the ironing block 63 the shaft 60 having the cage 68 turning within said ironing block, and the asbestos friction blocks and removable weight plates 72 carried by the cage and pressed outwardly by centrifugal force against the ironing block to heat it as the shaft is rotated.

8. A shoe shaping machine having, in combination, an ironing device having an opening therethrough, means for heating said device, continuously running mechanism for operating the heating means, a fan adapted to blow air through said opening to cool the ironing device and means to regulate the admission of air.

9. A shoe shaping machine having, in combination, an ironing device having a cylindrical chamber, a centrifugal friction heater mounted in said chamber and a fan to produce a circulation of air relatively to the ironing device, substantially as described.

10. A shoe shaping machine having, in combination, an ironing device having a cylindrical chamber, a centrifugal friction heater mounted in said chamber, a fan turning with said heater and arranged to blow air through the ironing device, and means for regulating the admission of air to the fan.

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

ORRELL ASHTON.

Witnesses:

CHESTER E. ROGERS,
MABEL A. SWETT.