W. G. MEFFORD.

SHOE POLISHING MACHINE.

APPLICATION FILED OCT. 5, 1916.

1,217,803.

Patented Feb. 27, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

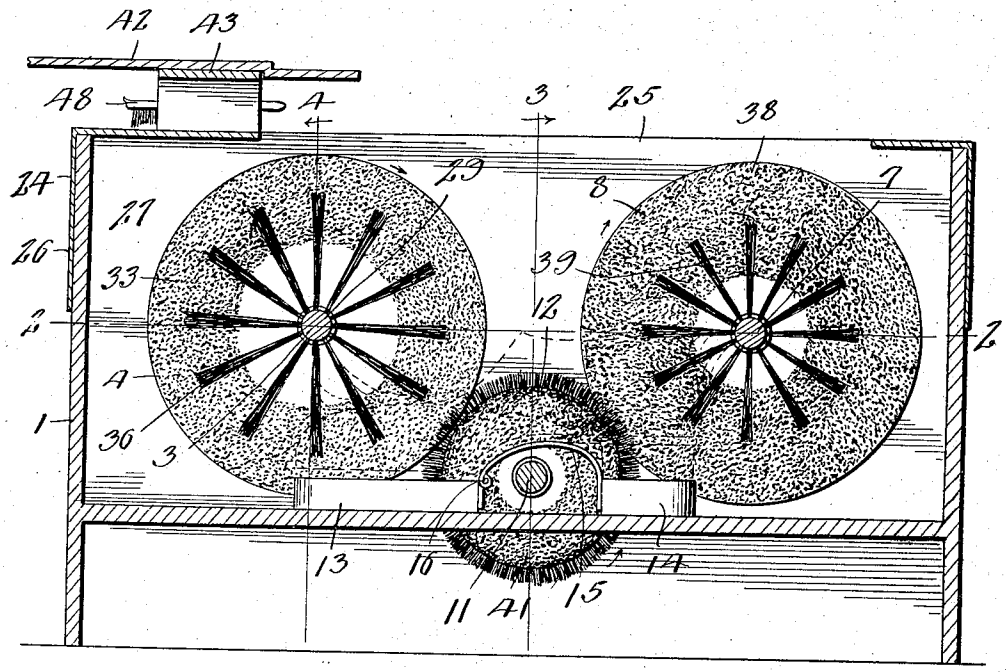
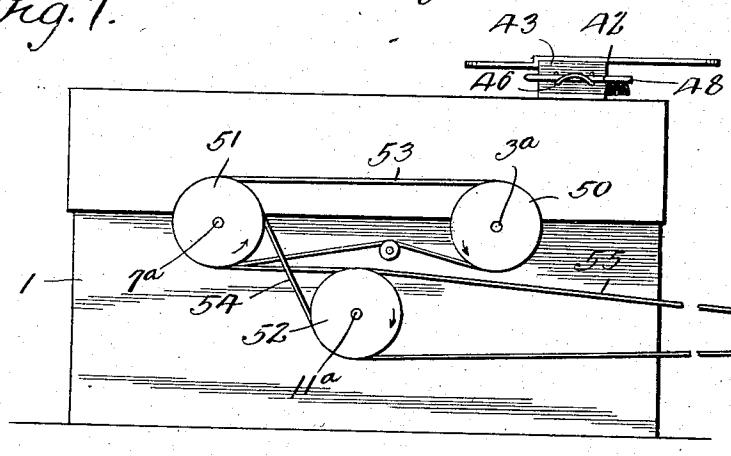


Fig. 7.



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3 SHEETS—SHEET 2.

Fig. 2.

