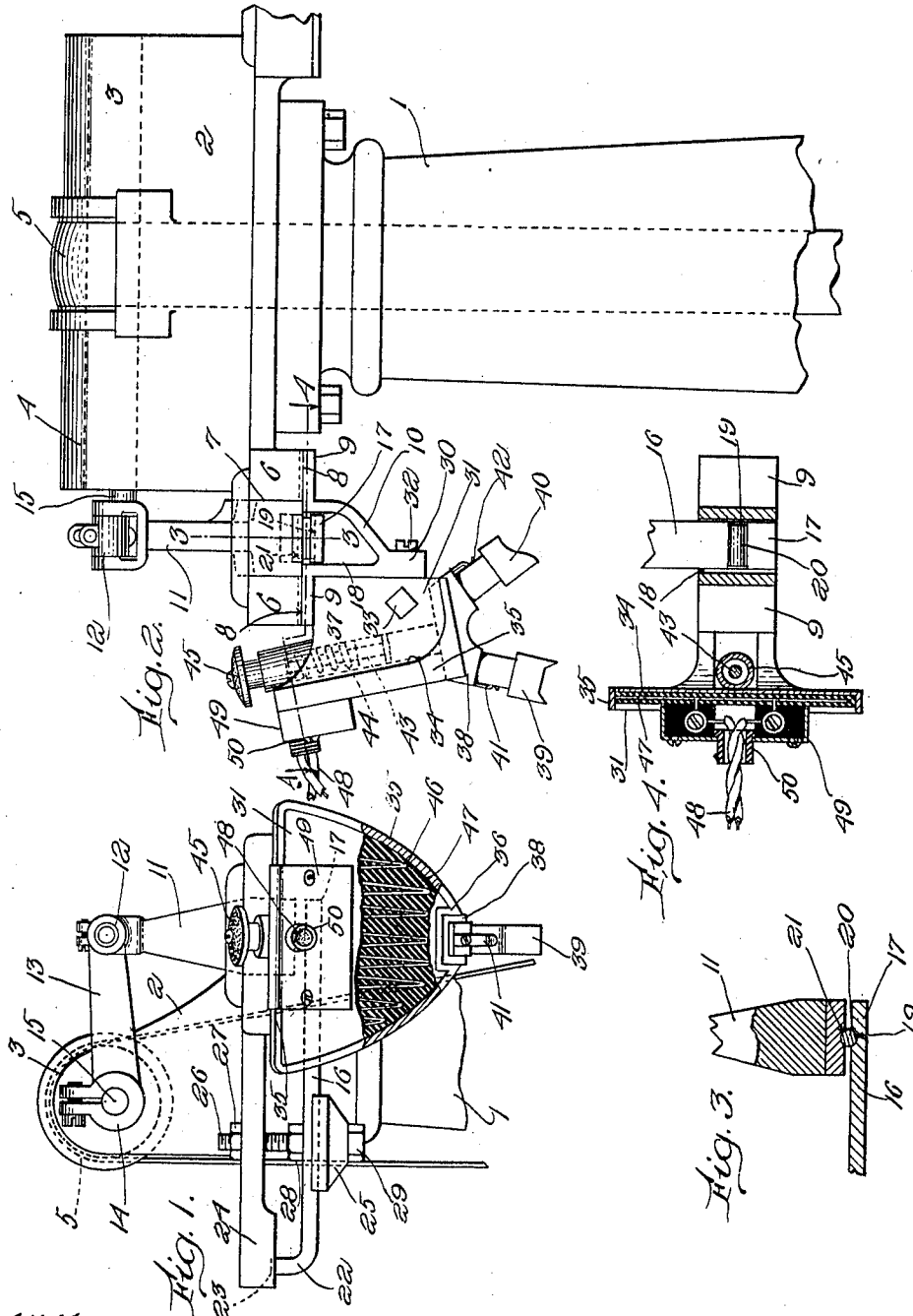


E. N. CHANDLER.
EDGE SETTER AND FINISHER.
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UNITED STATES PATENT OFFICE.

