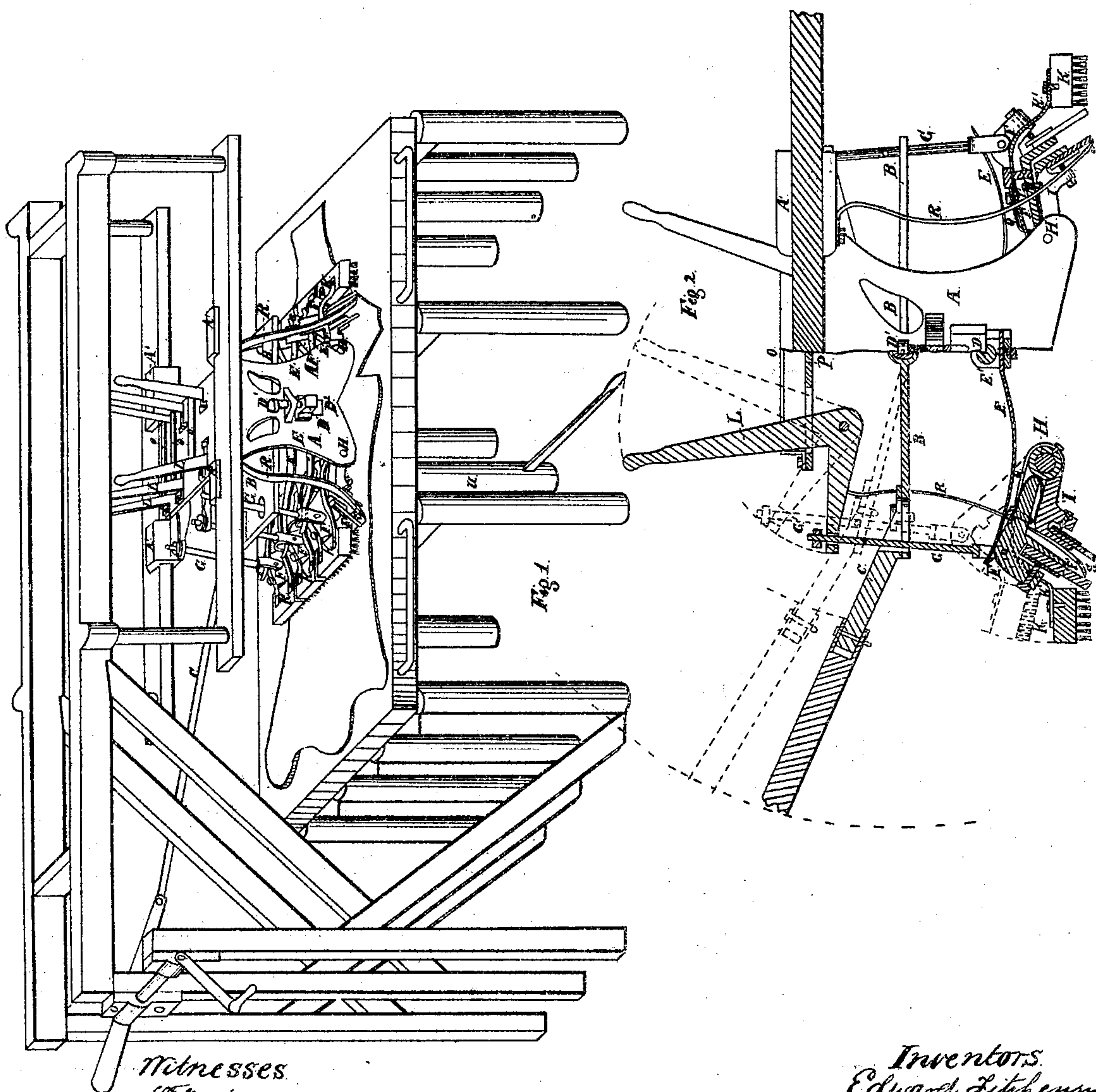
