MACHINE FOR POLISHING SHOES.


Application filed March 26, 1902. Serial No. 100,110. (No model.)

To all whom it may concern:

Be it known that I, JOHN RICHARD McGARRITY, a citizen of the United States, residing at Lansing, in the county of Allegan and State of Michigan, have invented a new and useful Machine for Polishing Shoes, of which the following is a specification.

The invention relates to improvements in machines for polishing shoes.

The object of the present invention is to improve the construction of machines for polishing shoes and to provide a simple and comparatively inexpensive one capable of being readily operated by the person having his shoes polished and adapted to be readily arranged for supplying blacking to a shoe or for polishing the shoe after the same has been supplied with blacking.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a machine for polishing shoes, constructed in accordance with this invention. Figure 2 is a longitudinal sectional view of the same, Figure 3 is a transverse sectional view on the line 3-3 of Figure 2. Figure 4 is a similar view on the line 4-4 of Figure 2. Figure 5 is a detail sectional view on the line 5-5 of Figure 2. Figure 6 is a sectional view on the line 6-6 of Figure 5. Figure 7 is a sectional view on the line 7-7 of Figure 2. Figure 8 is a detail view illustrating the construction of the catch for securing the adjustable brush-carrying frame to the longitudinally-movable bars.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a frame or stand provided with suitable feet or legs and composed of sides and ends, and it may be ornamented in any suitable manner, as will be readily understood, and it is provided at its top with suitable rollers 2 and 3, arranged transversely of the machine and designed to receive a boot or shoe and adapted to enable the foot of a person having such shoe or boot to be readily moved backward or forward to carry the boot or shoe into contact with the daubers, whereby the shoe will be thoroughly supplied with blacking, as hereinafter explained. The rollers are journaled in suitable bearings and are adapted to rotate to permit the foot of a person to move over them freely, and the toe or front portion of the boot or shoe is supplied with blacking by a front dauber 4, vertically movable in suitable guides or ways, as hereinafter explained, and adapted to yieldingly engage the boot or shoe as the latter is moved backward and forward under it, whereby the dauber is adapted to accommodate and properly operate on feet of different sizes. The front dauber consists of a casing 6, adapted to contain blacking, and a rubber-covered roller adapted to smear or daub the blacking over the foot of the person. The casing is preferably constructed of sheet metal and is provided with a central partition 8, forming two chambers or compartments located above the roller and adapted to contain blacking and a wet sponge 9. The roller may be of any other desired construction, and it is journaled in suitable bearings of the casing, which conform to the configuration of the roller and which is open at the bottom for the reception of the same. The blacking is located above and in contact with the roller at one side of the partition, and the wet sponge is arranged at the opposite side of the frame and is in contact with the roller. Suitable apertures are provided in the casing for supplying the blacking-compartment with blacking and for introducing the sponge into its compartment and for supplying the said sponge with moisture. The roller is moistened by the sponge, and thereby obtains a quantity of blacking which is supplied to a shoe or boot. The roller, which frictionally engages the boot or shoe, as hereinafter explained, is rotated by contact with the same, and any amount of blacking may be obtained by moving the foot backward and forward under the roller, and the sides of the front or toe portion of the shoe or boot may be brought into contact with the roller by slightly turning the foot.

The casing of the front dauber is connected with a transverse rod 5 by an approximately U-shaped or V-shaped spring 5, and the said rod extends through slots 10 of vertical guides 11, consisting of arms or bars mounted on the frame or stand at opposite sides thereof and extending a considerable
distance above the same to enable the front
dauber to be arranged clear of the polishing
devices hereinafter described. The spring 5,1
which is centrally secured to the casing 6, is
provided at the upper ends of its sides with
L-shaped arms or portions 5, which engage
the rod or bar, whereby the sides of the spring
are slidably connected with the same to en-
able the spring to be readily compressed and
to quickly expand, whereby the front dauber
is yieldingly held in engagement with a boot
or shoe to cause the roller 7 to be positively
rotated when a boot or shoe is moved back-
ward and forward under it. The casing is
connected with the guide 11 by means of the
lower rod 5, forming a pair of arms and ex-
tending through the slots 10 and adapted to
prevent the dauber from swinging backward
and forward and assisting in guiding the
dauber in its vertical movement. The rod 5
may be a continuous rod, or the casing may
be provided at each side with an arm for en-
gaging the guides 11.

