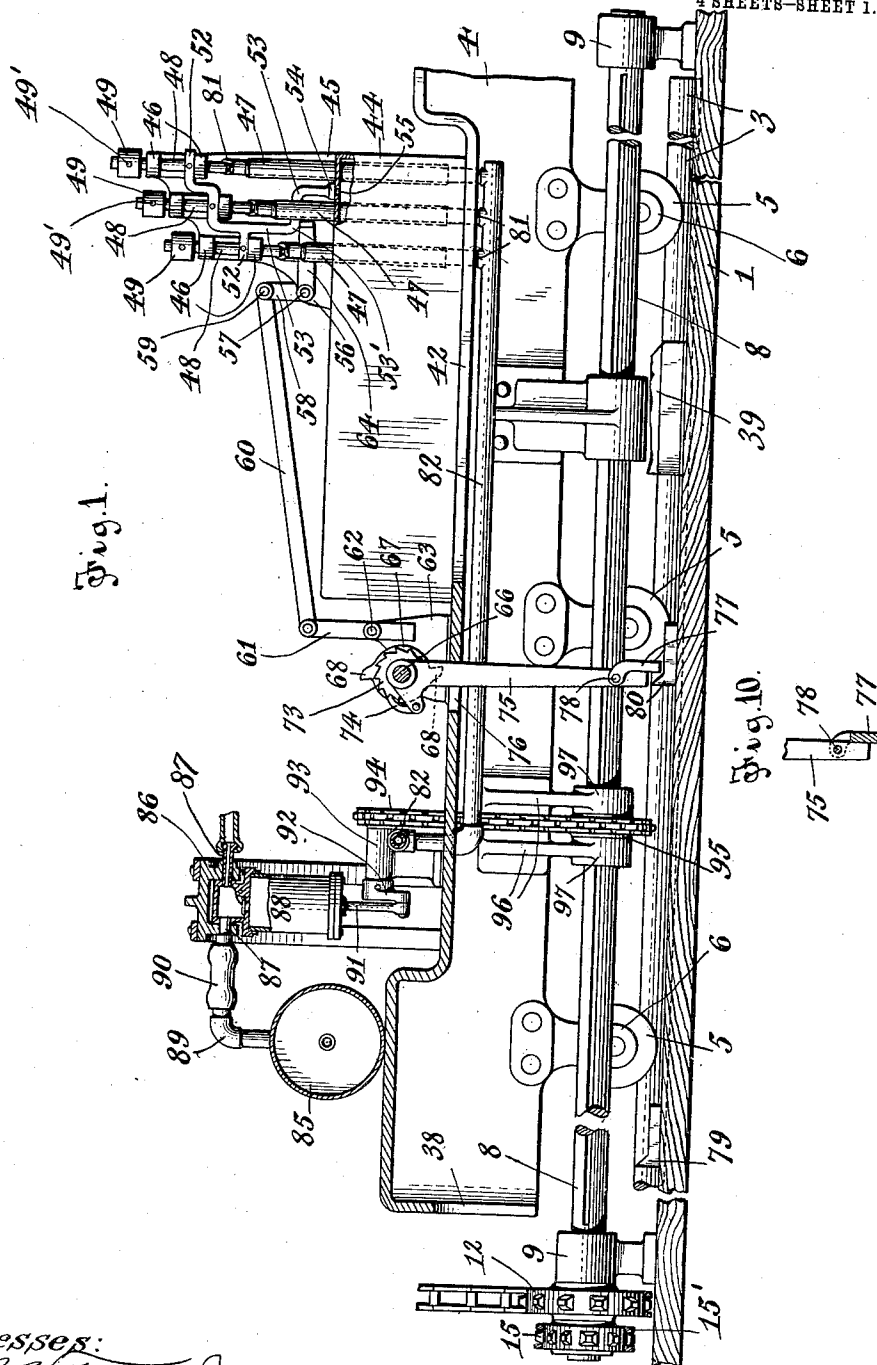


C. F. BURKHART.
DRESSING DELIVERING MECHANISM.
APPLICATION FILED MAR. 29, 1907. RENEWED APR. 11, 1911.

1,009,220.

Patented Nov. 21, 1911.

