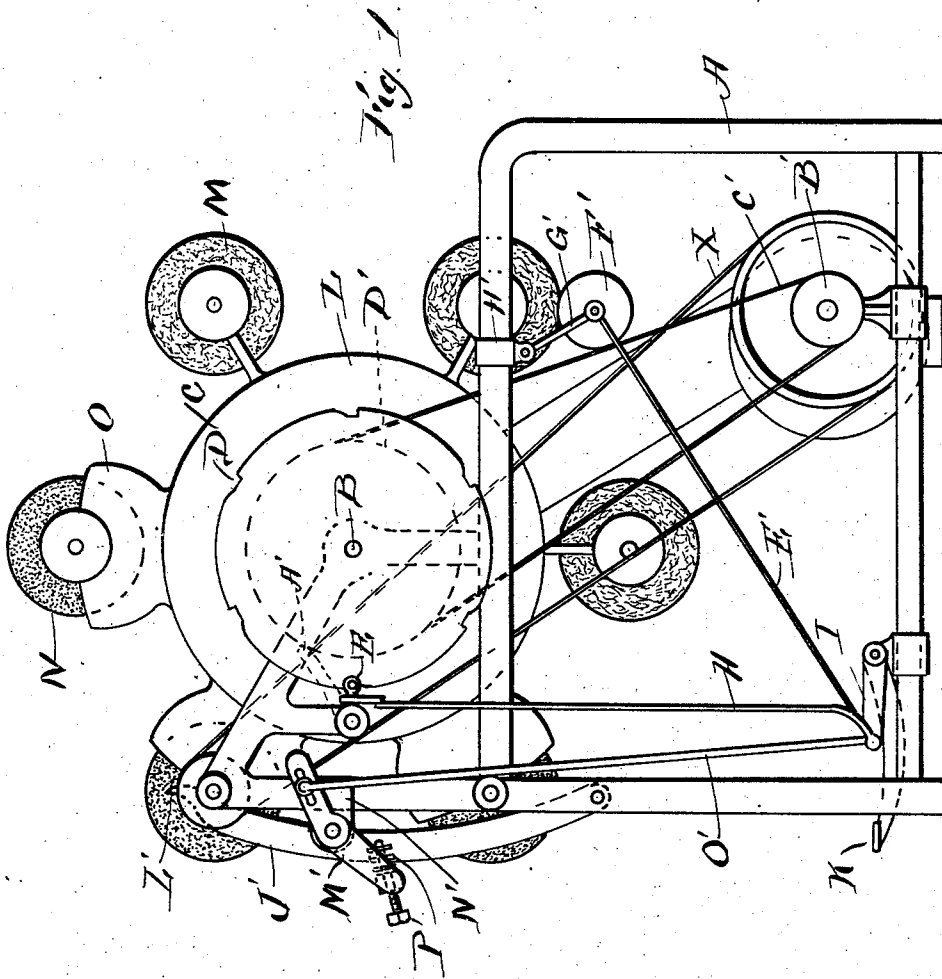


APPLICATION FILED SEPT. 21, 1909.