The front dauber is supported by a pair of
upwardly-extending links or connecting-bars
12, provided at their upper ends with perfor-
rations for the reception of the upper rod 5
and having their lower ends pivoted at 13 to
the arm of levers 14, which are fulcrum-
ated between their sides of the frame or stand
and which are connected with a treadle or foot-lever 15, adapted to be os-
cillated to raise the front dauber and lower
the same and also to operate simultaneously
a pair of rear daubers 16, hereinafter de-
scribed. The levers 14 consist of a pair of
rods or bars, and the treadle or foot-lever is
composed of a pair of bars 17, pivoted at one
end at 18 to the frame or stand and connect-
at the other end by a transverse foot-re-
ceiving board or plate located beyond the
frame or stand, as clearly shown in Figs. 1
and 2 of the drawings. When the treadle or
foot-lever is depressed, it carries downward
a pair of links 18, which connect the sides of
17 with the ends 19 of the levers 14, and the
other ends of the latter are thereby raised to
lift the front dauber and lower the rear
daubers. The links 18 are secured to the side
bars 17 by pivots 18, and they are connected
at their upper ends with the levers 14 by piv-
ots 18. The foot-lever is locked in an ap-
proximately horizontal or lowered position
by a latch 20, mounted on its foot-receiving
portion and arranged to engage a keeper 21,
secured to a suitable support of the frame or
stand, as clearly shown in Figs. 1 and 2. The
side bars of the treadle or foot-lever are con-
nected with depending arms or shanks 22
and 23 of dauber-supports 24 and 25, which
receive the front daubers 16 and which are
engaged by coiled springs 26, mounted on
rods 27 and interposed between the dauber-
supports and a cross-bar 29 of the frame or
stand. The coiled springs 26 are compressed
when the foot-lever or treadle is swung down-
ward to a horizontal position, and they are
adapted to automatically lift the rear daub-
ers and the treadle or lever when the latter
is released by disengaging the front catch 70
from the keeper. They also enable the daub-
ers to be moved upward and downward by
simply pressing downward with the foot on
the treadle or lever.

The dauber-supports 24 and 25 consist of
approximately rectangular casings open at
the top and inner sides and receiving brushes
which constitute the front daubers 16; but it
will be readily apparent that any other
suitable material may be employed in the con-
struction of the daubers for supplying the
blanking to a shoe. The rods, which are con-
nected with the dauber-supports and which
are adapted to permit the same to move ver-
tically, have their lower portions arranged in
suitable guides 30, mounted on the inner
faces of the sides of the frame or stand and
consisting of suitable plates grooved or bent
outward longitudinally between their side
edges, as clearly illustrated in Figs. 2 and 3
of the drawings; but the rods may be guided
in any other suitable manner. The dauber-
support 25 is fixed to the arm 22; but the
other dauber-support 24 is slidably connect-
ed with the arm 22 and is capable of hori-
zontal movement laterally of the machine to
vary the distance between it and the other
dauber-support to accommodate shoes of
different widths. This laterally movable
dauber-support is provided at opposite sides
with depending approximately L-shaped
flanges 31, forming ways for the reception of
a horizontal guide 32, which is provided at
its outer end with a supporting-arm 33, hav-
ing an opening for the reception of a recip-
rocatory rod 34. The rod 34 forms a support
for a coiled spring 35, which is interposed be-
tween the laterally-movable dauber-support
24 and a sleeve 36, mounted on the outer
portion of the rod; but the spring 35, which
holds the dauber-support normally at the limit
of its inward movement, may be arranged in
any other desired manner. The dauber
which is carried by the dauber-support 24
yieldingly engages the shoe and is adapted to
be forced outward by the same, whereby the
rear daubers are adapted to accommodate and
engage shoes of different widths.

The rear daubers are supplied with black-
ing by means of a pair of longitudinal rolls
37, preferably covered with rubber or other
suitable material and journaled in suitable
bearings of a casing 38, which is open at the
sides to receive the rolls, as clearly illustrated
in Fig. 3 of the drawings, and which is pro-
vided with a suitable partition 39 for divid-
ing it into 24 remote compartments. The par-
tition 39 is arranged horizontally, and a mois-
tened sponge 40 is preferably arranged above
the partition, and the space below the parti-
tion receives a receptacle or support 41 for
blanking, and in practice the receptacle or
support 41 will be supplied with a quantity of
blanking. The rolls are moistened by the
sponge 40, which preferably engages the tops of the rolls, the horizontal partition 39 terminating short of the sides of the casing, as clearly shown in Fig. 3, and the moistened rolls carry blacking to and distribute the same over the rear dandyers as the latter are moved vertically. In order to insure a positive rotation of the blacking-supplying rolls, gear-wheels 43 and racks 44 are provided. The gear-wheels are preferably mounted on the front journals of the rolls 37, and the racks are suitably secured to the dandy-supports and are provided with teeth which mesh with the teeth of the gear-wheels 43, whereby when the rear dandyers are moved vertically the gear-wheels and the rolls with which they are connected will be positively rotated.