4 SHEETS—SHEET 1.



Witnesses:
J. M. Fowler
Edgar M. Kitchen

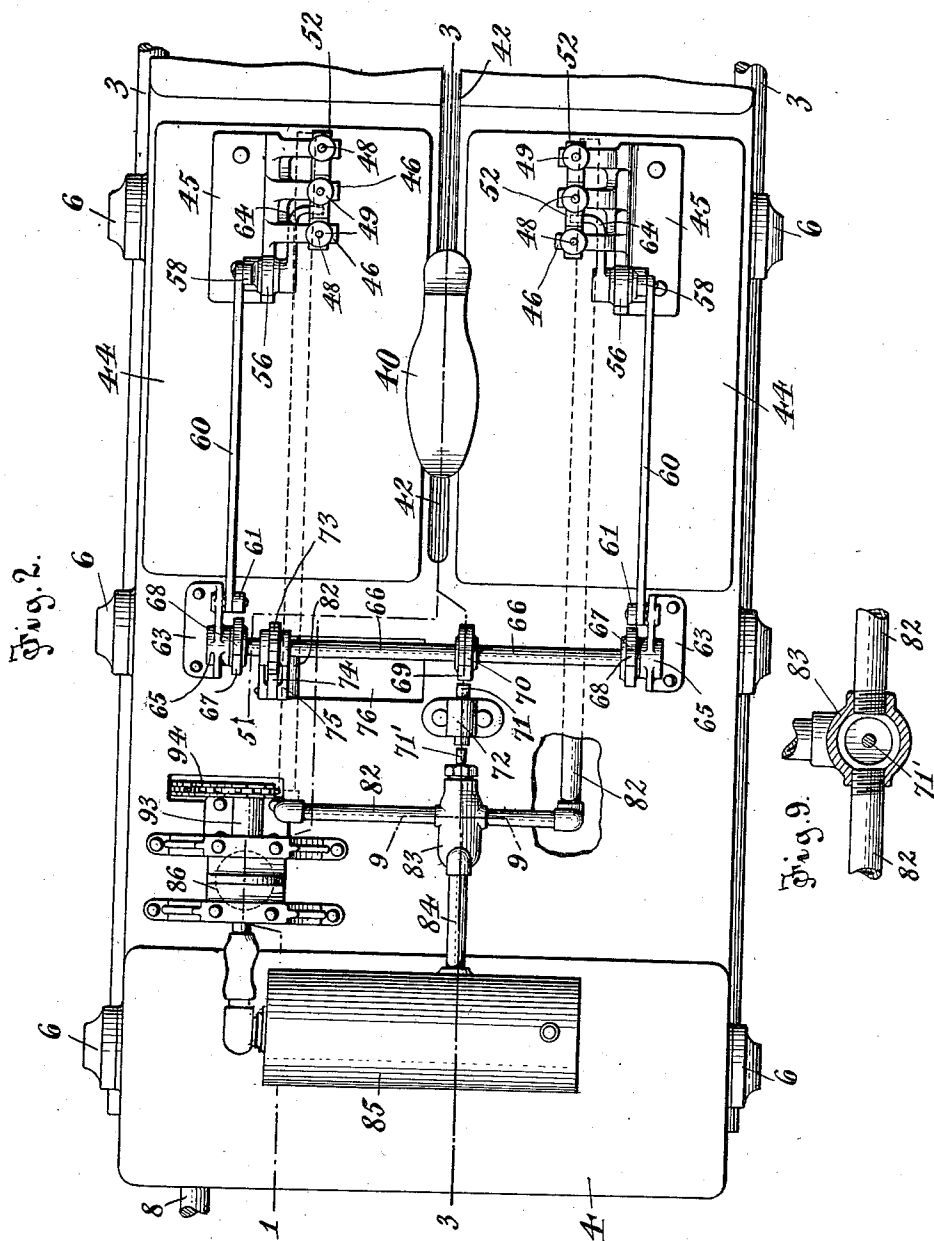
Charles F. Burkhardt, Inventor.
By *Mason, Fenwick Lawrence*, Attorneys.

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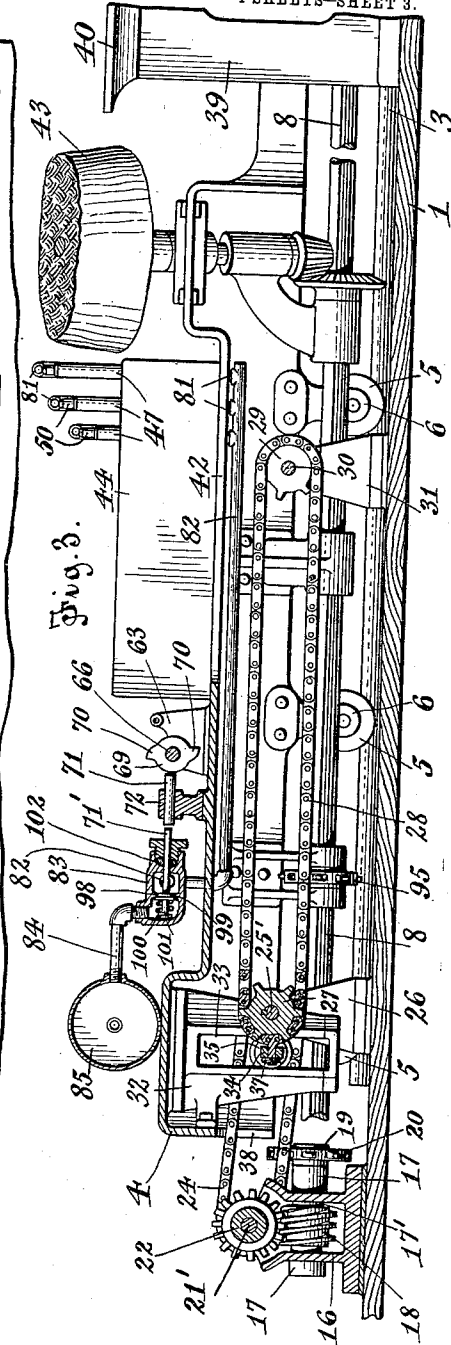
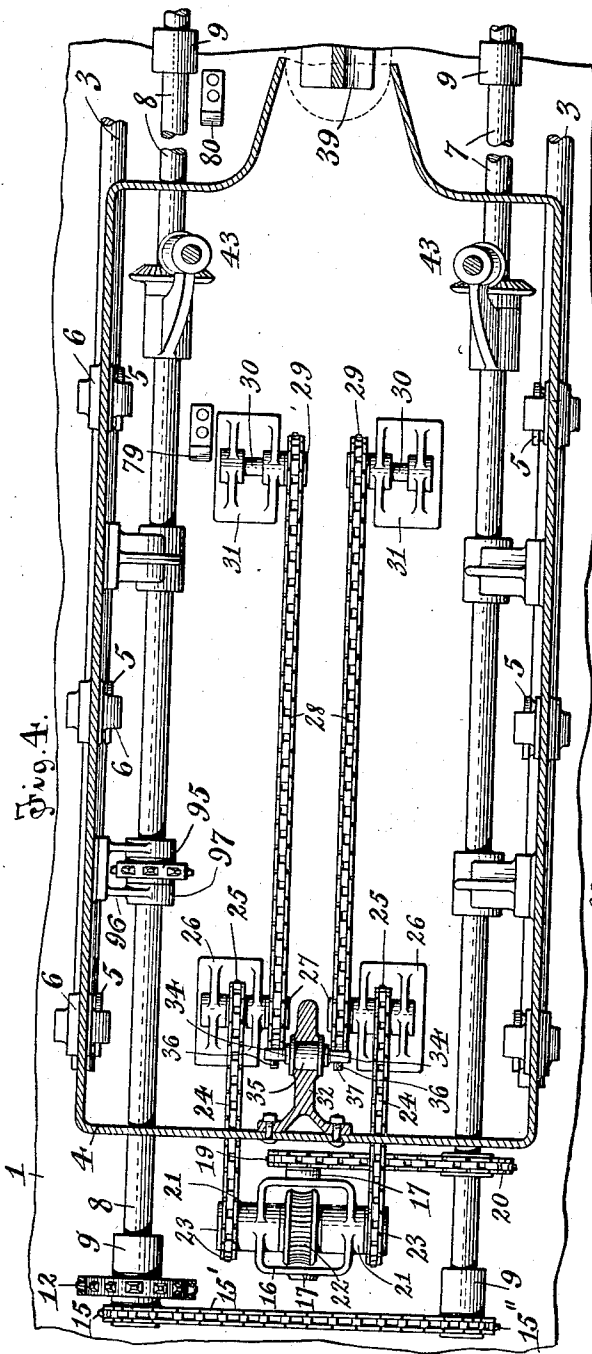
4 SHEETS—SHEET 2.



