L. D. B. SHAW.

PHOTOGRAPH BURNISHER.

No. 179,227. Patented June 27, 1876.

Fig. 1

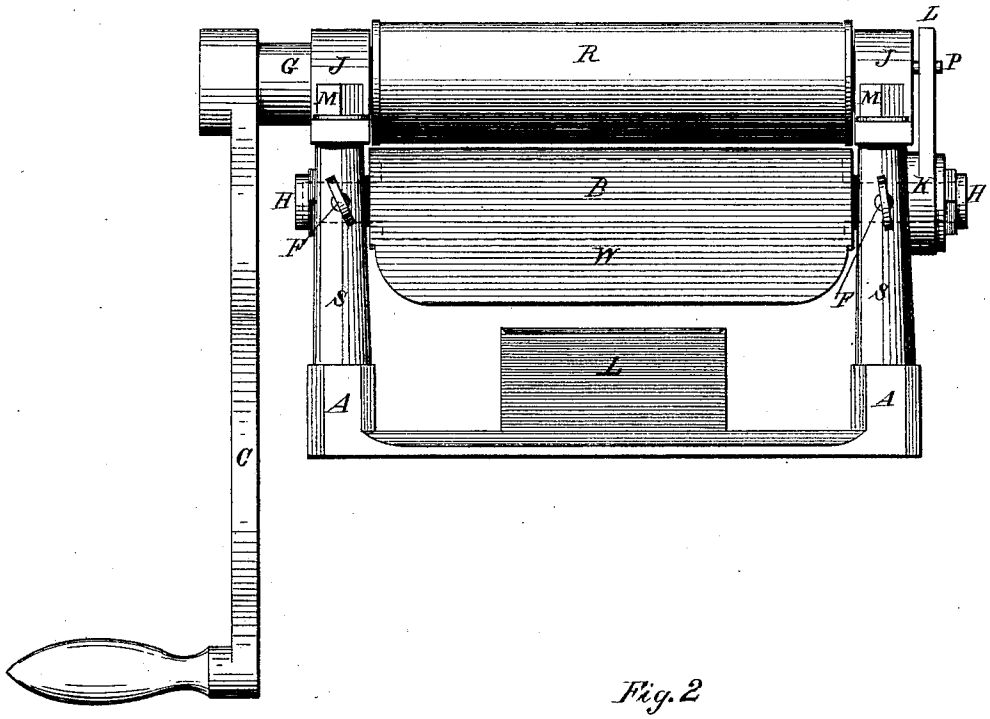


Fig. 2

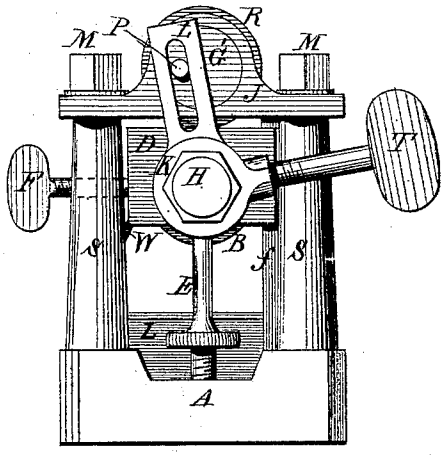
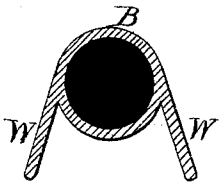


Fig. 3



Witnesses;

Gren. Lewis

W. C. Chaffee

Inventor.

L. D. B. Shaw,

By his Attorneys,

Stansbury & Munn

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LORENZO D. B. SHAW, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PHOTOGRAPH-BURNISHERS.

Specification forming part of Letters Patent No. **179,227**, dated June 27, 1876; application filed November 17, 1875.

To all whom it may concern:

Be it known that I, LORENZO D. B. SHAW, of Boston, in the State of Massachusetts, have invented a new and Improved Photograph-Burnisher; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is an end view, and Fig. 3 is a transverse vertical section of the burnishing-cylinder.

The same letter of reference is used to indicate the same part wherever it occurs in the drawings.

My invention relates to improvements in photograph-burnishing machines, whereby the burnishing device may be equably heated, and so moved and adjusted that each card, in passing over the burnisher, is subjected to constantly-changing degrees and kinds of friction, and that any desired part of the surface of the burnisher may be brought to bear upon the picture, so that scratching and unequal wear are prevented, and a different burnishing-surface may be employed for each kind or size of picture which it may be desired to subject to the operation of the machine.

