O. ASHTON.

SHOE BEATING MACHINE.

APPLICATION FILED APR. 22, 1909.

1,008,298. Patented Nov. 14, 1911.

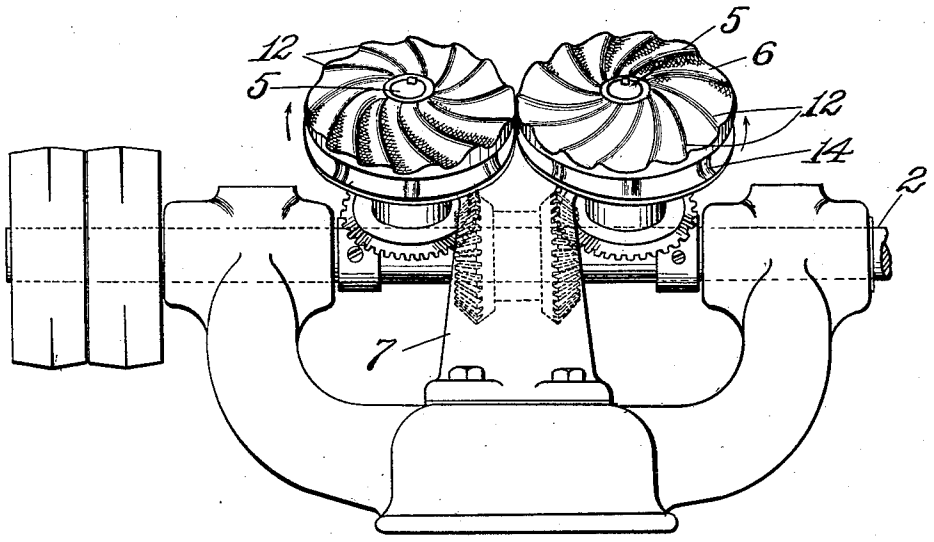

Fig. 1.

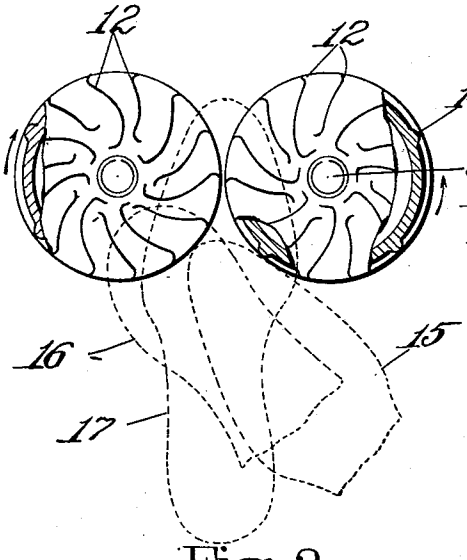

Fig. 2.

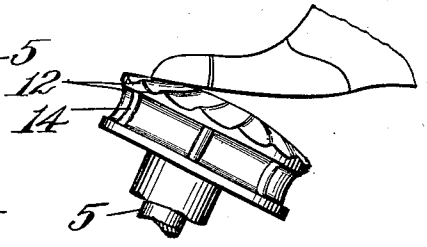

Fig. 3.

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SHOE-BEATING MACHINE.

1,008,298. Specification of Letters Patent. **Patented Nov. 14, 1911.**

Application filed April 22, 1909. Serial No. 491,472.

To all whom it may concern:

Be it known that I, ORRELL ASHTON, a citizen of the United States, residing at Lawrence, in the county of Essex and State of Massachusetts, have invented certain Improvements in Shoe-Beating Machines, 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 beating or shaping shoes and particularly a rotary shoe beating machine adapted for working an upper over the bottom of a last and for shaping and smoothing the bottom of a lasted shoe to prepare it for the reception of the outersole.

A novel characteristic of this invention is found in the arrangement of two rotary disks having fluted or corrugated work rubbing faces and arranged in position to act simultaneously upon opposite sides of a shoe bottom for rubbing the shoe stock inwardly from the edge of the shoe bottom.

A further important characteristic of this invention consists in the arrangement of the rubbing disks, the adjacent work rubbing portions of the faces of which are preferably inclined one toward the other, whereby the rubbing disks act mainly upon the shoe stock near the edge of the shoe bottom.

Another characteristic of this invention is found in the formation of the work rubbing faces which are arranged as ribs extending outwardly from the center of the disk toward its periphery in lines curving backwardly with relation to the direction of rotation.

These and other features of the invention which will appear in connection with the following description of a preferred embodiment thereof will be definitely pointed out in the claims at the end of the specification.

Figure 1 is a front elevation of the machine. Fig. 2 is a plan view of the disks. Fig. 3 is a side view.

The machine comprises a suitable frame in which is arranged a shaft 2 provided with beveled gearing for driving two shafts 5 which carry the rubbings disks 6. The shaft 5 and the driven disks are supported in bearings formed upon the central portion 7 of the frame. The disks are preferably inclined relatively to the horizontal toward the front of the machine and may be arranged with their peripheral edges in contact or near together as shown. The upper faces of the disks are beveled from their centers toward their peripheries and on these beveled faces are formed ribs 12 which extend from the central portion of the disks outwardly toward their peripheries in lines curved backwardly with relation to the direction of rotation of the disks. The peripheral edge faces of the disks may be provided with ribs 14, or otherwise shaped to permit the side edge of a shoe to be pressed thereagainst for beating or blocking the shoe. The toe of the shoe may be introduced between the peripheral edges of the two disks, as shown at 15 in Fig. 2, to beat opposite sides of the toe at the same time. The dotted lines 16 and 17 indicate positions in which the shoe may be presented over the disks for causing the bottom of different portions of the shoe to be beaten.