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1,009,220.

Patented Nov. 21, 1911.
4 SHEETS-SHEET 3.



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1,009,220.

Patented Nov. 21, 1911.

4 SHEETS-SHEET 4.

Fig. 5.

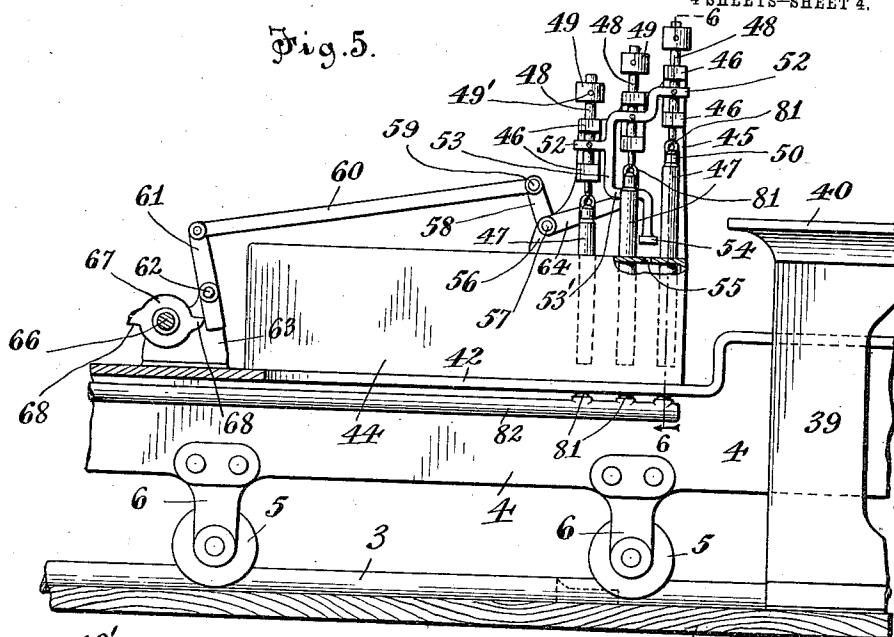


Fig. 7.

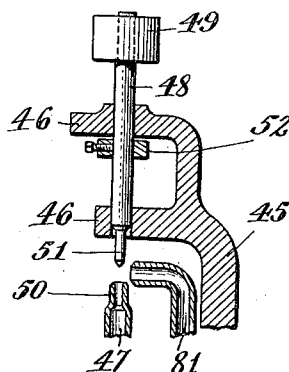


Fig. 6.

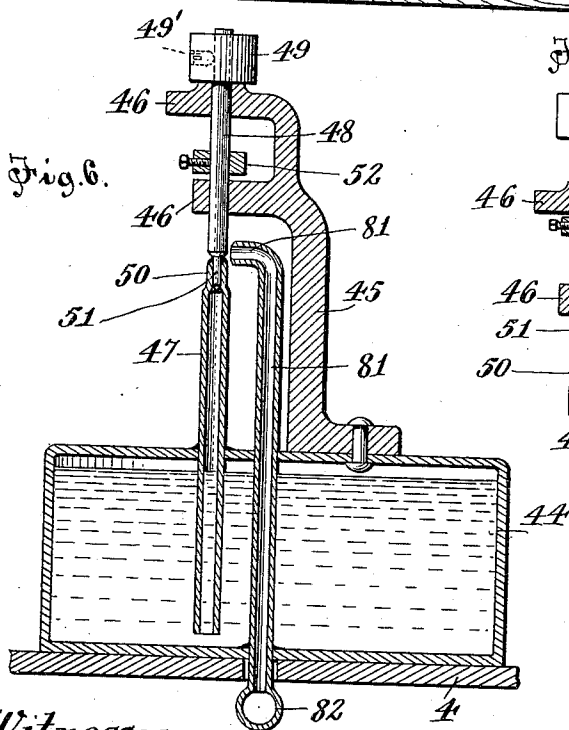
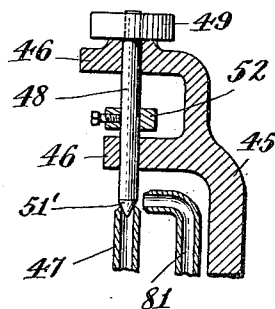


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES F. BURKHART, OF BUFFALO, NEW YORK.