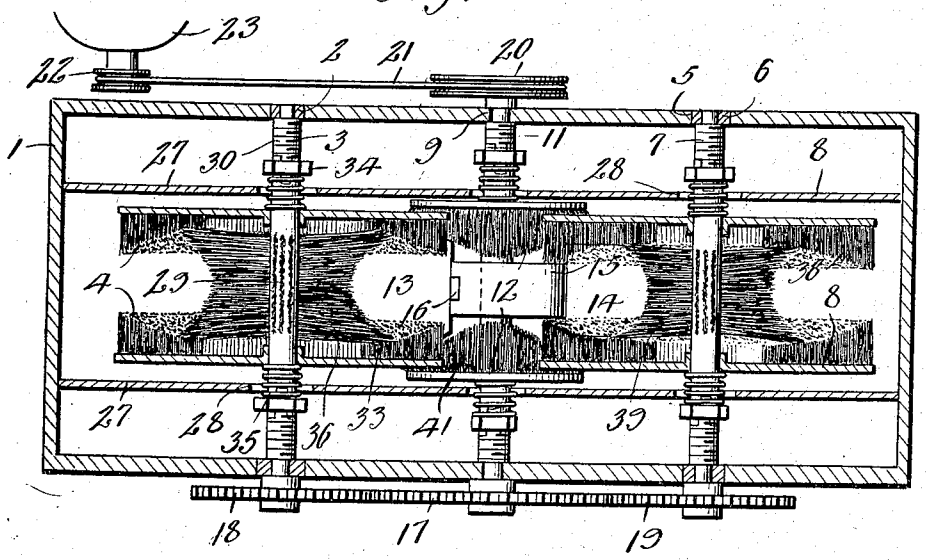
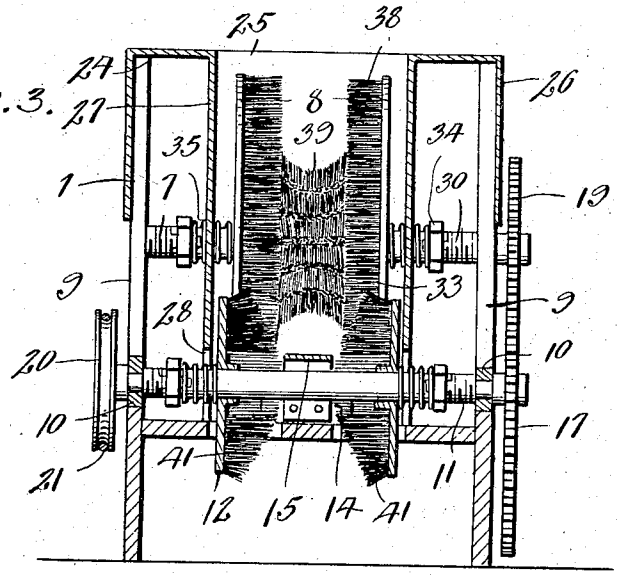