It will be understood from Fig. 2 that the described arrangement of the disks and the ribs thereon is such that when the end of a shoe is presented centrally thereupon the wiping action of the ribs will be directed backwardly substantially at right angles to the edge of the end portion of the shoe. As the shoe is advanced to the position 17 it may be seen that the ribs as they approach and contact with the shoe wipe inwardly from the side edges of the ball of the shoe substantially at right angles to said edges. As the shoe is advanced said ribs will similarly act substantially perpendicularly to the side edges of the entire forepart. By reversing the shoe and similarly advancing the heel thereover a like action will be obtained. The inclination of the rubbing faces toward the peripheries insures that the rubbing action shall take place mainly or be concentrated at the edges and along the margins of the shoe bottom. The location of the disks adjacent to one another as shown provides for treating both sides of a shoe at once and causes one disk to resist the displacement of the shoe which the other disk tends to produce. The preferred size of the disks with relation to the size of a shoe and a desirable inclination of the rubbing ribs is shown in the drawings wherein it may be seen that these features contribute

to produce the result of rubbing the upper inwardly in lines substantially perpendicular to the different portions of the shoe edge as the shoe is advanced over the disks. The apparatus will preferably be supported at such a level and the disks inclined from the horizontal at such an angle that it will be convenient for an operator to position the shoe upon the disks and press the shoe against the rubbing disks to obtain the required beating, shaping and smoothing of the shoe bottom either as a part of the lasting operation or following the lasting operation and preparatory to the laying of the outer sole upon the treated shoe bottom. The disks may be heated to soften and assist in shaping the shoe stock compressed against them. The ribbed edges of the disks provide convenient means for blocking or shaping the sides of the shoe adjacent to the edges, particularly about the toe where treatment of this nature is most frequently desired.

Having explained the nature of this invention and described a preferred embodiment thereof, I claim as new and desire to secure by Letters Patent of the United States:

1. A shoe shaping machine having in combination a pair of rotatable disks arranged edge to edge on parallel axes and provided with rigid work rubbing surfaces on their upper sides adapted to act simultaneously upon opposite marginal portions of a shoe bottom.

2. A shoe shaping machine having in combination a pair of rotatable disks arranged edge to edge with rigid ribbed work rubbing surfaces formed on the marginal portions of the top faces of said disks for the purpose described.

3. A shoe shaping machine having in combination two rotary disk beaters provided with beating surfaces on their end faces and arranged to act simultaneously upon opposite marginal portions of a shoe bottom.

4. A shoe shaping machine having in combination two rotary beaters having beveled margins on their end faces and arranged adjacent one another to act simultaneously on opposite marginal portions of a shoe bottom, and means to drive the beaters in opposite directions.

5. A shoe shaping machine having in combination two rotary disk beaters arranged edge to edge and each provided on one end face with a work rubbing face inclined toward the periphery and provided with ribs and grooves extending across the direction of advance movement.

6. A shoe shaping machine having in combination a beater comprising two rotary disks arranged edge to edge and turning in opposite directions, and each having on its end face a series of beating ribs extending toward its periphery and inclined backwardly with relation to the direction of rotation, and means to actuate the disks.

7. A shoe shaping machine having in combination a pair of rotary beaters arranged edge to edge and provided with backwardly inclined beating ribs on their upper end faces, and means for actuating said beaters.

8. A shoe shaping machine having in combination two rotary disks having work rubbing faces on their upper ends inclined downwardly toward each other at their proximate edges to engage the marginal portions of a shoe bottom rested on them, and means for turning the disks in opposite directions to cause them to wipe the shoe bottom from the edge inwardly.

9. A shoe shaping machine having in combination two rotary disks arranged edge to edge and provided on their top faces with ribs spirally curved in reverse directions toward the edges of the disks.

10. A shoe shaping machine having in combination two rotary disks arranged edge to edge and having work rubbing faces inclined toward the front of the machine and also inwardly toward each other in position to permit an operator to press a shoe bottom downwardly and backwardly upon the adjacent portions of the top faces of the disks, and means for rotating the disks in opposite directions.

11. As an article of manufacture, a beating device comprising a rotary disk provided on its top end with a rubbing face for shaping the bottom of a shoe, and upon its edge with a rubbing face for shaping the side of a shoe pressed against said edge.

12. A shoe shaping machine having in combination the frame 7 provided with the inclined bearings for the shafts 5, the disks 6 mounted on said shafts and provided with ribbed top faces each beveled toward its periphery, and means for driving said shafts.

13. As an article of manufacture, a shoe shaping device comprising a beating disk 6 having the spirally curved ribs 12 on its end face, and the ribs 14 on its edge face, substantially as described.

14. A shoe bottom shaping machine having in combination two rotary beating disks arranged edge to edge in a plane inclined from the horizontal toward the front of the machine to facilitate the presentation of the shoe bottom downwardly against the disks with a pressure to cause a shaping and compacting of the upper on the margin of the bottom of a lasted shoe and means for driving said disks.

15. A shoe bottom shaping machine having in combination two rotary beating disks provided on their upper end faces with backwardly curved beating ribs and arranged edge to edge in a plane inclined

from the horizontal toward the front of the machine to facilitate the presentation of the shoe bottom downwardly against the disks with a pressure to cause a shaping and compacting of the upper on the margin of the bottom of a lasted shoe and means for driving said disks.

16. A shoe bottom shaping machine having in combination two rotary disks arranged edge to edge in close proximity and having on their upper ends backwardly inclined ribs formed to beat backwardly from the edge of the shoe bottom as the toe is advanced thereover and inwardly from the edge at the ball as the wider forepart of the shoe is advanced over said disks.

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

ORRELL ASHTON.

Witnesses:
CHESTER EUGENE ROGERS,
LEONARD M. JOHNSON.