DRESSING-DELIVERING MECHANISM.

1,009,220.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed March 29, 1907, Serial No. 365,294. Renewed April 11, 1911. Serial No. 620,463.

To all whom it may concern:

Be it known that I, CHARLES F. BURKHART, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Dressing-Delivering Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in dressing delivering mechanism for shoe polishing machines, and one of the objects in view is the delivering of dressing to a shoe to be polished in timed relation to the operation of shoe polishing means.

With this and further objects in view, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawings:—Figure 1 is a longitudinal, vertical section taken on the plane indicated by line 1—3 of Fig. 2 through a dressing delivering mechanism embodying the features of the present invention, the drive mechanism for the carriage thereof being omitted for the sake of clearness. Fig. 2 is a top plan view of the same. Fig. 3 is a view similar to Fig. 1 with the drive mechanism illustrated and the carriage shown in its rearward position, the supply closures being omitted, and the section being taken on the plane indicated by line 3, 3 of Fig. 2. Fig. 4 is a sectional plan view, the carriage being seen in section and the drive mechanism therefor being seen in top plan. Fig. 5 is a view of a fragment of the carriage and surrounding parts in longitudinal section taken on the plane indicated by line 3—5 of Fig. 2. Fig. 6 is an enlarged detail, transverse section taken on the plane indicated by line 6, 6 of Fig. 5. Fig. 7 is a similar view of a fragment of the features seen in Fig. 6. Fig. 8 is a view similar to Fig. 7 of a slightly modified form of the dressing delivering control device. Fig. 9 is an enlarged, detail section taken on the plane indicated by line 9, 9 of Fig. 2. Fig. 10 is a detail view of a fragment of the lower end and trip of the cam shaft operating lever.

The present invention is particularly adapted for use in conjunction with the shoe polishing mechanism set forth in my co-pending application Serial No. 335,310, filed

September 18, 1906, and I have therefore not illustrated in detail any particular form of polishing means, the present invention being directed especially to the means for delivering dressing to a shoe. In this connection it should be observed, of course, that in employing the term "dressing" throughout this specification and the appended claims, I wish to be understood as indicating any substance adapted to be applied to a shoe whether intended for aiding in placing a black or other luster thereon or intended for cleansing the shoe or for otherwise improving the condition thereof.

Referring to the drawing by numerals 1 indicates a floor or any suitable support upon which are arranged tracks 3, 3 spaced apart, as clearly indicated in Figs. 2 and 4. A carriage or frame 4 is arranged above and movably supported upon the tracks 3 by suitably grooved rollers 5, 5 which are journaled in bearing brackets 6, 6 fixed to the carriage 4. The carriage 4 is arranged to be reciprocated on the tracks 3 by mechanism hereinafter described. Power shafts 7 and 8 are arranged parallel to each other and extend throughout the length of travel of the carriage 4. The said power shafts are journaled at their ends in suitable bearing blocks 9, 9 mounted upon the floor 1. The shaft 8 at its rear end carries a fixed sprocket wheel 12 about which is passed a sprocket chain extending from any suitable source of power. It is of course obvious that the shaft 8 may be driven in any other manner preferred. A sprocket wheel 15 is carried by the rear end of the shaft 8 and a sprocket chain 15' is passed about said sprocket wheel and extends to and passes about a sprocket wheel 15'' fixed to the rear end of the shaft 7, whereby power may be transmitted from the shaft 8 to the shaft 7.

In the carrying out of the present invention I find it desirable to reciprocate the carriage 4 longitudinally, and in order to accomplish this result I preferably provide mechanism such as illustrated particularly in Figs. 3 and 4 of the drawing, and which is fully set forth and claimed in my application mentioned above. A bearing stand 16 is secured to and extends upwardly from the floor 1, said stand being hollow, as clearly seen in Fig. 3, and provided with bearing sleeves 17, 17 in which is journaled a shaft 17'. The shaft 17' is provided with a worm 18 within the hollow portion of the

