Feb. 11, 1941. L. MARCHETTA ET AL 2,231,134

SHOE-REPAIR FINISHING MACHINE

Filed May 18, 1938 3 Sheets-Sheet 1

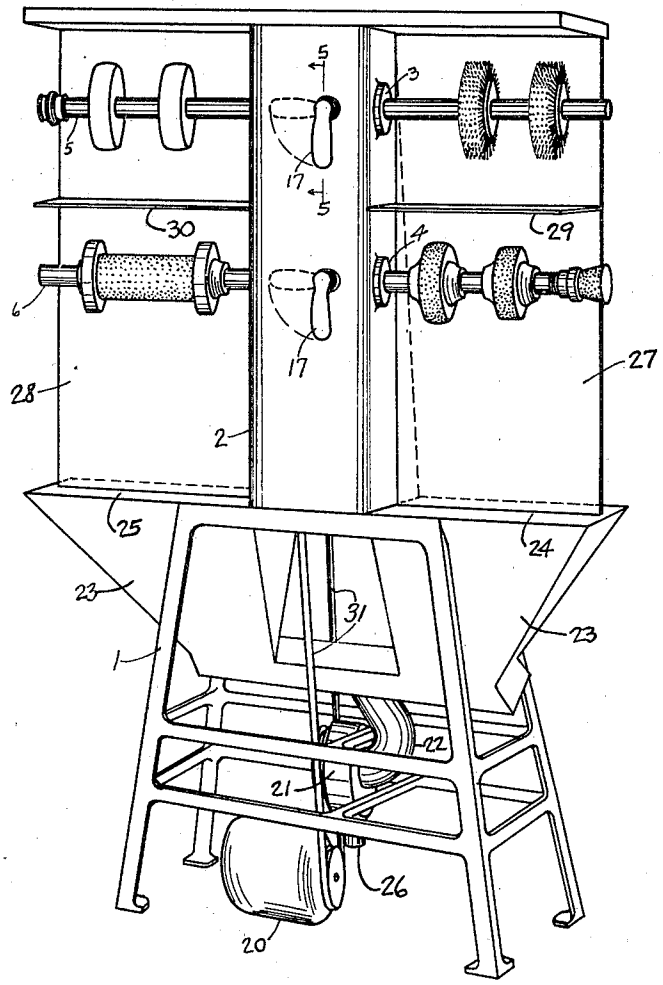



FIG. 1

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Filed May 18, 1938 3 Sheets-Sheet 2

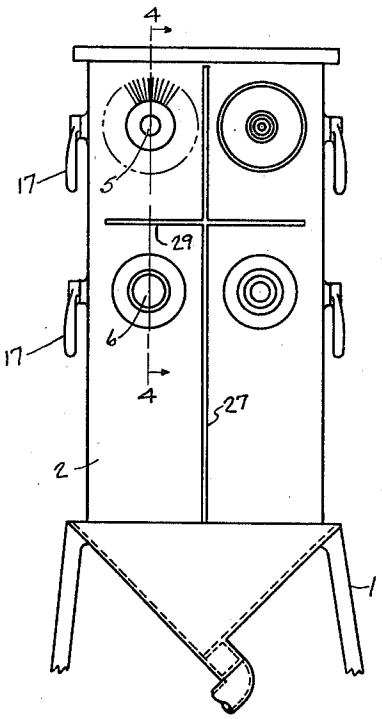



FIG. 3

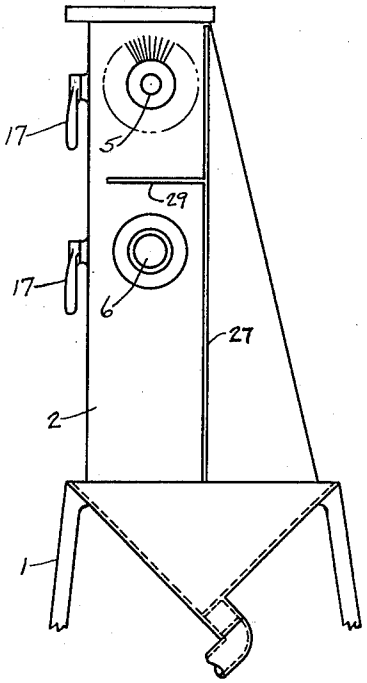



FIG. 2

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Filed May 18, 1938 3 Sheets-Sheet 3