After the shoe or boot to be polished has received the desired amount of blacking the treadmill or foot-lever is depressed to carry the latch 20 thereof into engagement with the keeper, and the said latch 20 preferably consists of a spring-actuated bolt beveled at the lower face of its engaging end and adapted to engage the keeper automatically when the treadmill or foot-lever is depressed to a horizontal position. The boot or shoe is polished by means of a front brush 45, side brushes 46, and a rear brush 47, arranged to engage the boot or shoe at the front, sides, and back. The front or toe brush is mounted in an upright frame 48, adjustably connected to longitudinally-moving bars 49 and provided with ways 48, receiving the back of the brush, which extends transversely of the machine and which is provided at the ends of its back with suitable arms 45 to extend into the ways of the upright frame 48. The upright adjustable brush-carrying frame 48 is slidably connected at the bottom with the longitudinally-moving bars 49 and is secured in its adjusted position by means of a suitable spring-actuated catch 49, arranged at each side of the upright frame. By adjusting the upright frame backward and forward on the longitudinal bars the front brush may be arranged the desired distance from the rear brush to enable it to operate properly on shoes of different sizes. The front or toe brush is yieldingly held in engagement with the toe of a boot or shoe by means of a pair of coiled springs 50, mounted on guide-rods 51, which are secured to the arms of the back of the brush and which are guided in perforations of the connecting top piece of the upright frame 48; but the rods may be arranged in any other suitable manner. The springs 50, which are disposed on the rods, are interposed between the back of the brush and the top of the frame and yieldingly maintain the brush 45 in engagement with the front portion or toe of a boot or shoe. The upright frame, which is mounted on the movable side bars 49, is composed of two sides and a connecting top piece, the sides being grooved or otherwise formed to provide the said ways. The side brushes, which are arranged longitudinally of the bars 49, are suitably fixed to laterally-moving spring-actuated supports 52, consisting of plates mounted in slots 53 of the bars 49 and having a limited inward-and-outward movement therein and provided near their outer edges with suitable stops 54. These supports 52 are normally held at the limit of their inward movement by springs 55, preferably bowed and arranged above and below the sides. These springs may be of any other desired construction and arrangement; but when they are bowed, as shown in the accompanying drawings, they will be centrally connected with the laterally-moving supports and have their ends slideably engaged with the bars 49. The side brushes by being mounted in this manner are adapted to yieldingly engage a boot or shoe at opposite sides thereof and are capable of moving inward and outward automatically as they are reciprocated by the means hereinafter described, whereby the sides of a boot or shoe will be rapidly and thoroughly polished. The rear brush 47, which is adapted to engage the back of a boot or shoe, is mounted on a vertically-moving support, preferably consisting of an arm 56, depending from the back of the brush and arranged in a vertical guide or way 57 of the rear end of the frame or stand and provided with a set-screw 58 or other suitable means for securing it in an elevated position. The rear brush is designed to be lowered while the machine is being operated to supply a boot or shoe with blacking, and after this operation has been completed the rear brush is raised to be engaged by the back of the foot, which is moved up and down over the brush in operating the movable polishing devices or brushes, as hereinafter described.

The longitudinally-moving bars 49, which carry the toe and side brushes, have their rear ends supported by cranks 59 or other eccentric connections, which rotate during the operation of the machine, and the front end of the bars 49 are arranged in longitudinal guides 60, whereby they are slidably connected with the frame or stand. These guides 60 preferably consist of slotted bars arranged in pairs at opposite sides of the front end of the bars 49, the slots 61 receiving the pivots 62, which connect the bars 49 with the means for reciprocating them. The pivots 62, which may consist of bolts or other suitable fastening devices, pass through perforations of the front ends of the pitmen 63, which are pivoted at their rear ends to cranks 64 and 65 of a crank-shaft 66. The crank-shaft 66, which is extended beyond the crank 65, receives a balance-wheel 67 on its extended portion and is supported by a suitable bracket 68, secured to one side of the frame or stand at the outer face thereof, as clearly shown in Fig. 4. The shaft 66 is provided with a central crank 69, which is connected by a bar or pitman 70 with a longitudinal lever 71, fulcrumed between its ends within the frame or stand and
connected at one end with the said bar or pitman 70 and at its other end with a vertically-movable foot-actuated bar 72, guided on the frame or stand and provided at the upper portion with a heel-plate 73. The heel-plate 73, which is suitably fixed to the upper end of the bar 72, is adapted to receive the heel of a boot or shoe, and the operator by pressing downward on the bar 72 causes the rear ends of the bars 40 to rotate and carry with them the rear ends of the bars 40, which are oscillated with a circular or rotary motion, whereby they are carried both upward and downward and backward and forward. This will carry the brushes back and forth over the sides and front of the boot or shoe, and the up-and-down movement of the latter will cause the rear brush to polish the back of the boot or shoe. The back brush is stationary, and the shoe is moved upward and downward over the rear brush in operating the bar 72.