stand 16, and carries a fixed sprocket wheel 19 at its forward end, said sprocket wheel being engaged by a sprocket chain 20 extending to a suitable sprocket on the shaft 7. The stand 16 is provided with bearing sleeves 21, 21 above and at right angles to the axial line of the sleeves 17. In the sleeves 21 is journaled a shaft 21' carrying a worm gear 22. The outer ends of the shaft 21' which extend beyond the sleeves 21 are provided with sprocket wheels 23, 23, which wheels are connected by sprocket chains 24, 24 to sprocket wheels 25, 25. Each of the sprocket wheels 25 is fixed to a stub shaft 25' journaled in a bearing stand 26, each of which stands is fixed to and extends upwardly from the floor 1. The stands 26 are spaced apart so as to leave an open space therebetween, and the inner end of each of the stub shafts 25' is provided with a sprocket wheel 27, the two sprocket wheels 27 being spaced apart. Sprocket chains 28 are passed about the sprocket wheels 27 and extend forwardly therefrom to and pass about the sprocket wheels 29, 29 carried by stub shafts 30, 30, the chains 28 extending parallel to each other and being spaced apart throughout their length. The shafts 30 are journaled in the bearings of the bearing stands 31, 31 fixed to the floor 1. It is obvious of course that any form of belting may be employed other than the form specifically disclosed. The bracket 32 is fixed to the carriage 4 and depends therefrom between the chains 28. The said bracket is formed with a longitudinal, vertical slot 33 through which extends a shaft 34 preferably carrying a rotatably mounted spool or other suitable anti-friction means 35, the spool being fitted within the slot 33 with its flanges engaging the faces of the bracket 32. One of the links of each chain 28 is provided with an outwardly projecting pin 36 which is illustrated as formed integral with the link, but of course may be connected therewith in any preferred manner. The pins 36 extend through the shaft 34 near the ends thereof and are secured against removal preferably by cotters 37 or other suitable retaining means. Thus it will be observed that as the chains 28 travel, the shaft 34 must of necessity accompany the same, and the carriage 4 will be caused to reciprocate according to the travel of the chains 28, the space between the chains being sufficient to accommodate the bracket 32, and the depending flange of the carriage 4 being cut away at the rear end or notched, as at 38, for permitting the carriage to travel without interfering with the operation of the sprocket chains. It is of course obvious that the shaft 34 will rise within the slot 33 as the links carrying the pins 36 pass about the sprockets 27, and the shaft 34 will drop within the slot 33 as said links pass about

the sprockets 29. This means for driving the carriage 4 is especially well adapted for use in the present art because it is susceptible of being regulated to a nicety and the forward and rearward travel is steady and regular, and it is impossible under any conditions to cause the carriage to travel farther forward than the limit of movement of the chains 28. The pitch of the teeth of the worm gear 22 and worm 18 may be different in different machines to provide different rates of travel of the carriage.

Any suitable foot rest stand 39 is fixed to the floor 1 at the forward end of the carriage 4 and extends upwardly and is provided at its upper end with a foot rest 40, said stand 39 being in line with a slot 42 formed longitudinally, centrally of the carriage 4. The slot 42 is of course substantially equal in length to the distance of travel of the carriage 4, so as to accommodate the foot rest stand 39 as the front portion of the carriage moves forwardly past the same. At the forward end of the carriage on the opposite sides of the slot 42 are arranged cleaning and polishing devices 43 which are fully disclosed in my above mentioned application to which reference is made for a full understanding of my preferred form of cleaning and polishing devices.

During the course of cleaning and polishing a shoe it is desirable to supply a fluid for aiding in the operation which for the sake of convenience is herein called "dressing." In order to deliver dressing to a shoe in timed relation to the polishing apparatus, which is disclosed in my above mentioned application, I arrange at each side of the slot 42 a dressing supply tank 44. Mounted upon each tank 44, and suitably secured thereto is a bracket 45 which extends upwardly from the tank and is provided with laterally projecting pairs of parallel fingers 46, 46. A tube 47 extends upwardly from within the respective tank 44 beneath each set of fingers 46, and a rod 48 is passed through each set of fingers 46 and is vertically movably supported thereby in axial alinement with the respective tube 47. The upper end of each rod 48 is preferably provided with a weight 49 which normally maintains the lower end of the rod in engagement with the upper end of the respective tube 47 for closing the same. Each weight 49 is preferably retained in place by a suitable set screw 49'. If preferred, each tube 47 may have its upper end restricted, as at 50, and the corresponding rod 48 may be formed with a reduced portion 51 designed to enter the restricted upper end of the respective tube for closing the same. The reduced portion or pin 51 by entering the restricted portion 50 clears the same at each operation and thus prevents clogging from collections

of hardened particles or of foreign substances. The restriction of the diameter of the tube in operation produces a very fine vaporous discharge when a partial vacuum is produced in the tube by the passing of a current of air across the upper end of the tube as will hereinafter appear. It is of course obvious that as many of the tubes 47 may be provided as found desirable, and that the rods 48 constitute valves therefor.

In Fig. 8 I have illustrated a slightly modified form of the structure seen in detail in Figs. 6 and 7, the modification simply consisting in providing a tapered end 51' on the rod 48 for closing the upper end of the tube 47 when the said tube is not restricted. The modification being the mere omission of the pin 51 and the substitution therefor of the tapered end 51', the same reference numerals and description apply equally to the structure seen in Fig. 8 with the exception noted. As many of the tubes 47 may be provided for each tank 44 as are found desirable and the said tubes extend downwardly preferably to a point contiguous to the bottom of the tank and upwardly to different heights, as clearly seen in Fig. 5, so as to facilitate the distribution of dressing over all portions of a shoe. All of the tubes of one tank 44 may, for the purpose of convenience, be referred to as a set. The rods 48 of course must be raised when it is desired to permit discharge from the tubes 47, the weights 49 normally maintaining the rods in a lowered position for closing the tubes. An operating bar 52 is formed in the shape of steps so as to have horizontal portions extending between the several pairs of fingers 46, the said pairs of fingers being arranged at different heights according to the height of the respective tubes 47 beneath the given pairs of fingers. All of the rods 48 of one set are connected to the operating bar 52, and an operating rod 53 is formed integral with or suitably connected to the bar 52, the rod 53 extending downwardly from the bar 52 and being bent intermediate its length for producing a shoulder or shouldered portion 53', the lower end of the rod 53 extending to a point contiguous to the cover of the tank 4. The said lower end of the rod 53 is provided with a cap or closure 54, adapted when the rod is in its lowermost position to rest upon the cover of the tank 44 and to close an aperture 55 formed in said cover. The aperture 55 is intended to admit air to the tank for preventing the production of a vacuum therein when dressing is being discharged therefrom, and in order to prevent evaporation of dressing, when the machine is not in operation, the cap or closure 54 is arranged to rest over and close the aperture 55 at all times when the tubes 47 are closed by the rods 48. Each of the brackets 45 is formed