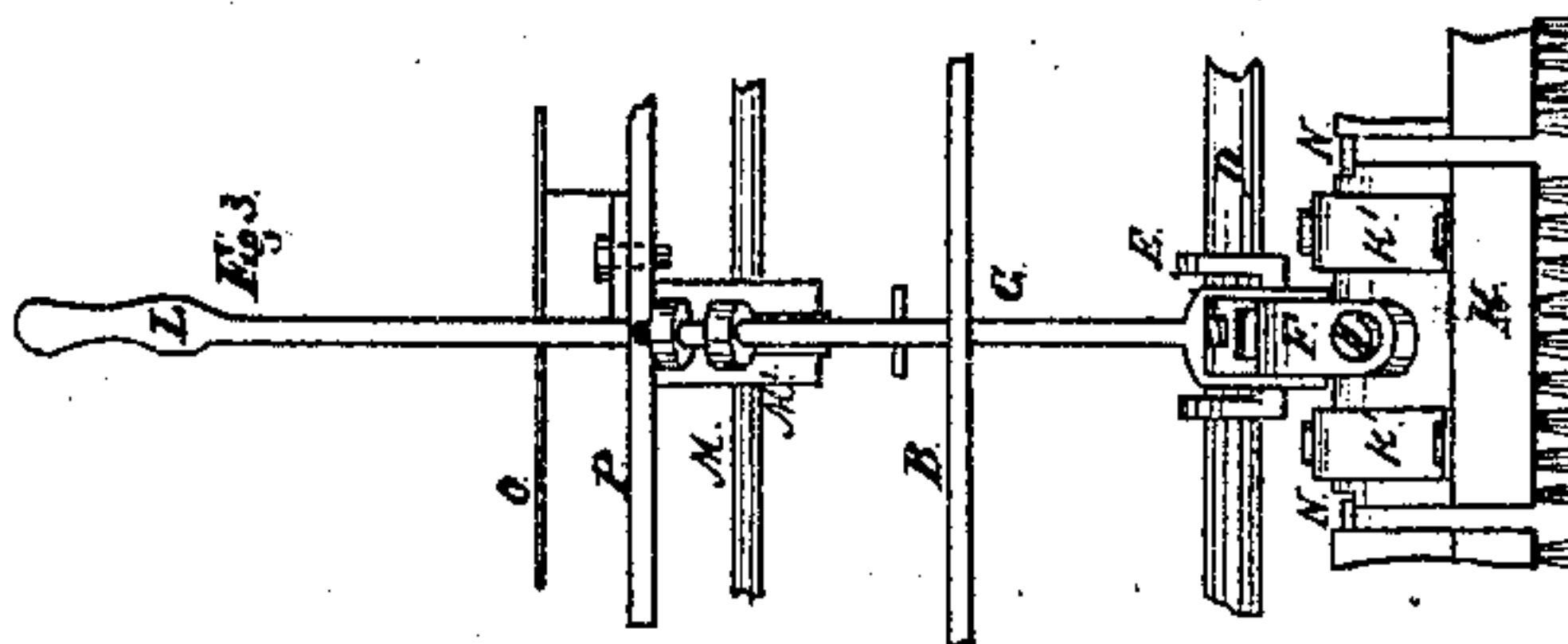