3 SHEETS—SHEET 1.



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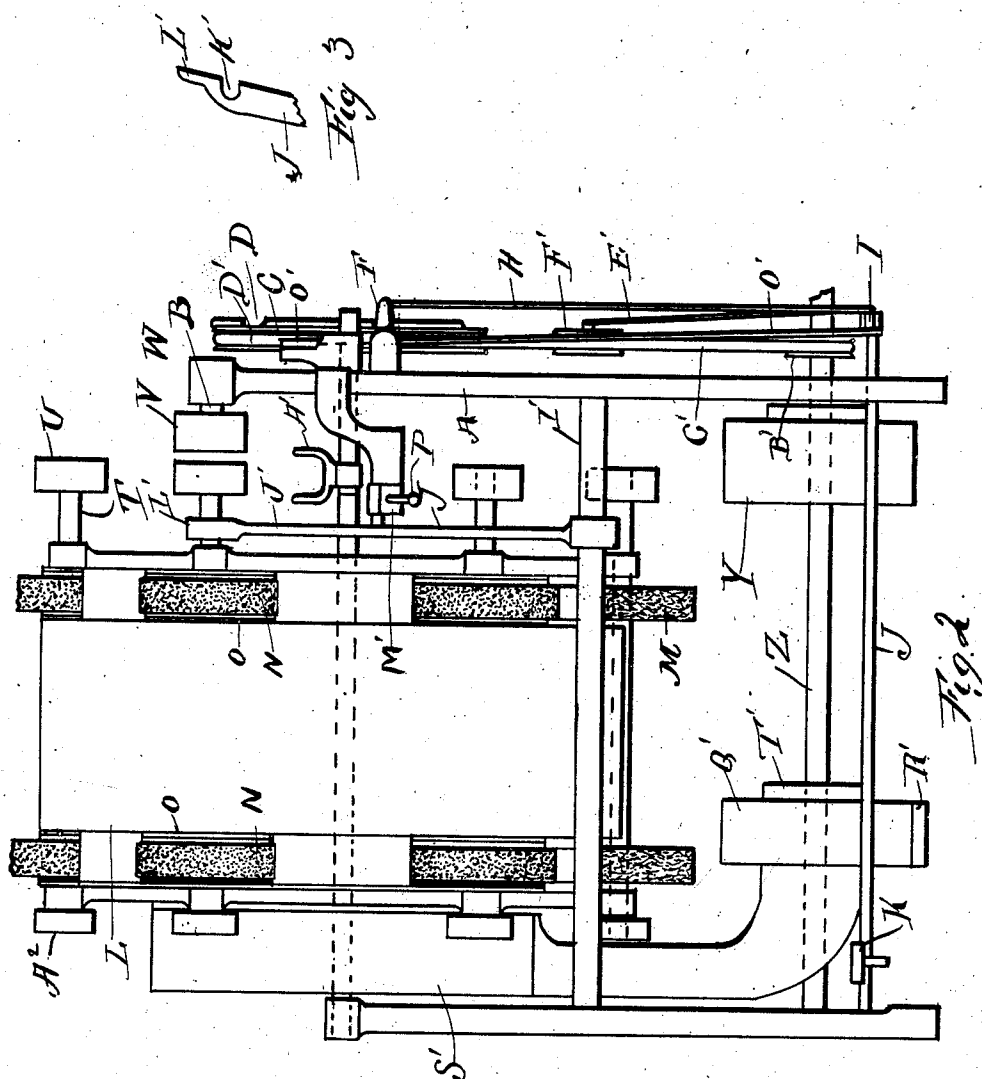
SHOE FINISHING MACHINE.

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Patented Dec. 12, 1911.

3 SHEETS—SHEET 2.



WITNESSES

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3 SHEETS—SHEET 3.

