W. G. ENTREKIN.

Photographic Burnishers.

No. 213,641. **Patented Mar. 25, 1879.**

FIG. 1.

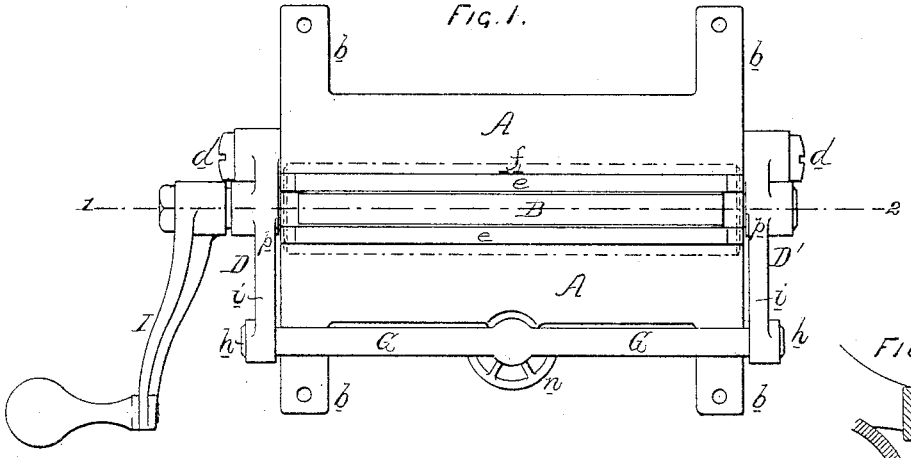


FIG. 5.

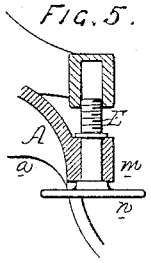


FIG. 2.

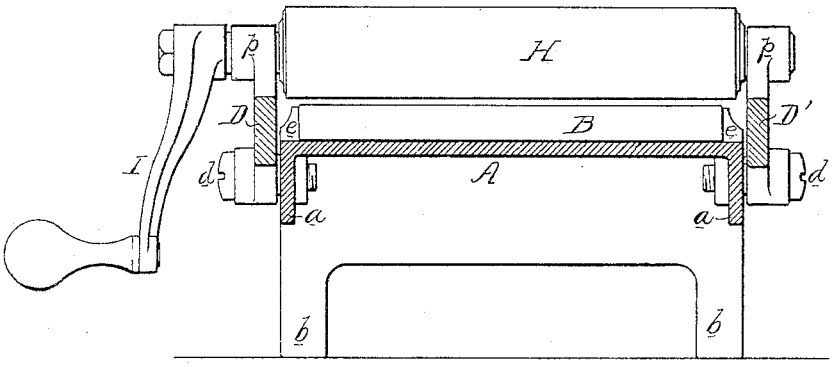


FIG. 3.

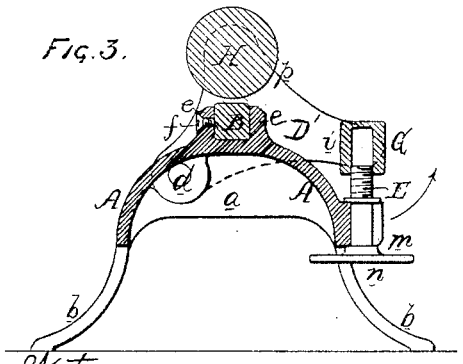
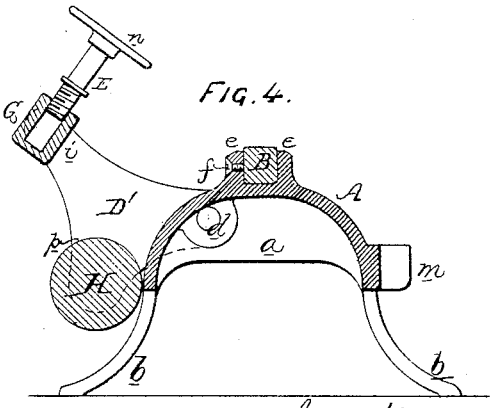


FIG. 4.



Witnesses

Harry Howson

Henry Howson Jr.

