F. B. BATCHELDER.

Leather-Finishing Machine.

No. 227,204. Patented May 4, 1880.

Fig. 1

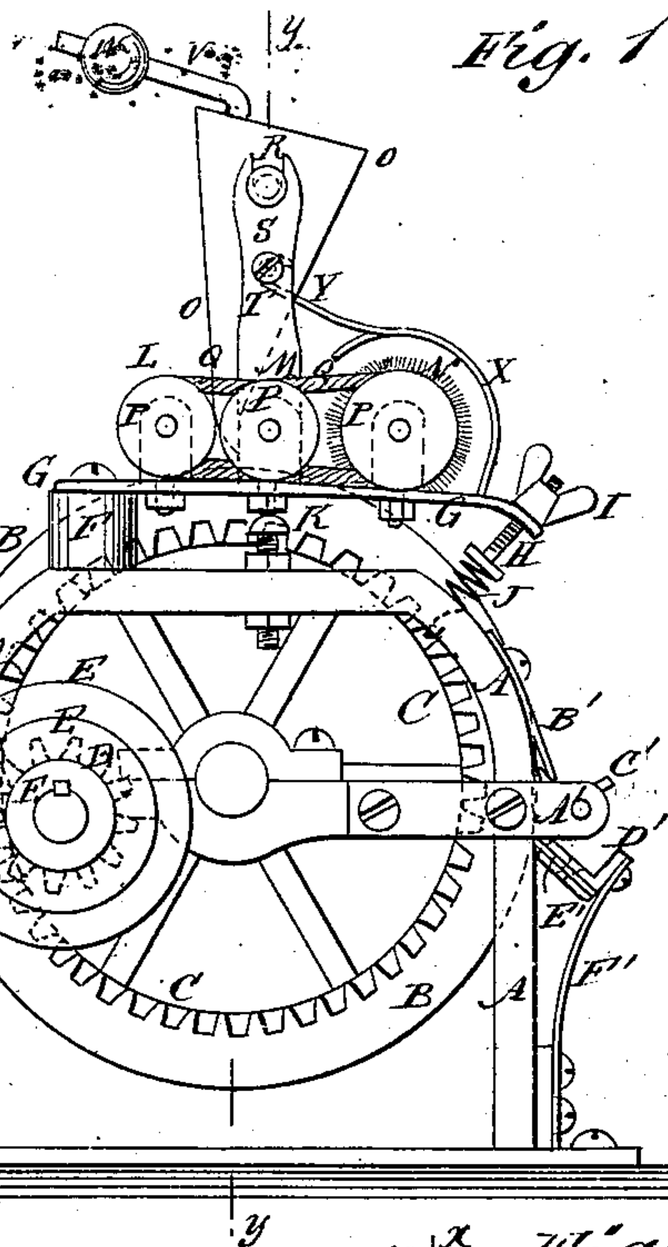