EDWIN N. CHANDLER, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO SIMPLEX ELECTRIC HEATING COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

EDGE SETTER AND FINISHER.

984,538.

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To all whom it may concern:

Be it known that I, EDWIN N. CHANDLER, a citizen of the United States, and a resident of Brockton, in the county of Plymouth and State of Massachusetts, have invented an Improvement in Edge Setters and Finishers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to machines for burnishing and finishing the edges of the soles of boots and shoes, such machines being generally known to the art as edge setting machines.

The objects of the invention are to produce a machine of this character having self-contained electrically heated devices so arranged as to have no obstructing parts which will interfere with the use of the device, and further to so arrange the source of heating supply that the conductor therefor will not be injuriously affected by the vibratory movements of the device in operation, and that the same will interfere to a minimum extent with the unobstructed use of the device, and be otherwise conveniently arranged for the manipulation thereof.

Further detail advantages will hereinafter appear.

The invention will be more fully understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 shows the machine in front elevation; Fig. 2 shows a side view thereof; Fig. 3 is a detail vertical section on line 3—3, Fig. 2; and Fig. 4 is a detail horizontal section on line 4—4, Fig. 2.

In the drawings, 1 indicates the upper portion of a standard upon which is mounted a casting or frame 2. This frame provides bearings 3 for a shaft 4 carrying a belt pulley 5, or any suitable driver. The frame 2 has at an end thereof downwardly and laterally extending projections 6 having therebetween an intermediate space 7. The projections 6 have bearings 8 on the arms 9 of a carrier 10, which arms are held in contact with said bearing and form a bearing for the rocking carrier, as hereinafter described. The rocking carrier 10 has an upwardly extending arm 11 which, at its upper end, is pivotally connected at 12 to one end of a link 13, the opposite end of the link 13 being

provided with a bearing 14 in which is mounted a crank pin 15 projecting eccentrically from the end of the shaft 4. It will be seen that the rotation of the shaft 4 through the link 13 will impart vibratory movement to the rocking carrier 10.

The rocking carrier 10 has its rounded arms 9 maintained in contact with the rounded faces 8 by means of a strong bar spring 16 which, at its inner end 17, projects within an opening 18 of the carrier, where it has a seat 19 for a roll or pin 20, which pin is also received in a similar seat 21 formed in the top of the space 18 of the rocking carrier. The spring 16 at its outer end is upturned, as shown at 22, and engages a recess 23 in a fixed table or projection 24, and, between the end 22 and the inner end 17, said spring is engaged by a grooved block 25 mounted on a threaded bolt 26 and supported, held, and adjusted by means of the nuts 27, 28, 29. The block 25 and its adjustable connection with the table 24 supports the spring 16 and regulates the force with which its inner end presses the rounded arms 9 of the rocking carrier 10 against the cooperating rounded surfaces 8 of the downward projections 6. Thus it will be seen that the rocking carrier is yieldingly supported and may have imparted thereto rapid vibrations.

At its lower end the rocking carrier 10 is extended in a bracket 30, and within the angle formed by the front of the bracket 30 and the under surface of the adjacent arm 9 at the front, is secured the tool-carrying and heating block 31, which supports the tool carrier and tools and has provision for heating the same by conduction.

