Nov. 27, 1934. S. A. DOBYNE 1,982,592

SHOE FINISHING MACHINE

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Fig. 1.

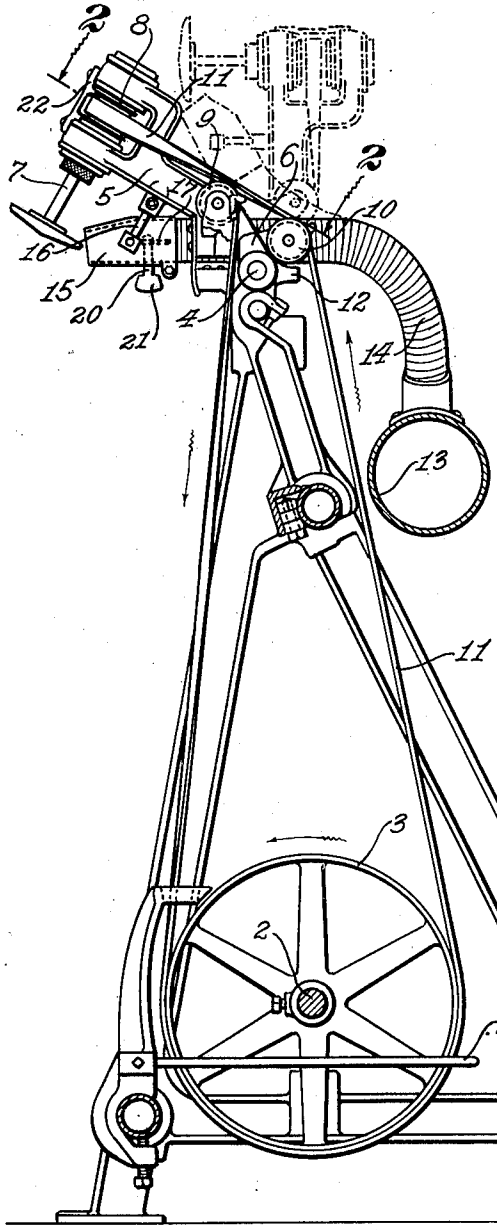
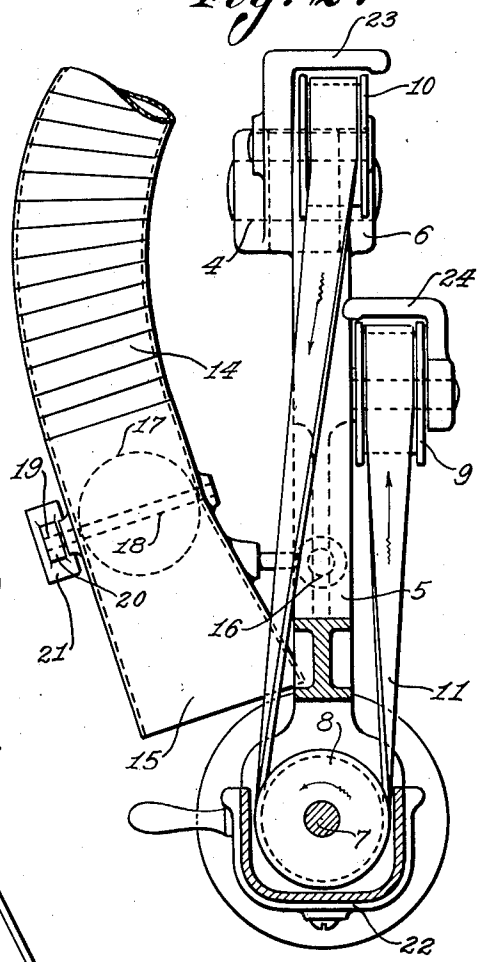


Fig. 2.



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SHOE FINISHING MACHINE

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5 Claims. (Cl. 51—273)

This invention relates generally to an apparatus for finishing shoes and particularly to such an apparatus which is adapted for use in a shoe repair shop.

The ordinary shoe repair shop is generally equipped with a combination machine provided with a number of buffers, brushes, cutters and the like which are made use of by a repairman in finishing and trimming his work. In such a machine as that just referred to, however, it seldom occurs that more than one device of the entire machine is used at the same time. This is particularly true of the finishing device, such as for instance buffers of the Naumkeag type, and this invention relates particularly to the provision of a convenient finishing apparatus with which may be employed a Naumkeag buffer.

The object of this invention generally stated is to provide improved mountings for a shoe finishing device.

Another object of this invention is to provide a shoe finishing device which may be moved into an inoperative position where it will not interfere with the other apparatus which may be in the vicinity thereof.

A further object of this invention is to provide a shoe finishing device having an automatically controlled suction tube adjacent thereto.

A further object of this invention is to provide a shoe finishing device having a driving means adapted to become automatically disengaged when the finisher has moved into an inoperative position.