Fig. 3

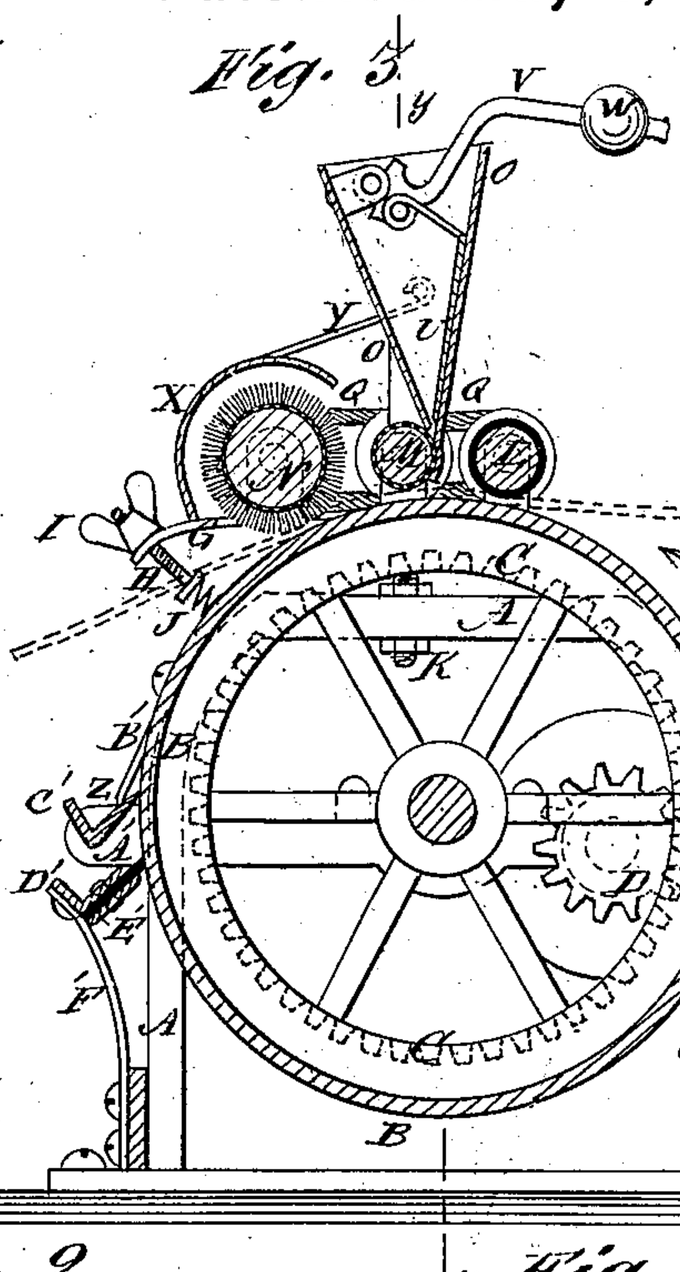


Fig. 2

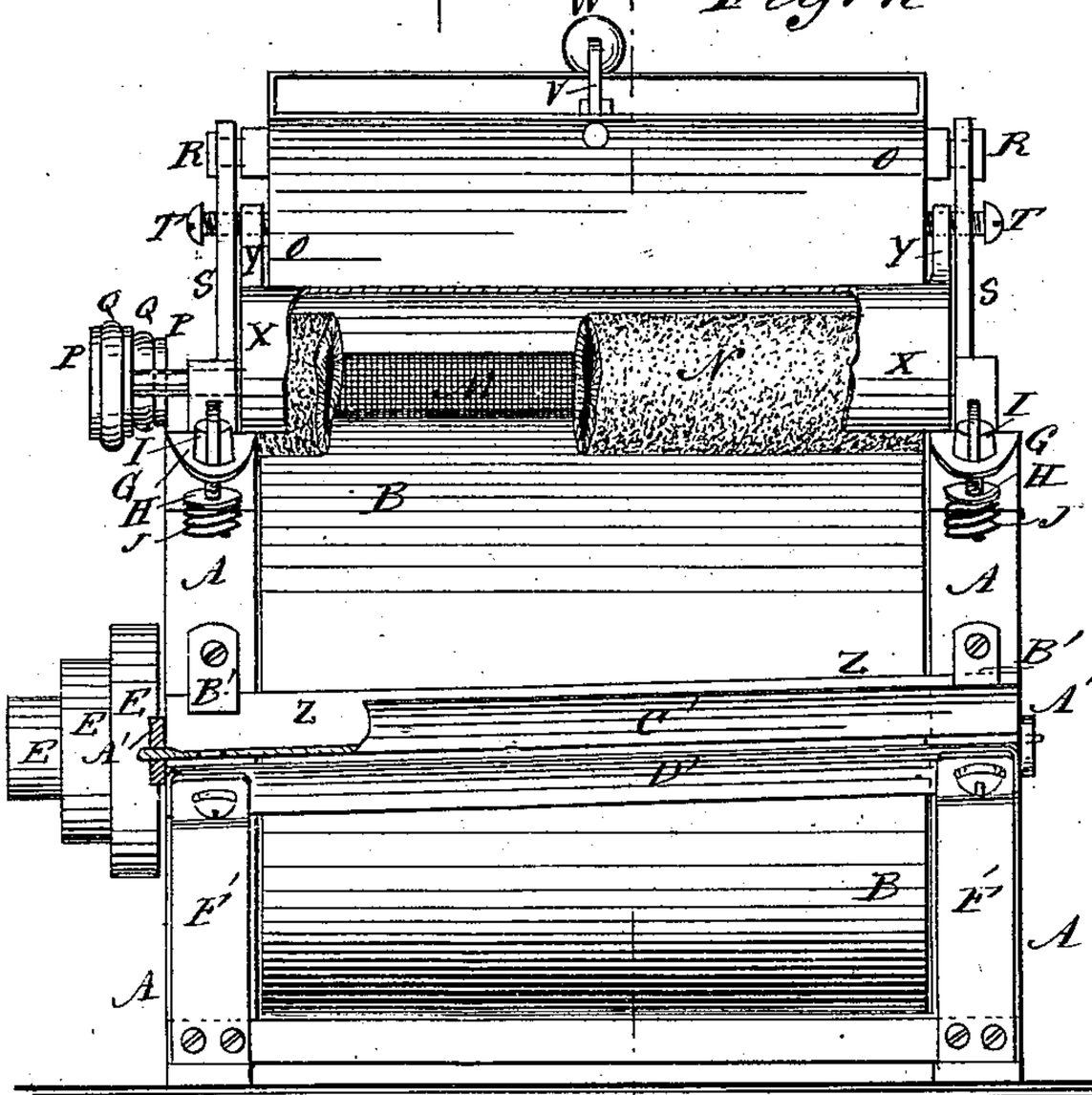
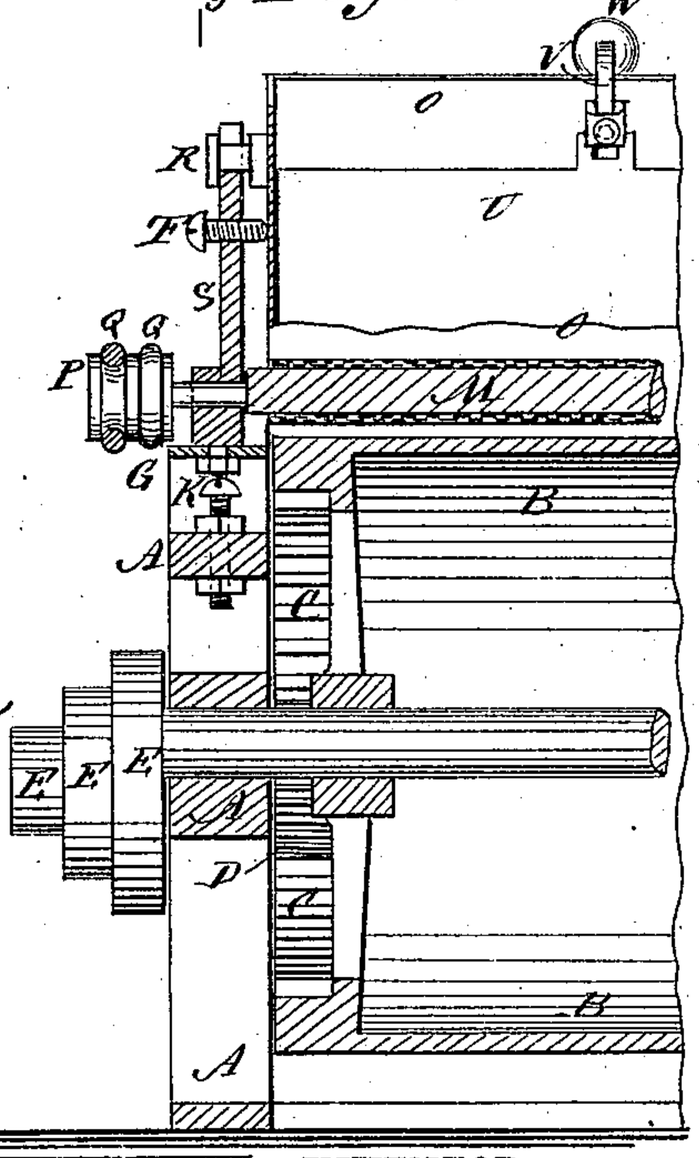


Fig. 4



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FRED B. BATCHELDER, OF EAST BOSTON, MASSACHUSETTS.