The block 31 consists essentially of a comparatively large and heavy plate 34 secured to the vibrating carrier 10, as shown, by means of a screw 32 and a bolt 33, these typifying any suitable securing means. The plate 34 is bounded by a forwardly extended marginal flange 35 and, at its bottom, is provided with a seat or notch 36. At the back of the plate 34 there are provided heavy vertically extending walls 37 spaced apart to receive therebetween the tool holder 38. Said tool holder is adapted to fit the space so provided, and also projects into the notch 36, whereby it is confined and held directly in contact with the walls 37 and plate 34, which are heated in a manner to be described, and the stored-up heat is con-

ducted directly to the tool holder 38 and the tools 39 and 40 carried thereby. The tools 39 and 40 are removably connected to the tool holder 38 by any suitable means, as by spring latches 41, 42, and they are angularly disposed with relation to each other so that when one is in use the other is out of the way. When in operative position, they are prevented from turning by the seating of the holder 38 in the notch 36 and between the heated walls 37, but the tool holder may be depressed in a manner to be described and then turned to bring the desired tool to the front into operative position.

The tool holder 38 has a stem 43 which is supported in the block 31 between the walls 37 and is normally held elevated by means of a spring 44 suitably housed therein, which keeps the tool holder seated in the notch 36 and between the walls 37 and, at its upper end, said stem 43 has a head 45 whereby it may be depressed, as stated above, when it is desired to turn the tool holder. In order to heat the block 31 with its walls 37, and thus conduct heat directly to the tool holder and tools, a resistance wire 46 is suitably secured adjacent the plate 31, said wire being embedded in insulation, shown as vitreous enamel 47, which is placed in the recess formed by the projecting flange 35. The ends of the resistance wire 46 are carried to a point substantially in line with the pivot roll 20, which, as above described, forms the bearing for the rocking carrier 10, and are there connected with any suitable source of electric energy, as by the conductors 48. The connection may be protected by a suitable box or casing 49 secured to the block 31, as by screw bolts 50. It will be seen that, by arranging the conductors for supplying electrical energy substantially in line with the axis of oscillation, I avoid the injurious effects of the rapid vibration of the tool thereupon, which would otherwise tend to disconnect the same or in time even cause breakage thereof. It will be further seen that the arrangement of the conductors 48, being transversely central of the block 31 and adjacent the top thereof, disposes the same out of the way of the operator and materially aids in the convenient and unobstructed use of the machine.

Referring especially to Fig. 1, it will be seen that the block 31, from its bottom, where it is provided with the tool-holding notch 36, tapers at an abrupt angle toward its upper portion, thus providing for the free use of the tool 39 or 40 without danger of encountering any projecting portion of said block, while at the same time, by means

of the flange 35, the plate 34, and the walls 37, all converging to a point adjacent the tool, a maximum of heat conduction is imparted thereto. This cut-away configuration of the block 31 is an important feature in certain classes of work, for example in setting and finishing the edges of the shank portions of the soles of ladies' high-heeled shoes.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An edge-setting machine, comprising an edge-setting tool mounted for vibration, and a unitary holder and electric heater therefor, said holder consisting of relatively heavy heat-conducting portions having a tool socket surrounded by said portions, and a resistance element adjacent thereto, said resistance element having its external terminal connections extended to a point substantially coaxial with the axis of vibration of the tool.

2. An edge-setting machine, comprising an edge-setting tool, a carrier block therefor mounted for vibration, and electric means for heating said block, said block consisting of a plate, a retaining flange, and tool-holding walls, all converging at an abrupt angle and providing a mass of metal having its apex adjacent the tool, whereby the heat is directed on and concentrated at the tool.

3. An edge setting machine, comprising an edge setting tool, a carrier block therefor mounted for vibration, and an electric resistance device for heating said block, said block consisting of a plate and tool holding walls converging at an abrupt angle and providing a mass of metal having its apex adjacent the tool, whereby the heat is directed on and concentrated at the tool.

4. An edge setting machine, comprising an edge setting tool, and a carrier block therefor mounted for vibration, said block consisting of a relatively heavy mass of metal in the form of a plate and having an electric resistance device disposed adjacent thereto and provided with tool holding walls forming a socket, the parts of said block converging at an abrupt angle toward said socket and providing a mass of metal having its apex adjacent the tool.

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

EDWIN N. CHANDLER.

Witnesses:

GEO. H. MAXWELL,
M. J. SPALDING.