A more specific object of this invention is to provide a shoe finishing device particularly for use in a repair shop in which the movement of the finisher between operative and inoperative positions effects an automatic control of the driving and suction mechanisms.

Other objects will become apparent to those skilled in the art when the following description is read in connection with the accompanying drawing, in which:

Figure 1 is a view in end elevation of a shoe finishing device mounted upon the usual combination machine of a shoe repair shop.

Figure 2 is a detailed plan view shown particularly in section taken along line 2—2 of Figure 1, illustrating particularly the mounting and associated part constructed in accordance with this invention.

Generally stated, in accordance with this invention, a shoe finishing device such as for instance a buffer of the Naumkeag type, may be mounted upon a suitable supporting structure, which supporting structure is preferably movable relative to the main frame of the machine, upon which the device is provided, such as for instance the shoe finishing machine of a shoe repair shop. In accordance with one embodiment of the present invention, a supporting structure for the finishing device is pivoted upon the main frame of the machine so that the finisher may be moved through a substantially vertical angle between an operating and a non-operating position. In the illustrated embodiment, a driving mechanism for the finishing device is illustrated as of the belt type, and it will be apparent that when the finisher is moved into its operative position, the tension upon the driving belt is sufficiently increased so that the belt operates to drive the finisher, whereas when the finisher is in its non-operating position, the belt is sufficiently loosened that no driving force is transmitted thereby. Furthermore, in accordance with one embodiment of the present invention, a suitable suction device is provided adjacent the finisher and preferably movable with the supporting structure therefor. The movement of the suction device with the supporting structure for the finisher is utilized for automatically actuating a suitable control valve for the suction device in order that the same may be open and operative when the finisher is operated, but closed to prevent a loss of vacuum when the finisher is in its non-operating position.

Referring now particularly to the drawing, the finisher of the present invention is shown mounted upon the usual supporting frame 1 of a finishing machine such as is generally employed in shoe repair shops. In accordance with the usual practice such finishing machines for use in a shoe repair shop are provided with a driving shaft 2, extending length-arm-wise thereof and upon the shaft 2 is usually mounted a plurality of such pulleys as 3 for transmitting driving force to the various pieces of apparatus provided therealong. Near the upper end of the supporting frame 1, a suitable bearing or boss is preferably provided for receiving a shaft 4. Upon the shaft 4 the supporting arm or auxiliary frame 5 having a bifurcated end 6, may be pivotally mounted. On the opposite end of the supporting arm 5 from the pivot at 4, any suitable finishing device such as for instance a buffer of the Naumkeag type may be mounted as at 7. The end of the supporting arm 5 which receives the finishing device as 7 may be suitably formed as of the bifurcated structure illustrated in Figure 1, in order to provide a convenient mounting for the finishing de-

vice 7. Interposed between the respective arms of the supporting arm 5, a driving pulley 8 for the finishing device 7 may be provided. Mounted also upon the side of the supporting arm 5 is an idling pulley 9, and a second idling pulley 10 may be suitably mounted upon the main frame 1 of the machine. A suitable driving device such as for instance a belt 11 may be provided for transmitting the driving force to the driving pulley 8 of the finishing device and such a belt 11 is preferably trained over the idling pulleys 9 and 10.

With the arrangement just described, it is apparent that the supporting arm 5 carrying therewith the finishing device 7 and the idling pulley 9, may be rotated about the shaft 4 as an axis whereby the entire structure may be moved into the dotted position illustrated in Figure 1. A suitable stop such as for instance a lug 12 may be provided integral with the supporting arm 5 in order to determine the dotted line position thereof by engagement with a stationary part of the frame 1.

Such machines as the finishing machine of a shoe repair shop are generally provided with a suction device, having outlets adjacent the various tools in order that the leather trimmings and grindings may be collected together in a suitable bag and in order to prevent the atmosphere in the room from becoming laden with such grindings. Such a suction device is usually provided with a suitable header as 13 leading to the suction apparatus and the collection bag. From the header 13, the various outlets lead to positions adjacent the various tools. In accordance with the present invention, a flexible tube such as 14 is suitably connected to the header 13 and leads to a position in which the mouth 15 thereof is disposed adjacent the grinding element of the finisher 7. The mouth 15 of the suction tube is preferably secured to the supporting arm 5 by any suitable means such as for instance through a bracket 16. With the arrangement just described, it is apparent that when the supporting arm 5 is moved between the operative position illustrated in full lines, and the in-operative position illustrated in dotted lines in Figure 1, the mouth piece 15 of the flexible tube 14 is moved therewith as an associated part so that the mouth piece 15 is always disposed adjacent the grinding element of the finisher 7 regardless of the position thereof.