The machine is adapted to be operated solely by the foot of a person, and the rollers of the daubers are positively rotated to supply a boot or shoe with blacking, and the brushes or other polishing means will enable a shoe or boot to be rapidly and thoroughly polished. Also the machine is adapted to be adjusted for shoes of different sizes, as the front or toe brush is capable of being moved backward and forward on the longitudinally-movable bars.

What I claim is—

1. In a machine of the class described, the combination of a frame or stand, front and rear daubers mounted on the frame or stand and capable of upward-and-downward movement to carry them into and out of position for engaging a boot or shoe, said daubers being provided with means for supplying blacking to a boot or shoe, means for locking them out of such position, and polishing devices, substantially as described.

2. In a machine of the class described, the combination of a frame or stand provided with a series of foot-receiving rollers adapted to enable a boot or shoe to be moved freely over them, daubers mounted on the frame and arranged to be engaged by a boot or shoe when the latter is moved backward and forward over the rollers, and means for polishing the boot or shoe, substantially as described.

3. In a machine of the class described, the combination of a frame or stand, a yieldingly-mounted front dauber arranged to move upward and downward to accommodate itself to a boot or shoe, means for raising and lowering the said dauber, whereby the same is carried into and out of position for engaging a boot or shoe and means for supplying blacking to a boot or shoe, substantially as described.

4. In a machine of the class described, the combination of a frame or stand adapted to receive the foot of a person and provided with upright guides, a transversely-disposed dauber located above the frame or stand and arranged in the said guides and yieldingly-mounted bars receiving the dauber and supporting the same, and means for raising and lowering the bars, substantially as described.

5. In a machine of the class described, the combination of a frame or stand adapted to receive the foot of a person and provided with upwardly-extending guides, a dauber operating in the said guides, bars connected with the dauber, and a foot-lever or treadle connected with and adapted to actuate the bars, whereby the dauber is moved upward and downward, substantially as described.

6. In a machine of the class described, the combination of a frame or stand adapted to receive the foot of a person and arranged to permit the same to be moved backward and forward, and a dauber arranged to be engaged by the foot of a person and comprising a roll, means for holding blacking adjacent to the roll, and a moistening device, substantially as described.

7. In a machine of the class described, the combination of a frame or stand adapted to permit a boot or shoe to be moved backward and forward on it, and a movable dauber comprising a casing, a roll mounted on the casing and projecting therefrom, a partition located within the casing and forming compartments or chambers, a moistening device arranged in one compartment or chamber, the other compartment or chamber being adapted to receive blacking, and means for polishing a boot or shoe, substantially as described.

8. In a machine of the class described, the combination of a frame or stand, a front dauber capable of upward- and downward movement and adapted when not in use to be elevated out of the way, side daubers also capable of upward-and-downward movement and adapted to be lowered out of the way when not in use, a foot-lever or treadle connected with the side daubers and adapted, when lowered, to carry the same downward, an intermediate lever connection between the foot-lever or treadle and the front dauber, and means for raising the foot-lever or treadle, substantially as described.

9. In a machine of the class described, the combination of a frame or stand, a blacking-supplying device mounted thereon, side daubers capable of upward-and-downward movement and arranged to engage the blacking-supplying device, one of the side daubers being yieldingly-mounted and capable of movement transversely of the machine to vary the distance between the daubers, substantially as described.

10. In a machine of the class described, the
combination of a frame or stand, a foot-lever or treadle, side daubers capable of upward-and-downward movement and provided with arms connected with the foot-lever or treadle, rods guided on the frame and connected with the daubers, springs disposed on the rods and arranged to automatically raise the daubers, and means for locking the foot-lever or treadle in its lowered position, substantially as described.

11. In a machine of the class described, the combination of a frame or stand, a blacking-supplying device provided with rolls and having gears connected therewith, daubers capable of upward-and-downward movement and provided with racks meshing with the gears, and means for moving the daubers upward and downward, substantially as described.

12. In a machine of the class described, the combination of a frame or stand, a dauber-support provided with means, a guide arranged in the ways and receiving the dauber-support, means for raising and lowering the guide, and a spring engaging the dauber-support, substantially as described.