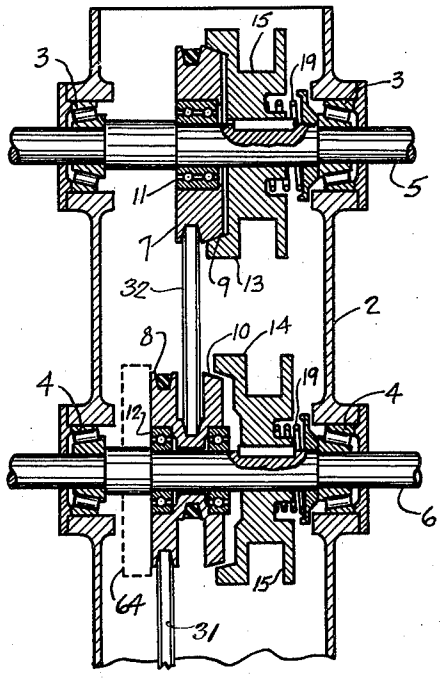



FIG. 4

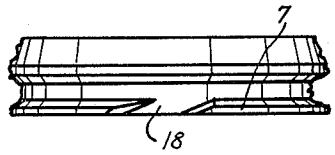



FIG. 7

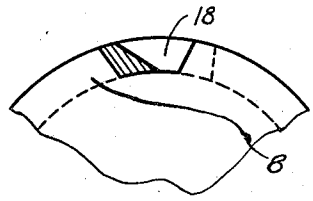



FIG. 8

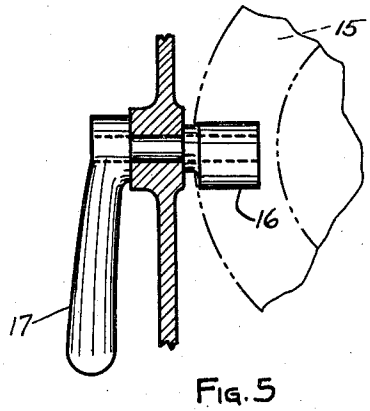



FIG. 5




FIG. 6

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# UNITED STATES PATENT OFFICE

2,231,134

## SHOE REPAIR FINISHING MACHINE

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Youngstown, Ohio

Application May 18, 1938, Serial No. 208,584

4 Claims. (Cl. 12—1)

This invention relates to a shoe finishing machine, and to a machine particularly adapted for grinding, buffing, brushing and finishing edges of soles of shoes being repaired.

The principal object of this invention is the provision of a shoe finishing machine having the various finishing agencies grouped closely to one another in such manner that they are accessible to the workmen and reduce the danger of accident by providing means for stopping the various parts of the device individually.

A further object of this invention is the provision of a shoe finishing machine designed so that it can be placed in a small space, is quiet in operation, and requires very little power for operation.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings wherein:

Figure 1 is a perspective view of the machine.

Figure 2 is an end elevation of the machine.

Figure 3 is an end elevation of a modification of the machine, showing oppositely disposed operating sections.

Figure 4 is a vertical cross section taken on lines 4—4 of Figure 3.

Figure 5 is a vertical cross section taken on lines 5—5 of Figure 1 and shows the clutch actuating cam and control.

Figure 6 is an end view of the clutch actuating cam shown in Figure 5 and shows the cam in operative and non-operative positions.

Figure 7 is a top view with parts broken away, of one of the pulleys used in the machine showing a slot in one side thereof to enable the belt to be installed.

Figure 8 is a side elevation with parts broken away of the pulley shown in Figure 7.

By referring to the drawings and Figures 1 and 2 in particular it will be seen that the shoe finishing machine comprises a frame 1 having a vertical housing 2 positioned thereon. Bearings 3 and 4 positioned in the vertical housing 2 carry rotatable shafts 5 and 6 upon which are positioned a plurality of shoe repair finishing tools.

An alternate form of the machine shown in Figure 3 of the drawings in which an oppositely disposed assembly of shafts and finishing tools are positioned directly behind the first mentioned assembly so that two men may work at the opposite sides of the machine.

In order that each of the plurality of shafts carrying finishing tools, may be operated individually, clutch means have been provided on each of the shafts (see Figures 4, 5, 6, 7 and 8), and comprise pulleys 7 and 8 having cones 9 and 10 formed thereon. These pulleys 7 and 8 are rotatably positioned on the shafts 5 and 6 by means of bearings 11 and 12. The cones 9 and 10 of the pulleys 7 and 8 are adapted to engage clutches 13 and 14 which are in turn splined to the shafts 5 and 6. These clutches 13 and 14 are formed with deep annular grooves 15 which are adapted to receive operating controls comprising cams 16 positioned in the housing 2 and operated by means of handles 17. The pulleys 7 and 8 are both provided with openings 18 in one of the edges thereof as shown in Figures 7 and 8. These openings 18 are provided for easy installation of the driving means, preferably belts, one of which (indicated by reference numeral 31) drives the pulley 8 on the shaft 6 directly from a motor 20, and the other one of which (indicated by the reference numeral 32) drives the pulley 7 on the shaft 5 from the pulley 8. The clutching action is governed by the cam 16 functioning in the grooves 15 of the clutches 13 and 14, coil springs 19 are positioned adjacent to these clutches 13 and 14 and serve to normally hold the clutches 13 and 14 in driving relation with the cones 9 and 10 formed on the pulleys 7 and 8. When the cams 16 are moved to the inoperative position they will cause the clutches to compress the coil springs 19 by sliding along the splined shafts. It is obvious that the friction between the cams 16 and the deep grooves 15 will serve as braking action and will rapidly stop the shaft from rotating. By referring again to Figure 1, it will be seen that the motor 20 is positioned on the lower portion of the frame 1 and below a suction blower which comprises a fan positioned in a circular housing 21, the circular housing 21 being affixed to the frame 1. The suction blower is driven by the belt 31 as it is positioned adjacent the said belt and just above the motor 20. The blower housing 21 is connected by means of a suction tube 22 to a hopper 23 which is positioned below and between the top portions of the frame 1 and has openings 24 and 25 in the top thereof which are adapted to receive dust from the various grinding tools of the machine which are positioned on the lower shaft 6 of the ma-