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

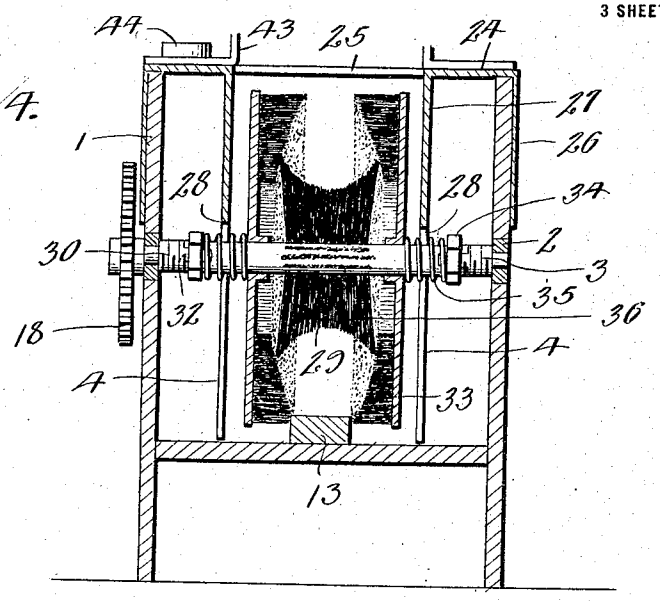


Fig. 5

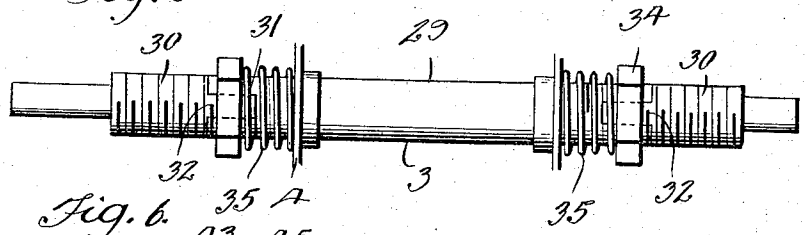
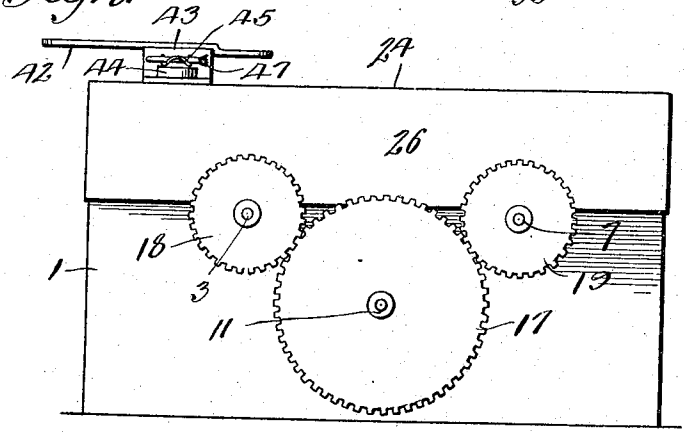


Fig. 6.



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UNITED STATES PATENT OFFICE.

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SHOE-POLISHING MACHINE.

1,217,803. Specification of Letters Patent. Patented Feb. 27, 1917.

Application filed October 5, 1916. Serial No. 123,963.

To all whom it may concern:

Be it known that I, WILLIAM G. MEFFORD, a citizen of the United States, residing at Ava, in the county of Douglas and State of Missouri, have invented new and useful Improvements in Shoe-Polishing Machines, of which the following is a specification.

This invention is an improved machine for polishing shoes, the object of the invention being to provide an improved machine of this kind which is automatic in operation, which may be readily driven by an electric motor or other type of motor, which requires but slight power for its operation and which serves to simultaneously polish the front, sides, and heel of the shoe, and while the same is being worn.

The invention consists in the features of construction, combination, and arrangement of devices, hereinafter fully described and claimed.

In the accompanying drawings:—

Figure 1 is a vertical longitudinal sectional view of a shoe polishing machine constructed and arranged in accordance with my invention.

Fig. 2 is a longitudinal horizontal sectional view of the same on the plane indicated by the line 2—2 of Fig. 1.

Fig. 3 is a vertical transverse sectional view of the same on the plane indicated by the line 3—3 of Fig. 1.

Fig. 4 is a similar view of the same on the plane indicated by the line 4—4 of Fig. 1.

Fig. 5 is a detail sectional view of one of the revolving brush shafts.

Fig. 6 is a side elevation showing a preferred form of gearing.

Fig. 7 is a similar view showing a modified construction of power transmitting devices.

The main frame 1 is preferably of oblong rectangular form and is provided on its sides near its front end with bearings 2 for the shaft 3 of the front polishing brushes 4. Near its rear end, the frame is provided in its sides with vertical slots 5 at the lower ends of which are bearings 6 for the shaft 7 of the rear brushes 8 which serve to polish the heel of the shoe. Vertical slots 9 are in the sides of the frame at a point a suitable distance in front of the slots 5 and in the lower ends of said slots 9 are bearings 10 for the shaft 11 of the brushes 12 which polish the sides of the shoe between the front and heel. A foot rest 13 is supported above the bottom of the frame and is provided with a raised heel support 14 which is connected to the foot rest by an arched arm 15 which passes over the center of the intermediate brush shaft 11 and is connected at its front end to the foot rest by a hinged joint 16. Hence the heel rest may be swung forwardly away and from the said intermediate brush shaft 11 as will be understood to permit the removal of the intermediate section of said shaft on which the brushes 12 are secured.

On one end of the brush shaft 11 is a large spur gear 17 which engages the spur gears 18, 19, which are respectively on the front shaft 3 and rear shaft 7 and hence the said shafts 3 and 7 are revolved, in the same direction. Said shaft 11 also has a pulley 20 which is connected by a power belt 21 to the driving pulley 22 of an electric motor indicated at 23. Any type of motor may be employed for operating the machine and several of the machines may be operated by the same motor.