*Fitzhenry & Ball,  
Machine for Finishing Leather,  
Patented Jan. 15, 1867.*



Frank  
L.A. Murphy

Inventors  
Edward Litchenny  
Isaac Ball  
D P Holloway &c  
their attys



# United States Patent Office.

EDWARD FITZHENRY AND ISAAC BALL, OF PORTLAND, OREGON.

*Letters Patent No. 61,182, dated January 15, 1867.*

## IMPROVEMENT IN MACHINES FOR FINISHING LEATHER.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, EDWARD FITZHENRY and ISAAC BALL, of Portland, in the county of Multnomah, State of Oregon, have invented new and useful Improvements in Machines for Scouring and Finishing Leather; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is one-half a vertical longitudinal section on the line  $x x$ , fig. 1, and one-half a side elevation.

Figure 3 is a front elevation of the middle rubber, with parts of the adjoining rubbers.

Figure 4 is a detached plan of the catches for restraining the levers.

In the different figures the same letters indicate identical parts.

Our improvements relate to a machine for scouring, setting, glossing, finishing, and doing general table-work upon leather.

A represents the side-plate of the scouring apparatus, having in the top guides,  $A'$ , working upon ways, allowing the machine to play freely back and forth at a proper height above the table. The plate B is pivoted to the side-plates A so as to permit it to oscillate with the reciprocating motion of the pitman C, operated by a crank. Pins upon the rods G control the extent of this oscillation. Below the points at which this plate B is pivoted is a slot,  $D^2$ , through the side-plates A, through which passes the head of a rod, D, passing between the plates A. A set-screw,  $D^1$ , passing through a lug immediately above the slot  $D^2$ , is attached to the head of the rod D, by which it may be raised or lowered. To the rod D are attached bow-formed springs, E, secured by stirrups,  $E^1$ , below the rod. These springs, extending longitudinally, rest upon the crown of the jaws F, the shape of which is shown in fig. 2. These jaws are hinged upon rods, H, extending between the plates A so as to allow them to play vertically. The secondary jaws I are also hinged to the rod H, the hinge passing through a slot left for this purpose in the middle of the pipe-formed hinge of the jaw F. A screw,  $I^1$ , passes through a hole in the lower part of the jaw F, in which it plays freely, and is attached to the top of the jaw I, so that while the jaw I may be allowed to play without moving the jaw F, the jaw F cannot be raised without carrying with it the jaw I. In the jaw I is secured a metallic scraper, being a sheet of metal of a suitable form, and attached by a set-screw passing through the lower part of the jaw. In the upper jaw F is attached, in like manner, the flat stone slickers  $F^1$ , by set-screw passing through the upper jaw F. The brushes K are attached in front of the two springs  $K^1$ , which are fastened to the back part of the jaw F, on the pipe-formed hinge surrounding the rod H, and curved upwards, so as to pass over the slickers. On each side of the upper part of the jaw F levers G are attached by stirrups to the upper part of the jaw F, as more clearly shown in fig. 3. The upper ends of the rods G are fastened to one end of the bell-crank L. This crank is pivoted by a rod, M, running through its elbow, and pivoting the lever L to the lugs  $M^1$ . Projections N, fig. 3, on the sides of the outside rubbers rest upon notches in the sides of the middle one, so that, while either of the outside rubbers may be raised by means of its lever, the lever attached to the middle rubber will raise all three of the rubbers at the same time. Notches in the plates O, which are bolted to the upper plate P, receive the upper arm of the lever L when thrown back, and, retaining it in place, hold the slickers and brushes suspended when desired, as shown by the red lines in fig. 2. A hair-spring, Q, fig. 2, is attached to the top of the jaw F, and, passing through an opening left for the purpose at the base of the jaw, rests at the other end upon the upper face of the jaw I, keeping the scraper thereof pressed upon the leather. Springs, R, are attached under the guides on the plate A, and being carried down outside of the slickers, are attached to the cleaner S. The cleaner S passes in rear of the slickers in the jaw F, and is, by tension of the springs R, pressed against them. When the plate B, with the motion of the pitman, is raised, striking against the pins  $G^1$  in the rod G, it raises the brushes and slickers, and the cleaner S being fixed in its position by the springs R, it scrapes away whatever substances may have adhered to the slickers, thus cleaning them with every motion of the machine.

In operating this apparatus, the leather to be worked is fastened upon the upper surface of a table, so that the finisher shall run forward and back with each revolution of the crank operating the pitman. By means of the set-screw  $D^1$  acting upon the rod D, to which the springs E are attached, any pressure that may be desired can be brought to bear upon the slickers. The outside brushes and slickers may, by means of the levers L, be

thrown up when desired, while working along the edges of the leather. Both ends of the finisher are made alike, and when the pitman is pushing or drawing towards either side, it alone is in contact with the leather, the other being raised by the plate B striking against the pins  $G^1$ , as set forth.

Having fully explained our improvements, what we claim as our invention, and seek to secure by Letters Patent, is—

1. The set-screws  $D^1$  and rod D, with the springs E, substantially as and for the purpose set forth.
2. We claim the plate B, pivoted to the plates A, so as to communicate motion to the rubbers centrally, and without pressing upon the springs attached to the slickers.
3. In combination with the plate B, we claim the rods G and pins  $G^1$ , for the purpose of raising the slickers and brushes when not in action, substantially as set forth.
4. We claim the jaws F and I, hinged substantially as set forth, in combination with the hair-spring I, substantially as and for the purpose set forth.
5. In combination with the jaws F, we claim the springs  $K^1$  and brushes K, substantially as set forth.
6. We claim the cleaner S, in combination with the slickers  $F^1$ , operating substantially as and for the purpose set forth.
7. We claim the lever L and notched plates O, or their equivalent, in combination with the rods G, attached to the jaw F, substantially as and for the purpose set forth.
8. We claim the arrangement of the points  $M^1$  so as to permit the raising of one or all of the rubbers, substantially in the manner and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

Witnesses as to EDWARD FITZHENRY:

JAMES TERWILLIGER,

CHAS. B. FITZHENRY.

Witnesses as to ISAAC BALL:

C. M. CARTER,

C. B. SOVERNS.

EDWARD FITZHENRY,  
ISAAC BALL.