The invention consists in the peculiar construction of a burnishing-machine, in which the burnishing tool or device is a hollow cylinder provided with wings, and closed at the ends by removable heads, which cylinder forms, with a lamp or heater placed below it, a steam-generator for giving an equable heat to the burnishing-surface, and which also receives a rocking motion by means of an adjustable eccentric connection with the feeding-roller, which causes the friction on the surface of the picture to be continually changing its character, varying from the yielding friction produced by a surface traveling with the card in the line of its path to the resisting friction of a surface moving in a direction opposite to that of the card, all as hereinafter more particularly set forth.

In the drawings, A marks the bed-plate of the machine, from the corners of which rise the four stanchions S, which support the journal-boxes J of the draw-filed feed-roller R, said boxes being fastened upon the top of the stanchions by the screw-bolts M. The feed-roller R is driven by a crank or winch, C, in the ordinary way. Below the roller R is hung the cylindrical burnisher B, whose journal-boxes D are supported and held between the stanchions S, and can be raised and lowered on a feather, *f*, attached to one of each pair of stanchions, by means of the adjusting-screw E, and fixed at any desired point by means of the set-screws F F. The burnisher B and its journals are hollow, and the ends of the journals are closed by the heads H H, which are screwed tightly into them. Depending from the sides of the burnisher are the wings W W, most clearly shown in Figs. 1 and 3. They form a cover for the flame of the lamp L, which stands upon the bed-plate below the burnisher, and keep the flame from smoking, scorching, or burning the picture while passing through the instrument. At the opposite end of the instrument from that on which the crank C is applied, the journal of the burnishing-cylinder B projects some distance beyond the stanchions, and receives upon it a collar, K, which can be fixed to it in any desired position of the burnisher by means of the set-screw T. From one side of collar K projects a slotted arm, L, which receives the pin P, eccentrically inserted in the end of the journal G′ of feed-roller R. The rotation of roller R imparts a vibratory movement to arm L, which, when the collar K is clamped to the burnisher, is communicated to that part of the machine, causing the burnisher B to move alternately, and with varying speed, with and against the motion of the under surface of the feed-roller.

It will be observed that the machine has all necessary adjustments, and that the burnisher can be removed and replaced when desired. By means of the collar K and screw T, the burnisher can be set so as to bring any desired portion of its surface directly under the feed-roller, thus giving the operator power to use any part of the burnishing-surface he may prefer.

In operating the machine, the cards are fed and carried through in the ordinary way. A small quantity of water is introduced into the burnishing-cylinder, and its heads are screwed on. The heat from lamp L converts this water into steam, and this imparts a uniform temperature to the entire burnishing-surface. The

continual rocking motion of the burnisher and presentation of new burnishing-surface to the picture effectually prevent scratching, and insure the production of the best quality of work.

Having thus fully described my invention, I claim as my improvements in photograph-burnishing machines—

1. The burnishing-cylinder B, made hollow, and provided with wings W W and heads H H, as and for the purpose described.

2. The combination, with the journal of the burnisher B, of the adjustable collar K, having the set-screw T and slotted arm L, the latter receiving and being operated by the pin P, set eccentrically in the end of journal G′ of the roller R, all in the manner and for the purpose set forth.

3. The combination of the draw-filed roller R with the oscillating burnisher B, when the latter is made to vibrate in the line of the path of the picture passing through the instrument, as stated.

4. The hollow cylindrical burnisher B, adapted to receive water, and provided with one or more steam tight removable heads, H, in combination with a lamp or other heater, for converting water into steam within the burnisher, as and for the purpose indicated.

5. The combination, with the vibrating cylindrical burnisher B, of the wings W W, to confine the flame of the lamp or heater, and protect the card from injury by its action, as specified.

6. The combination of the journals of the burnisher B with boxes D, screws E and F, stanchions S S, and feather *f*, in the manner and for the purpose designated.

7. The combination of a burnisher, made hollow and steam-tight, and supplied with water, with a lamp, for the purpose indicated.

The above specification of my said invention signed and witnessed, at Boston, this 8th day of November, A. D. 1875.

LORENZO D. B. SHAW.

Witnesses:

JOHN S. ABBOTT,

JOHN E. ABBOTT.