chine immediately above the openings 24 and 25. An exhaust tube 26 on the blower 21 may be connected to any suitable receptacle. In order that the dust from the grinding tools of the machine may be directed to the openings 24 and 25 baffle plates 27 and 28 are positioned vertically at either side of the housing 2, secondary baffle plates 29 and 30 are positioned horizontally at either side of the housing 2 and just above the tools on the shaft 6.

It will thus be seen that as many tools as desirable may be used upon the various shafts of the machine so long as the grinding tools are positioned on the lower shaft 6 thereof and the polishing and buffing tools on the upper shaft 5 thereof and that each shaft is readily controlled by an individual control lever. By referring to Figure 3 it will be seen that a modified form of the machine has been shown wherein an additional unit comprising another set of shafts and tools has been positioned directly back of the set shown in Figures 1 and 2 so that workmen may use the dual finishing areas of the machine simultaneously; it being understood that the additional sets of shafts may be driven from the shaft 6 by means of a gear 64 shown in dotted lines in Figure 4 of the drawings or by any other suitable means.

What we claim is:

1. A shoe repair machine comprising a frame, a vertical housing positioned on the said frame and a plurality of rotatable shafts positioned crosswise in the said vertical housing and extending outwardly therefrom and adapted to receive shoe repair finishing tools; pulleys rotatably positioned on the said shafts and clutches keyed on the said shafts adjacent thereto; the said pulleys and clutches being within the said vertical housing; means for manually engaging the said pulleys and clutches so as to rotate the said shafts; a motor on said frame and belts connecting the said motor and the said pulleys.

2. A shoe repair machine comprising a frame; a vertical housing positioned on the said frame; a dust receiving hopper positioned below and between the top of the said frame; a pair of vertical baffles positioned on the said hopper at the sides of the said vertical housing; a plurality of rotatable shafts positioned crosswise in the said vertical housing and extending outwardly therefrom and adapted to receive shoe repair finishing tools, pulleys rotatably positioned on the said shafts and clutches keyed on the said shafts adjacent thereto; the said pulleys and clutches being within the said vertical housing; means for manually engaging the said pulleys so as to rotate the said shafts; a motor on said frame and belts connecting the said motor and the said pulleys.

3. A shoe repair machine comprising a frame; a vertical housing positioned on the said frame; a dust receiving hopper positioned below and between the top of the said frame; a pair of vertical baffles positioned on the said hopper at the sides of the said vertical housing; a plurality of rotatable shafts positioned crosswise in the said vertical housing and extending outwardly therefrom and adapted to receive shoe repair finishing tools, pulleys rotatably positioned on the said shafts and clutches keyed on the said shafts adjacent thereto; the said pulleys and clutches being within the said vertical housing; means for manually engaging the said pulleys so as to rotate the said shafts; a motor on said frame and belts connecting the said motor and the said pulleys; a suction blower positioned in the said frame and adjacent the said motor and one of the said belts so as to be driven thereby; a tube connecting the said suction blower and dust receiving hopper so that dust received in the said hopper will be exhausted thru the said suction blower.

4. A shoe repair finishing machine comprising a supporting frame; a dust receiving hopper positioned in the top portion of the said frame; a vertical housing positioned on the said frame above the said hopper; a pair of vertical baffles positioned one on either side of the said vertical housing and above the said hopper; a plurality of rotatable shafts positioned crosswise in the said vertical housing and extending outwardly therefrom and adapted to receive shoe repair finishing tools; pulleys rotatably mounted on the said shafts within the said housing together with clutches keyed to the said shafts and positioned adjacent the said pulleys within the said housing; manual control levers positioned on the said housing and adapted to actuate the said clutches within the said housing; a motor positioned in the said supporting frame; a suction blower positioned in the said supporting frame; the said motor being connected by a belt to the said suction blower and one of the said shafts; belts positioned between the said shafts; the said suction blower communicating with the said dust receiving hopper adapted to exhaust dust therefrom.

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