with a bearing 56 in which a crank shaft 57 is journaled, which shaft is provided with a crank arm 58 at one end. The wrist pin 59 of the crank arm 58 is engaged by a link 60, the opposite end of which link pivotally engages an operating lever 61, which lever in turn is pivoted, as at 62, to a bracket 63 fixed to and extending upwardly from the carriage 4. The opposite end of the crank shaft 57 from that carrying crank arm 58 carries a fixed arm 64 which extends beneath the shoulder 53' in position for elevating the rod 53 and the bar 52 when the crank shaft 57 is oscillated in a direction for elevating the arm 64. Such oscillation of the shaft 57 will be produced whenever the link 60 is given a rearward, longitudinal thrust. The valves 48 and closures 54 and operating parts may be dispensed with when the present improved dressing delivering mechanism is placed where it will be extensively used and the delivering of dressing may be controlled solely by the compressed air devices hereinafter fully described, but where the present improved dressing delivering mechanism is liable to be used less frequently, it is desirable to provide the said valves and closures in order to prevent evaporation of dressing and clogging of the discharge tubes.

It is to be observed that the mechanism connected with the two tanks 44 are exact duplicates of each other, and the description applying to one applies to both, the two brackets 63 being spaced apart and each being provided with a bearing sleeve 65 in which is journaled a transverse shaft 66. The shaft 66 carries at each end a cam wheel 67 provided with diametrically opposite outwardly projecting cams 68, 68. The shaft 66 is provided intermediate its length with a similar cam wheel 69 having similar, diametrically oppositely disposed cams 70, 70, the cams 70 being arranged in the same longitudinal planes of the shaft 66 with the cam 68. Each of the cams 68 is positioned for striking the lower end of the corresponding lever 61 and pressing the same forwardly each time the cam passes the lever, while the cams 70 are positioned for successively striking a plunger 71, slidably mounted in a guiding bracket 72 on the opposite side of shaft 66 from the levers 61 so that whenever the cams 68 engage the levers 61, one of the cams 70 will engage the plunger 71. The guiding bracket 72 is sustained by the carriage 4 and the plunger 71 is designed for accomplishing functions hereinafter fully set forth. In order to rotate the shaft 66 in timed relation to the reciprocations of the carriage 4, said shaft is actuated with a step by step movement by means of a ratchet wheel 73 fixed to said shaft and engaged by a pawl 74, which pawl is carried by an operating lever 75. The

lever 75 has its upper end pivotally engaging the shaft 66 and depends through an aperture 76 in the carriage 4 to a point contiguous to the floor 1. At the lower end of the lever 75 is arranged an operating finger 77 which is bifurcated at its upper end and has the arms of the bifurcations extending on opposite sides of the lever 75 and engaged by a pivot 78 carried by the lever. The bifurcated portion of the finger 77, as clearly seen in Fig. 10, is of sufficient length to permit said finger to swing freely upwardly and forwardly, but the solid portion of said finger will strike the lower end of the lever 75 when the finger is brought to a vertical position so that said finger cannot swing rearwardly independently of lever 75 past a vertical position. Stops or detents of any preferred type as indicated at 79 and 80 are preferably fixed to the floor 1, and are provided with beveled front faces and abrupt rear shoulders, so that as the carriage 4 is traveling forwardly, the finger 79 will successively strike the said stops or detents, and as the front edge of the finger strikes the rear shoulder of the detent, the finger will be pressed rearwardly, and as it is not free to swing rearwardly the lever 75 will be caused to swing rearwardly. Thus each time the finger 74 passes over a stop or detent 79 or 80, the lever 75 is given a swing in a rearward direction which causes the pawl 74 to move upwardly and forwardly one step, and, as soon as the lever 75 is passed over the respective stop or detent, the said lever will drop back by gravity to a substantially horizontal position, which will bring the pawl 74 back into engagement with the next succeeding tooth of the ratchet wheel 73. Thus the ratchet wheel 73 will be given two forward steps with each forward reciprocation of the carriage, but when the carriage is moving rearwardly the finger 74 will strike successively against the inclined beveled portions of the detents 79 and 80 and will swing freely forwardly for permitting the passing of the lever 75 without actuating the same. It is to be observed of course, that the ratchet wheel 73 may have any desired number of teeth, and the teeth may be varied relative to the number of cams 68 employed, but when employing the present delivering mechanism in conjunction with the preferred form of polishing mechanism disclosed in my above mentioned co-pending application, the ratchet wheel 73 is formed with a sufficient number of teeth for causing one of the cams 68 of each cam wheel 67 to engage the levers 61 once for every four reciprocations of the carriage, but it is quite obvious of course that, if preferred, the number of teeth on the ratchet wheel 73 and the number of cams 68 may be varied so that the levers 61 will be struck at each alternate re-