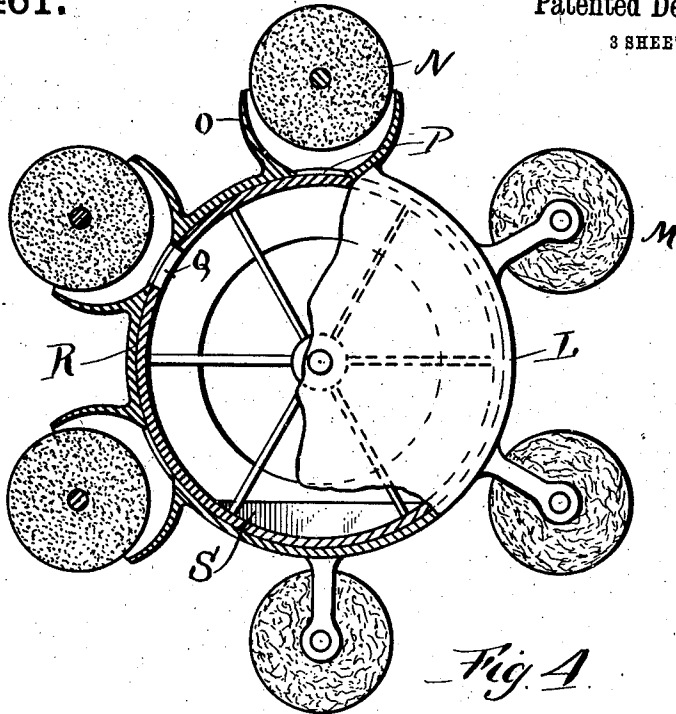


Fig. 4.

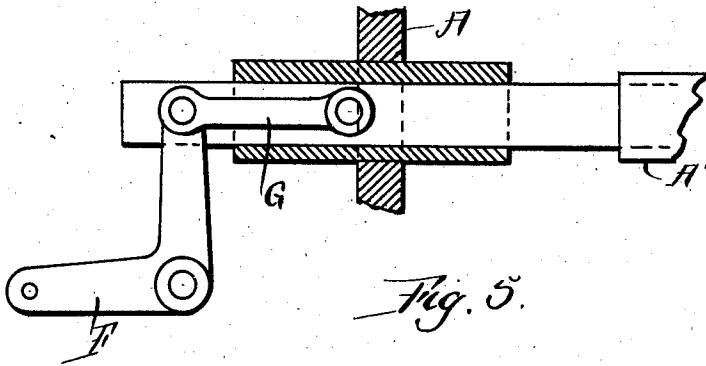


Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES F. MANNING AND ALFRED A. DENSLINGER, OF PHILADELPHIA, PENNSYLVANIA.

SHOE-FINISHING MACHINE.

1,011,461.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed September 21, 1909. Serial No. 518,798.

To all whom it may concern:

Be it known that we, JAMES F. MANNING and ALFRED A. DENSLINGER, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Shoe-Finishing Machines, of which the following is a specification.

Our invention relates to a new and useful improvement in shoe finishing machines, and has for its object to provide an exceedingly simple and effective device of this character whereby shoes may be ground, polished and the like.

Another object of the invention is to provide a machine of the character described which is adapted to carry a number of grinding and buffing wheels, any one of which may be readily and easily brought into operative position.

A further object of the invention is to provide housings for the grinding wheels and a means connected with said housings for carrying off the particles of leather which are ground away.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, we will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side elevation of our improved finishing machine. Fig. 2, a front elevation thereof. Fig. 3, a face view of a portion of the locking arm. Fig. 4, a broken side elevation of the inner drum which is adapted to receive the particles of leather and the outer drum carrying the grinding and buffing wheels, and Fig. 5, a sectional side elevation of the levers for operating the belt shifter and cam roller.

In carrying out our invention as here embodied, A represents the frame of the machine, in which is mounted the main shaft B, and on this shaft is mounted the locking cam wheel C, having formed in its periphery at predetermined intervals the notches D, with which registers the cam roller E operated by the bell crank lever F, one end

of which is connected to the cam roller by the link G, the opposite end of said bell crank lever being connected by the rod H to the extension I, mounted on the shaft J which carries the pedal K. On the shaft B is also mounted the external drum L carrying the polishing or buffing wheels M and the grinding wheels N, each of said grinding wheels having a housing O from which leads a port P. When one of the grinding wheels is in operative position the port P leading from the housing about that wheel will be in alinement with the port Q formed in the internal drum R, which is loosely mounted upon the shaft B within the drum L. In the drum R is placed a weight S which will always hold or bring the port to one position.