Mounted in the mouth piece 15 of the suction tube 14, a suitable control valve such as for instance a butterfly valve 17 may be provided. It will be understood that the butterfly valve 17 comprises a disk which is preferably secured to a shaft 18, which latter may be journaled in the walls of the mouth piece 15. In accordance with the present invention, the shaft 18 preferably extends through one wall of the mouth piece 15 and at the outside end 19 thereof, a suitable weighted device such as an arm 20, having enlarged portions 21 may be secured. It will be apparent that the enlarged weighted portion 21 will be readily responsive to the action of gravity, and accordingly as the mouth piece 15 is moved between the position illustrated in full lines of Figure 1 where the parts are substantially horizontal, and the position illustrated in dotted lines, where it approaches the vertical, the weighted portion of the arm 21 will operate to actuate the butterfly valve 17 during such movement of the mouth piece 15 with the supporting arm 5 of the apparatus.

In the operation of the device just described, it is apparent that when the supporting arm 5, with its associated parts is moved into position illustrated in Figure 1, the driving pulley 8 for the finishing device 7 will be considerably closer to the idling pulley 10 than when in the operative position illustrated in full lines. It will be readily understood that such relative movement of the pulleys 8 and 10 will effect a substantial decrease in the tension of the belt 11 and such relative movement may be so adjusted that when the supporting arm 5 with its associated parts is moved into the dotted line position, the tension on the belt 11 will be insufficient to transmit a driving effort to the pulley 8. In order, however, to prevent the belt 11 from becoming displaced with reference to the various pulleys, when the tension thereon is released, suitable guards such as 22 for the pulley 8, 23 for the pulley 10, 24 for the pulley 9, and 25 for the pulley 3 are preferably provided in order to maintain the belt 11 in such position that upon movement of the supporting arm 5 into its operative position, the belt will be disposed in the position for driving engagement with the respective pulleys. It is apparent, therefore, that when the supporting arm 5 is moved into its inoperative position, illustrated by the dotted lines in Figure 1, the belt 11 will be automatically released from driving engagement with both the pulleys 8 and 3. Furthermore, as the arm 5 with its associated parts moves from the full line position to the dotted line position illustrated in Figure 1, it will be apparent that the arm 20, by virtue of the weighted portion 21, responding to the pull of gravity, will continue to extend in a substantially vertical direction. With the arm 20 thus remaining vertical, and the angle of the mouth piece 15 with the horizontal changing almost ninety degrees as illustrated in Figure 1, it is apparent that the butterfly valve 17 will be moved into such position that the opening through the mouth piece 15 will be blocked when the device is in its inoperative position illustrated by the dotted lines in Figure 1. Accordingly, there is provided a mounting for a finishing device which permits the finishing device to be moved into an inoperative position which is out of the way and does not interfere with the operation of other pieces of mechanism which may be provided in the region thereof, but when it is desired to operate the finisher, the same may be readily moved into convenient position illustrated by the full lines in Figure 1 and upon such movement the driving mechanism therefor is automatically engaged and the suction mechanism is automatically set into operation.

From the foregoing description it is apparent that many modifications of the device hereinbefore described, and illustrated in the accompanying drawing, will present themselves to those skilled in the art, which will not depart from the spirit of this invention. It is to be distinctly understood, therefore, that the invention is not limited to the specific details which have been hereinbefore described, nor to the use of the device of the present invention with a shoe finishing machine such as is employed in shoe repair shops, it being understood that the device has been described with reference to such a shoe finishing machine merely for the purpose of illustration. Furthermore, it is to be understood that the use of such individual features and subcombination of features which do not depart from the spirit of the invention are, although not specifically described herein, contemplated by and within the scope of the appended claims.

Having thus described the invention, what is claimed is:

1. A device of the kind described comprising, a finisher movable into operative and inoperative positions, a suction tube adjacent said finisher and movable therewith through a substantial angle with the horizontal, a control valve in said tube, a weighted member associated with said valve and adapted to move under the influence of gravity to actuate the valve as the tube is moved through said angle.

2. A device of the kind described comprising, a finisher movable into operative and inoperative positions, a driving belt for said finisher, and idling guide means for said belt so positioned as to be closer to said finisher when in inoperative position than when in operative position.

3. A device of the kind described, comprising, a supporting frame, an auxiliary frame pivotally mounted on said supporting frame, a finisher and a flexible suction tube carried by said auxiliary frame and movable therewith into an unobstructive position, and a control valve in said suction tube movable in accordance with the position of said auxiliary frame.

4. A device of the kind described comprising, a finisher movable into operative and inoperative positions, a driving belt for said finisher, relatively movable idling guides for said belt, and means for moving said guides away from each other as the finisher is moved into operative position.

5. A device of the kind described, comprising, a finisher movable into operative and inoperative positions, a suction tube adjacent said finisher and movable therewith, and a control valve movable within said tube and self-operable to close said tube upon movement of said finisher to inoperative position.

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