ciprocation of the carriage or each reciprocation of the carriage or in any order desired. In the preferred embodiment of the delivering mechanism employed in conjunction with my preferred form of polishing mechanism disclosed in the above mentioned application, as above intimated, one of the cams 68 of each of the wheels 67 is brought into contact with the lower end of the levers 61 at each fourth reciprocation of the carriage, and it is to be observed that when the lever 75 is given the stroke necessary for causing the pawl 74 to rotate the shaft 66 a sufficient distance for causing the particular cam 68 to engage the corresponding lever 61, the said pawl 74 will not move the shaft 68 to a sufficient distance for moving the cam out of contact with the lever. Therefore, the ratchet wheel 73 is so constructed and arranged that in its successive forward step, the particular step which throws the cam 68 into engagement with the corresponding lever 61 is imparted by contact of the finger 77 with the stop or detent 79, and hence the lever 61 is held with its upper end in its rearmost position during the travel of the carriage 4 forwardly from the point of contact of the finger 77 with the detent 79 to the point of contact of the finger 77 with the detent 80. As the finger 77 contacts with the detent 80, the lever 75 is caused to swing rearwardly, and the ratchet wheel 73 will be thrown forwardly for another step which will release the lever 61. In this connection it is to be noted that the rearward movement of the upper end of each lever 61 produces a rearward thrust of the corresponding link 60, which results in the elevation of the rod 53 and the bar 52 with the resulting elevation of the rods 48 out of engagement with the tubes 47, and the elevation of the cap 54 over the aperture 55.

Compressed air supply pipes 81 are arranged with their discharge openings delivering the discharge across the upper end of the respective tubes 47, and as a convenient arrangement, I have shown the pipes 81 extending downwardly through the corresponding tank 44 and communicating with a branched compressed air supply pipe 82, the two branched pipes 82 being united by a valve casing 83 into a single supply pipe 84. The supply pipe 84 may deliver compressed air from any preferred source but as one convenient means of supplying air I have illustrated a supply tank 85 mounted on the carriage 4 and communicating with the pipe 84. A trunnion block 86 is fixed to the carriage 4 at a suitable point and is provided with bearings for the trunnions 87 of the cylinder 88 of a pump for supplying compressed air. One of the trunnions 87 is hollow and communicates with the cylinder 88 and discharges into a pipe 89 which communicates with the tank 85. Any suit-

able form of union 90 may be provided between the trunnion 87 and the pipe 89 for permitting the oscillation of the trunnion without interfering with the communication of compressed air from the cylinder 88 to the pipe 89. The cylinder 88 is provided, of course, with the usual piston with which is connected a piston rod 91 engaging the wrist pin of a crank 92, which crank is fixed to the rear end of a stub shaft journaled in a bearing 93, which bearing is suitably carried by any preferred support fixed to the carriage 4. The front end of the stub shaft, which is journaled in the bearing 93, carries a fixed sprocket wheel about which is passed a sprocket chain 94 which extends downwardly through an aperture in the carriage 4 and is slightly inclined to one side, and passed about a sprocket wheel 95 slidingly keyed on the shaft 8 and caused to slide with the carriage 4 by suitable brackets 96, 96 which are fixed to the carriage and extend on opposite sides of said sprocket wheel and are provided with bearing sleeves 97, 97 surrounding the shaft 8 on such opposite sides.

Within the valve casing 83, in the rear of that portion thereof which communicates with the branched pipes 82, is arranged a valve seat 98 on which normally rests a check valve 99 held upon its seat by a helical spring 100 which is interposed between the valve and the rear wall of the casing, the valve being guided in its movement, when operated, by a stem 101 which extends from the valve rearwardly through coils of the spring and also by a stem 71' which extend from valve 98 forwardly through a suitable stuffing box 102, arranged for preventing leakage. The valve 99 is so positioned as to prevent the escape of air under pressure from the tank 85, except when the plunger 71 is struck by one of the cams 70 and moved rearwardly thereby and caused to strike stem 71' and press the valve 99 rearwardly off of its seat. It is to be observed that, the cams 70 are in the same longitudinal planes of the shaft 66 as those occupied by the cams 68 so that while one set of cams 68 is holding the levers 61 with their upper ends in their rearmost position, the diametrically opposite cam 70 will retain the plunger 71 in position for holding the valve 99 off of its seat, and thus a supply of air under pressure is delivered through the discharge ends of the pipes 81 each time the rods 84 are elevated by the forward thrust of the links 60. When the cams 68 have moved past the levers 61, the rods 48 will drop by gravity to a position for closing the tubes 47 and will carry with them the connected parts, thus restoring the levers 61 to the former position. Of course as soon as the cam 70 passes the plunger 71, the valve

99 will be thrown to its seat by the spring 100.

In operation it is to be observed that as the carriage 4 is reciprocated, the dressing delivering tubes 47 will be caused to move past the shoe upon the foot rest 40, and, as the said tubes are passing the shoe, the tubes will be open and the compressed air will be discharging so as to deliver dressing, the discharge beginning just as the dressing delivering devices approach the shoe and ceasing as the delivering devices pass beyond the shoe.

It is obvious of course that the present invention is not restricted in its use to the preferred embodiment of shoe polishing apparatus disclosed in my co-pending application above mentioned, or to the material which is delivered, whether such delivery is for the purpose of treating a leather, cloth or rubber boot or shoe, and I wish the term "dressing" construed sufficiently broad to cover any substance which may be delivered by a mechanism falling within the terms of the appended claims, which may be found useful in the shoe dressing art.

The term "shoe" as employed herein is intended to cover any article of foot wear.

It is to be observed that the blacking supply tubes 47 serve as discharge nozzles, and that their discharge is deflected by the discharge from the air pipes 81, which air pipes also serve as nozzles. It is further obvious of course, that the foot rest 40 may comprise any form of support for any boot or shoe to be treated, and I wish the term "foot rest" employed throughout this specification and appended claims to be construed as covering any device designed to sustain any boot or shoe adapted to be treated by the present improved mechanism.