The grinding wheels and buffing wheels may be mounted in pairs, that is, one set along one edge of the drum L and another set along the other edge, and each pair of these wheels will be mounted upon a shaft T carrying a pulley U on one end. On the opposite end of each of these shafts is placed an edge setter A². The pulley which is mounted upon the shaft of the wheels which are in operative position will be in alinement with the pulley V mounted on a shaft W journaled to the frame. Upon these pulleys runs a belt X which also runs over the drive pulley Y mounted on the shaft Z to which the power is applied in any desirable manner. This belt runs through a belt shifter A' which is connected by suitable means to the link G so that the same will be operated when the cam roller is moved in and out of engagement with the notches D on the cam wheel C. This will move the belt from the pulley V to one of the pulleys U or vice versa. On the shaft Z is also mounted the pulley B' over which runs a belt C' said belt also running over the pulley D' mounted upon the shaft B, it being understood that this belt C' is very loose so that ordinarily it will not revolve the pulley D', but when the pedal K is pressed downward the extension I will be operated which will pull upon the rod E' drawing the tightening pulley F' against the belt C' which will tighten said belt sufficiently to cause the pulley D' to revolve. This tightening pulley F' is journaled in the lower end of the swinging bracket G' which is pivoted to the clamp H' fastened at some suitable point upon the frame A.

I' denotes a shaft, the ends of which are journaled in the frame and on this shaft is mounted the locking arm J' having a notch K' in proximity to its outer end and provided with a lip L'. This arm is operated by the lever M' pivoted to the lug N' mounted upon the frame, and said lever is connected by the rod O' to the extension I. Between the arm J' and the lever M' which operates it is placed a spring P' for relieving the shock prevalent in the movements of engaging and disengaging the arm J' with or from the shafts T of the wheels. On the shaft Z is mounted a fan Q' having an exhaust port R', and this fan is connected with the inner drum R by the conveying tube S' so that the chips within the drum R will be withdrawn and exhausted through the port R'. If found desirable the pulley Y and the fan Q may each be provided with a friction clutch T' for throwing them in and out of gear so as to stop the working of the parts of the device to which they are connected.

In practice the wheels which are mounted on the shaft having its pulley U in alinement with the pulley V are the ones which are in operative position and when in this position the notch K' in the arm J' will be in engagement with the shaft T of the wheels which are in operative position, and the cam roller E will be in engagement with one of the notches D formed in the periphery of the locking cam wheel C. When for any reason it is desired to bring any of the other dressing wheels in operative position, the pedal K is pressed downward which will do likewise with the extension I through the medium of the shaft J. This will move the arm J' out of engagement with the shaft T, at the same time disengaging the cam roller E from one of the notches D and will also cause the tightening pulley F' to draw the belt C' out, at the same time the belt X will be shifted from the pulley U to the pulley V. At this time motion will be given to the pulley D' through the belt C', from the shaft Z which will cause the outer drum L to revolve until the next succeeding pair of wheels M or N are brought into operative position. As soon as the locking cam wheel C has revolved sufficiently to remove the notch which was engaged by the cam roller away from said roller, the pressure may be relieved from the pedal and the cam roller will rest upon the periphery of the locking cam wheel until the next succeeding notch D has come into position, at which time the cam roller E will drop into said notch. This will allow the pedal K to move upward so that the pressure upon the belt C' will be relieved and the notch in the locking arm J' will engage the shaft T of the dressing wheels which have come into operative position, at the same time the belt X will be

shifted to the pulley U, when the dressing wheels will be revolved.

While using the grinding wheels the chips or dust will be caught by the housing, and because of the action of the fan Q they will be drawn into the internal drum R, then through the pipe S' and expelled from the exhaust R'.

Of course we do not wish to be limited to the exact details of construction here shown, as these may be varied within the limits of the appended claims without departing from the spirit of our invention.

Having thus fully described our invention, what we claim as new and useful, is—

1. In a shoe finishing machine, a frame, a shaft journaled therein, a drum revolubly mounted on said shaft, a plurality of shafts mounted about the periphery of said drum, dressing wheels mounted on said shafts, housings placed about a portion of a number of said wheels, a pulley mounted on the shaft on which the drum is mounted, another shaft journaled in the lower portion of the frame, a pulley mounted on said shaft, a belt passing loosely over this pulley and the pulley on the first named shaft, means for tightening said belt for revolving the drum, means for locking the drum, and means for revolving the dressing wheels which are in operative position.