The top 24 of the frame is removable, has an opening 25, through which the foot may be placed with the shoe on, on the foot-rest. The top has depending side and end walls 26 to bear on the outer sides of the side and end walls of the frame and is also provided at points spaced from the side walls of the frame with depending walls 27 which have slots 28 to clear the brush shafts. Hence the top may be raised and removed from the frame to afford access to the interior parts, when desired.

The front brush shaft 3 comprises a main intermediate member 29 and a pair of end members 30. The member 29 is provided at its ends with transverse slots 31 for the reception of projecting lugs 32 on the inner ends of the end members 30. The brushes 4 are circular and are provided with bristles 33 on their opposing sides. Said brushes are spaced apart a suitable distance. The opposing ends of the members 29, 30 of the shaft are threaded to receive tubular coupling nuts 34 which coact with the slots 31 and lugs 32 to detachably couple the shaft members 29, 30 together. The said shaft is also provided with coiled springs 35 which bear between the coupling nuts 34 and the brushes. That portion of the shaft member 29 between the brushes 4 is provided with radially arranged bristles 36 of suitable length.

The shafts of the side and heel brushes are

of similar construction and the heel brushes 37 also have inwardly extending bristles 38 on their opposing sides and radially arranged bristles 39 of suitable length on the intermediate portion of the rear shaft 7. The side brushes 12 are of less diameter than the front and heel brushes and are provided with inwardly extending bristles 41 on their opposing sides. When the shoe while being worn is placed on the foot rest with the heel on the heel rest, the front portion of the shoe is arranged between the lower sides of the front brushes, the sides of the shoe are arranged between the side brushes and the heel of the shoe is arranged between the heel brushes and when the brushes are revolved by the operation of the machine, the shoe is thoroughly polished at all points as will be understood.

A foot rest 42 is secured on a cross arch 43 which extends across the front end of the cover 24. The said arch is provided at one end with a holder 44 for blacking or polish and is also provided at its ends with holders 45, 46, for brushes 47, 48 for use in applying the blacking or polish.

In Fig. 7 of the drawings, I show a modified construction in which the brush shafts 3^a, 7^a and 11^a are respectively provided with pulleys 50, 51, 52. The pulleys 50, 51 are connected together by a belt 53. The pulley 52 is connected to the pulley 51 by a crossed belt 54. Said pulley 52 is driven by a power belt 55 from the power pulley 56 of a suitable motor. Suitable guide pulleys are also provided for the belts as shown.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of construction and of the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I have described the principles of operation of the device together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired, as are within the scope of the appended claims.

Having described the invention, what is claimed is:

1. In a shoe polishing machine, a shaft mounted for rotation and comprising a center member and end members detachably connected together, brushes on the center member of the shaft and coupling nuts having threaded engagement with the meeting ends of said shaft members.

2. In a shoe polishing machine, a shaft mounted for rotation and comprising a center member and end members detachably connected together, brushes on the center member of the shaft and coupling nuts having threaded engagement with the meeting ends of said shaft members, the said brushes being movable on the center shaft member toward and from each other, and springs between the brushes and the nuts and yieldably holding the brushes in place.

3. In a shoe polishing machine, a front shaft, a rear shaft, and an intermediate shaft mounted for rotation, said intermediate shaft being parallel with and arranged between the other shafts, each of said shafts having a pair of spaced brushes provided with bristles on their opposing sides arranged substantially parallel with said shaft and said front shaft and said rear shaft being each also provided with a brush between the spaced brushes and having radial bristles, and means to rotate said shafts so that said front and rear shafts rotate in the same direction.

4. In a shoe polishing machine, a front shaft, a rear shaft, and an intermediate shaft mounted for rotation, said intermediate shaft being arranged between the other shafts, brushes on the several shafts, each of said brushes having bristles on its inner side, and a foot rest arranged below the intermediate shaft and provided with a heel support and an arched portion connecting said heel support and foot rest and hingedly connected to the latter, said arched portion extending over the intermediate shaft and said intermediate shaft being removable.

In testimony whereof I affix my signature.

WILLIAM G. MEFFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."