While I have not described the polishing devices fully herein, for the reason that the same are fully set forth in my above mentioned co-pending application, it will be observed from the disclosure in Fig. 3 that the polishing devices move with the carriage 4 and are driven by the shafts 7 and 8 so as to operate upon a shoe mounted on the foot rest 40 whenever the front portion of the carriage 4 passes the foot rest, and as the dressing devices are timed to deliver blacking as the same pass the shoe, the said dressing delivering devices obviously deliver dressing in timed relation to the operation of the polishing devices 43 upon the shoe.

What I claim is,—

1. In a device of the class described, the combination with a foot rest, of a dressing tube movable past the same, means for supplying dressing to said tube, an air blast tube discharging across the end of said dressing tube and directing its discharge toward a shoe on the foot rest, means nor-

mally closing said dressing tube, and means for opening the dressing tube.

2. In a device of the class described, the combination with a foot rest, a movably mounted carriage, a dressing tube carried thereby and adapted to be moved with the carriage past a shoe on the foot rest, means for supplying dressing to said tube, an air blast tube directing its discharge across the end of said dressing tube and toward the shoe on the foot rest, means for supplying air under pressure to said air blast tube, means normally closing the dressing tube, and means actuated by the movement of the carriage for opening the dressing tube at intervals.

3. In a device of the class described, the combination of a dressing supply tube, means for supplying dressing thereto, an air blast tube directing its discharge across the outer end of said dressing supply tube, a guiding bracket arranged above the dressing tube, a rod vertically movably mounted in said bracket, a weight carried by said rod and normally retaining the same with its lower end in position for closing said dressing tube, and means for elevating the said rod.

4. In a device of the class described, the combination of a dressing containing tank, a dressing supply tube extending therefrom, means for delivering dressing from said tube, means for closing said dressing tube, an opening being formed in the wall of the dressing supply tank for admitting air thereto, means for closing said opening, and means for simultaneously opening the said dressing supply tube and for removing the closure from the opening in the dressing containing tank.

5. In a device of the class described, the combination with a dressing supply tank, of a tube extending therefrom, means for delivering dressing from said tube, means for closing said tube, an aperture being formed in the wall of said dressing supply tank for admitting air thereto, a cap for closing said aperture, a rod connecting said cap with the closure for said tube, and means for moving said connecting rod for simultaneously opening the dressing tube and removing the closure from the aperture in the wall of the dressing containing tank.

6. In a device of the class described, the combination with a dressing supply tank, of a plurality of dressing supply tubes extending therefrom, an air blast tube for each of said dressing supply tubes arranged to direct its discharge across the outer end of the respective dressing supply tube and toward the shoe to be polished, rods for closing said dressing supply tubes, a bar connecting all of said rods, and means for moving the said connecting bar for opening said tubes.

7. In a device of the class described, the

combination with a dressing supply tank formed with an aperture in one of its walls, of a dressing supply tube extending from said tank, an air blast tube arranged to direct its discharge across the outer end of said dressing supply tube, means for closing the dressing supply tube, means for closing the aperture in the wall of the dressing supply tank, a bar connecting the closing means of the dressing supply tube with the closing means of the aperture, said bar being formed with a bend intermediate of its length, an arm engaging said bend, and means for swinging said arm for elevating the connecting rod and parts engaged thereby for opening the dressing supply tube and the aperture in the wall of the dressing supply tank.

8. In a device of the class described, the combination with a movably mounted carriage, of a ratchet wheel carried thereby, a pawl engaging said ratchet wheel, a lever connected with said pawl, stops in the path of movement of said lever for actuating the lever during movement of the carriage, dressing delivering means carried by the carriage, and means actuated by said ratchet wheel for controlling the delivery of dressing.

9. In a device of the class described, the combination with a reciprocating carriage, of dressing delivering means mounted thereon and arranged for delivering dressing to the shoe to be polished, means governing the supply of dressing from said dressing supply means, a cam for actuating said governing means, a ratchet wheel connected to said cam, a pawl engaging said ratchet wheel, a lever pivotally mounted on the carriage and carrying the said pawl, and means disposed in the path of movement of the free end of said lever for actuating the same.

10. In a device of the class described, the combination with a reciprocating carriage, of dressing supply means disposed for delivering dressing to the shoe to be polished, means normally cutting off the supply of dressing, a lever carried by said carriage, a plurality of stops in the path of movement of said lever for actuating the same, and means actuated by said lever when engaged by one of said stops for opening the dressing supply, and when engaged by the other of said stops for permitting the closing of the same.

11. In a device of the class described, the combination of movable dressing delivering means, comprising a dressing supply tube and an air blast tube, means for closing the dressing supply tube, means for simultaneously removing the closing means and supplying air under pressure to the air blast tube.

12. In a device of the class described, the combination of movable dressing supply

means, a valve for normally cutting off the supply therefrom, air blast supply means disposed for producing delivery from said dressing supply means, a valve normally closing said air blast means, and means for simultaneously opening said valves.

13. In a device of the class described, the combination of movable dressing supply means, a valve normally cutting off the supply of dressing, air blast supply means disposed for delivering dressing from said supply means, a valve for cutting off the air blast supply, and means for opening both of said valves.

14. In a device of the class described, the combination with a foot rest, of a dressing

supply tank, a tube extending therefrom, an air blast tube directing its discharge across the outer end of the dressing tube toward an article arranged upon the foot rest, means for supplying air under pressure to the air tube, a carriage movable relative to the foot rest, and means actuated by the moving of the carriage for controlling the discharge of air and dressing.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. BURKHART.

Witnesses:

LAURA A. SHUGRUE,
ERNEST S. FENWICK.

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