2. In a shoe finishing machine, a frame, a shaft journaled therein, a drum revolubly mounted on said shaft, a plurality of shafts mounted about the periphery of said drum, dressing wheels mounted on said shafts, housings placed about a portion of a number of said wheels, a pulley mounted on the shaft on which the drum is mounted, another shaft journaled in the lower portion of the frame, a pulley mounted on said shaft, a belt passing loosely over this pulley and the pulley on the first named shaft, a tightening pulley swingingly mounted on the frame, a pedal, means for connecting the tightening pulley and pedal, a locking cam wheel having notches formed on its periphery, a cam roller adapted to engage one of said notches at a time, means for connecting said pin with the pedal for throwing said cam roller in and out of engagement with one of the notches, a locking arm having a notch formed in its upper end adapted to engage one of the shafts of the dressing wheels, means for connecting said arm with the pedal, and means for driving the dressing wheels which are in operative position.

3. In a shoe finishing machine, a frame, a shaft journaled therein, a drum revolubly mounted on said shaft, a plurality of shafts mounted about the periphery of said drum, dressing wheels mounted on said shafts, housings placed about a portion of a number of said wheels, a pulley mounted on the shaft on which the drum is mounted, an-

other shaft journaled in the lower portion of the frame, a pulley mounted on said shaft, a belt passing loosely over this pulley and the pulley on the first named shaft, a tightening pulley swingingly mounted on the frame, a pedal, means for connecting the tightening pulley and pedal, a locking cam wheel having notches formed on its periphery, a cam roller adapted to engage one of said notches at a time, means for connecting said roller with the pedal for throwing said roller in and out of engagement with one of the notches, a locking arm having a notch formed in its upper end adapted to engage one of the shafts of the dressing wheels, means for connecting said arm with the pedal, a pulley mounted upon the shaft journaled in the lower portion of the frame, pulleys mounted on the ends of the dressing wheel shafts, and a belt passing over the pulley upon the lower shaft and the pulley upon one of the dressing wheel shafts.

4. In a shoe finishing machine, a frame, a shaft journaled therein, a drum revolubly mounted on said shaft, a plurality of shafts mounted about the periphery of said drum, dressing wheels mounted on said shafts, housings placed about a portion of a number of said wheels, edge setters placed on one end of each of said shafts, a pulley mounted on the shaft on which the drum is mounted, another shaft journaled in the lower portion of the frame, a pulley mounted on said shaft, a belt passing loosely over this pulley and the pulley on the first named shaft, a tightening pulley swingingly mounted on the frame, a pedal, means for

connecting the tightening pulley and pedal, a locking cam wheel having notches formed on its periphery, a cam roller adapted to engage one of said notches at a time, means for connecting said roller with the pedal for throwing said roller in and out of engagement with one of the notches, a locking arm having a notch formed in its upper end adapted to engage one of the shafts of the dressing wheels, means for connecting said arm with the pedal, a pulley mounted upon the shaft journaled in the lower portion of the frame, pulleys mounted on the opposite ends of the dressing wheel shafts, a belt passing over the pulley upon the lower shaft and the pulley upon one of the dressing wheel shafts, an idler pulley mounted upon the drum in alinement with the pulley upon the shaft of the dressing wheels which are in operative position, a belt shifter connected with the cam roller, operating means for passing the belt from the idler pulley to the dressing wheel pulley and vice versa, an internal drum mounted upon the main shaft within the first named drum, a fan, and a conveying tube for connecting the fan with the internal drum thereby withdrawing dust and chips from the housings.

In testimony whereof, we have hereunto affixed our signatures in the presence of two subscribing witnesses.

JAMES F. MANNING.
ALFRED A. DENSLINGER.

Witnesses:

HOWARD C. LONGAKER,
REUBEN R. LONGAKER.