13. In a machine of the class described, the combination of a frame or stand, a horizontally-moving guide having a supporting-arm, means for moving the guide upward and downward, a dauber-support slidably mounted on the guide and capable of movement transversely of the machine, a rod connecting the dauber-support with the arm, and a spring disposed on the rod and engaging the dauber-support, substantially as described.

14. In a machine of the class described, the combination of a frame or stand, approxi- mately rectangular dauber-supports open at the inner sides and tops, brushes arranged between the brushes for supplying the same, vice carried by the bars, a crank-shaft, pitmen connecting the crank-shaft with the said bars, and means for operating the crank-shaft, substantially as described.

15. In a machine of the class described, the combination of a frame or stand, longitudi-

16. In a machine of the class described, the combination of movable polishing devices, and adapted to actuate the polishing devices, and a stationary polishing device arranged in the path of the shoe to be engaged by the foot in operating the machine and cooperating with the movable polishing devices, substantially as described.

17. In a machine of the class described, the combination of a frame or stand, movable polishing devices arranged at the front and sides of the machine, a depressible actuating device connected with the polishing devices and adapted to be engaged by the foot to operate the machine, and a fixed polishing device located adjacent to the depressible actuating device whereby it is engaged by the foot when the machine is operated, substantially as described.

18. In a machine of the class described, the combination of a frame or stand, front and side daubers capable of upward-and-downward movement, and movable in opposite directions to carry them out of their engaging position, means for locking the daubers out of the way, movable polishing devices, and a foot-actuated device connected with and adapted to actuate the polishing devices, substantially as described.

19. In a machine of the class described, the combination of a frame or stand, movable daubers, a foot-lever connected with and adapted to carry the daubers into and out of their engaging position, movable polishing devices, a fixed polishing device, and a foot-operated device located adjacent to the fixed polishing device and connected with and adapted to actuate the movable polishing devices, substantially as described.

20. In a machine of the class described, the combination of a frame or stand, longitudi-

21. In a machine of the class described, the combination of a frame or stand, the longitudi-

22. In a machine of the class described, the combination of movable polishing devices, slidably connected at one end with the frame or stand, means for oscillating the other end of the bars, polishing devices carried by the bars, a crank-shaft, pitmen connecting the crank-shaft with the said bars, and means for operating the crank-shaft, substantially as described.

23. In a machine of the class described, the combination of a frame or stand, longitudi-

24. In a machine of the class described, the combination of a frame or stand, longitudi-

25. In a machine of the class described, the combination of movable polishing devices, slidably connected at one end with the frame or stand, means for oscillating the other end of the bars, polishing devices carried by the bars, crank-shaft, pitmen connecting the crank-shaft with the bars, a lever connected with and adapted to rotate the crank-shaft, and a depressible foot-operated device for actuating the lever, substantially as described.
by the bars, a crank-shaft, pitmen connecting the crank-shaft with the bars, a balance-wheel mounted on the crank-shaft, a lever fulcrumed between its ends and having one arm connected with the crank-shaft, and a depressible bar connected with the other arm of the lever and adapted to be operated by the foot of a person, substantially as described.

25. In a machine of the class described, the combination of a frame or stand, longitudinally-movable bars having slots, side brushes having plates arranged in the slots and provided with suitable stops, and springs interposed between the brushes and the longitudinally-movable bars for moving the brushes inwardly, substantially as described.

26. In a machine of the class described, the combination of a frame or stand, longitudinally-movable bars, an upright guide-frame, a transverse brush mounted in the guide-frame and slidably connected with the same, and springs engaging the brush, substantially as described.

27. In a machine of the class described, the combination of a frame or stand adapted to receive the foot of a person and provided with upwardly-extending guides, a rod or bar arranged in the guides, a front dauber also connected with the guides below the rod or bar, and a spring suspending the dauber from the rod or bar, substantially as described.

28. In a machine of the class described, the combination of a frame or stand arranged to receive the foot of a person and provided with upright guides, a rod or bar operating in the guides, a front dauber connected with the guides below the bar, a spring secured to the dauber and provided with sides slidably connected with the rod or bar, and means for raising and lowering the rod or bar, substantially as described.

29. In a machine of the class described, the combination of a frame or stand, longitudinally-movable bars, means arranged at one end of the bars for actuating the same, polishing devices mounted on the bars, and rotary cranks connected with the other ends of the bars and adapted to impart a circular oscillatory motion to the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN RICHARD McGARRITY.

Witnesses:

CHRISTIAN LEPPERT,
A. COOPER.