LEATHER-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 227,204, dated May 4, 1880.

Application filed October 17, 1879.

To all whom it may concern:

Be it known that I, FRED B. BATCHELDER, of East Boston, in the county of Suffolk and State of Massachusetts, have invented a new Improvement in Leather-Finishing Machines, of which the following is a specification.

Figure 1 is an end elevation of the machine. Fig. 2 is a front elevation of the machine, part being broken away. Fig. 3 is a sectional end elevation taken through the line *x x*, Fig. 2. Fig. 4 is a sectional side elevation of part of the machine, taken through the line *y y*, Figs. 1 and 3.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish machines for applying blacking, paste, blood, stains, or other mixture or dressing to surfaces of leather and other materials in such a way that the opposite surfaces may be kept practically clean.

The invention consists in the combination, with the cylinder, of devices for cleaning it, and also in the combination, with the frame and the roller and brushes, of devices for regulating the pressure of the roller and brushes against the cylinder, as will be hereinafter fully described.

A represents the frame-work of the machine, to which is pivoted a large endless table or cylinder, B. To one end of the cylinder B is attached a large internally-toothed gear-wheel, C, into the teeth of which mesh the teeth of a small gear-wheel, D. The gear-wheel D is pivoted to the frame A, and to its outer journal is attached a cone-pulley, E, to receive the driving-belt, so that the cylinder B may be revolved faster or slower, as required.

To the rear parts of the top of the frame A are attached studs F, to the upper ends of which are attached the rear ends of two springs, G. The springs G have holes through their forward ends to receive the bolts H, which have hand-nuts I screwed upon their upper ends. The lower ends of the bolts H are attached to the upper ends of spiral or other suitable springs J, the lower ends of which springs are attached to the frame A.

With this construction the position and tension of the springs G, and consequently the pressure of the roller and brushes against the cylinder, may be regulated by turning the hand-nuts I up and down.

The tension of the springs G may be further regulated by the stop-screws K, screwed into the top bars of the frame A, beneath the middle parts of the said springs G, so that they may be turned up and down to limit the movement of springs G. In bearings attached to the springs G revolve the journals of the roller L and the two brushes M N. The roller L and the brushes M N are arranged parallel with each other and at a little distance apart.

The roller L is covered with rubber or other suitable material, is revolved by friction from the cylinder B, and is designed to feed the leather through the machine.

The brush M is covered with felt, sponge, or other suitable material, and is designed to receive the blacking or other mixture from the hopper O and apply it to the leather.

The brush N is designed to spread the mixture upon the leather, and is formed of bristles or other suitable material, as the kind of mixture to be applied to the leather may require. The brushes M N are driven from the friction-roller L by pulleys and belts, friction gear-wheels, or toothed gear-wheels, as may be desired. In the drawings they are shown as being driven by pulleys P and belts Q.

By attaching the bearings for the roller and brushes L M N to the springs G the said roller and brushes will be held down upon the leather passing through the machine in such a way as to exert a yielding pressure, and thus accommodate themselves to the varying thickness of the leather. This construction also allows the roller and brushes L M N to be all adjusted by one operation.

The hopper O is made wedge-shaped, and to the upper part of its ends are attached gudgeons R, which rest in notches in the upper ends of the standards S. The lower ends of the standards S are attached to the springs G.

The hopper O is secured in place by set-screws T, which pass in through the standards S and rest against the ends of the said hopper O.

The lower part of the hopper O passes down at the side of the brush M, and has a narrow slit between the lower edges of its sides,

through which the mixture escapes to the brush M. The lower edge of the side of the hopper O farthest from the brush M is extended and is bent inward beneath the said brush M, so that the said brush M may remove the mixture from the said projecting edge and apply it to the leather.

The discharge-opening in the bottom of the hopper O is regulated in size, and is closed, when desired, by a gate, U, which slides up and down upon the inner surface of one of the sides of the said hopper O.

To the upper edge of the gate U, or to lugs formed upon or attached to the said edge, is pivoted a lever, V, the inner end of which is pivoted to a side of the hopper O.

The lever V is curved upward and outward, and is provided with a sliding weight, W, which may be adjusted to hold the gate U in any desired position.

X is a semi-cylindrical cap, which is placed over the brush N, to prevent the spattering of the mixture by the said brush N. The cap X is provided at its ends with hook-arms Y, which are hooked upon the set-screws T.

The sides or pieces of leather being irregular in form, parts of the cylinder B will receive a coating of the mixture, which, unless removed, would soil or stain the under side of the next piece of leather passed through the machine.

Any mixture adhering to the cylinder B is removed by a knife or scraper, Z, the ends of which are pivoted to arms A′, attached to the frame A.

The knife Z is pressed against the side of the cylinder B by two springs, B′, which are pivoted to the frame A so that they can be turned outward to release the knife Z and allow it to be turned upon its pivots for convenience in cleaning it.

Along the rear edge of the knife Z is formed, or to it is attached, a trough or channel, C′, to receive the mixture scraped from the cylinder B.

In the bottom of the trough C′, near one end, is formed an aperture, through which the collected mixture escapes into the trough D′, placed beneath the said trough C′. The mixture from the lower trough, D′, runs into a pail or other receiver.

To the inner side of the trough D′ is attached a plate, E′, of leather, rubber, or other suitable material, to wipe off any mixture that may be left upon the cylinder B by the knife Z, and leave the surface of the said cylinder practically clean.

The trough D′ is attached to the upper ends of two springs, F′, by which it is pressed against the cylinder B. The lower ends of the springs F′ are attached to the frame A.

With this construction a different set of roller, brushes, and hopper may be used for each different mixture to be applied to the leather, and by applying two or more sets to a single cylinder two or more mixtures may be applied successively to the leather while passing once through the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a leather-finishing machine, the combination, with the cylinder B, of a spring-pressed knife or scraper, Z, provided with a receiving-channel, C′, having an outlet at one end, substantially as herein shown and described, so that any mixture or other substance that adheres to the surface of the cylinder B will be removed, and the under side of the leather thus kept clean, as set forth.

2. In a leather-finishing machine, the combination, with the cylinder B and the knife Z, of a spring-pressed trough, D′, provided with a wiping-plate, E′, of leather, rubber, or other suitable material, substantially as herein shown and described, to wipe off and receive any substances that may escape the knife Z, as set forth.

3. In a leather-finishing machine, the combination, with roller L, brushes M N, and cylinder B, of the springs G, substantially as herein shown and described, so that the roller and brushes L M N will have a yielding pressure against the leather on cylinder B, as set forth.

4. In a leather-finishing machine, the combination, with cylinder B, roller L, brushes M N, and springs G, of the screws, hand-nuts, and springs H I J, substantially as herein shown and described, so that the pressure of the springs G may be regulated as required.

5. In a leather-finishing machine, the combination, with the hopper O and its gate U, of the lever V, provided with an adjustable weight, W, substantially as herein shown and described, so that the escape of the mixture may be regulated and prevented as required.

6. A leather-finishing machine formed by the combination of the cylinder B, the roller and brushes L M N, the hopper O, and cleaning devices Z C′ and E′ D′, substantially as herein shown and described, so that a blacking or other mixture can be applied to surfaces of leather while the opposite surfaces are kept practically clean, as set forth.

FRED B. BATCHELDER.

Witnesses:
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