Inventor

William G Entrekin

by his Attorneys

Howson and Son

UNITED STATES PATENT OFFICE.

WILLIAM G. ENTREKIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PHOTOGRAPHIC BURNISHERS.

Specification forming part of Letters Patent No. **213,641**, dated March 25, 1879; application filed January 29, 1879.

To all whom it may concern:

Be it known that I, WILLIAM G. ENTREKIN, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Photograph-Burnishing Machines, of which the following is a specification:

My invention relates to certain improvements in machines for burnishing photographs, by causing a serrated roller to draw the picture while under pressure over and in contact with a smooth metallic surface; and the main objects of my invention are, first, simplicity and economy in construction; and, second, facilities for the movement of the serrated roller from contact with the burnishing-plate when the machine is not in use.

In the accompanying drawings, Figure 1 is a plan view of my improved burnishing-machine with the serrated roller removed; Fig. 2, a vertical section on the line 1 2; Figs. 3 and 4, transverse sections, showing the serrated roller in different positions; and Fig. 5, a modification.

The base A of the machine is made throughout its entire length in the form of a concavo-convex girder, having opposite ends *a a* and suitable lugs *b*, a recess being formed at the top of the base by longitudinal flanges *e e*, or otherwise, for the reception of the burnishing-bar B, which is made of hard metal, is perfectly smooth on the upper surface, and may be confined to its place by a set-screw, *f*, or other equivalent fastening device.

It may be remarked here that there are several advantages in making the base in the concavo-convex form represented. First, great strength is assured at the expense of a comparatively small amount of metal; second, the base can be easily molded and cast; and, third, the products of combustion from a lamp or gas burner placed beneath the base will be deflected away from the burnishing bar and roller.

Two three-armed plates, D D′, are pivoted to the base (one at each end *a* of the same) by a screw-stud, *d*, and in the arms *i* of these plates are the bearings for the journals *h* of the rocking bar G, in which, at a point midway between its opposite ends, is a threaded orifice for receiving the upper threaded end of the screw-spindle E, the latter being comparatively loose laterally in its bearing in a slotted projection, *m*, of the base, but having no vertical movement in the same, and being furnished with a wheel, *n*, or other suitable handle.

In the arms *p p* of the two plates D D′ are the bearings for the journals of the roller H, which is longitudinally serrated by draw-filing, as in other machines of this class; and to a prolongation of one of the journals of this roller is attached a suitable handle, I.

It will be seen on reference to Fig. 4 that the two plates can be turned back on their pivot-pins *d* to such a position that the roller H will be away from the burnishing-bar, so that both the latter and the roller can be easily cleansed, and so that there may be no accumulation of moisture on the bar, which would be the case if it remained near the said bar while the latter is heated.

When a photographic picture has to be burnished, the two plates, with the roller, are turned down to the position Fig. 3, and the spindle E is so turned that its threaded portion, entering the threaded orifice of the bar G, will draw down the latter, and with it the plates D D′, until the serrated roller bears such relation to the burnishing-bar that the picture, on being dragged over the surface of the said bar by the revolving roller, will be subjected to the proper pressure for imparting the desired polish to the surface of the picture, the bar G, as it is depressed, turning in its bearings to a limited extent, and the threaded spindle accommodating itself to the orifice of the bar.

This plan of depressing the roller H by a screw acting on the bar G at a point midway between the two plates D D′ has this advantage, that the uniform pressure of the roller throughout its whole length on the picture will be better assured than if pressure should be applied directly by screws or other devices to both ends of the roller.

Other devices for depressing the roller through the medium of the bar G and arms D D′ will readily suggest themselves; but I prefer the plan shown in Fig. 3, as the screw-spindle, having no vertical movement in its bearings, serves to maintain the serrated roller in a determinate position in relation to and free from contact with the burnishing-bar.

The object of slotting the projection *m* is to permit the ready release of the screw-stem E therefrom by moving it outward in the direction of the arrow, Fig. 3, when it is desired to turn back the roller H, and a corresponding facility of securing the said spindle when the roller has to be returned to its former position.

The projection may, however, be made as shown in Fig. 5, so as to rigidly confine the stem, the bar G of the roller-carrying arms in such case being released by turning the screw-stem until it is free from the threaded opening in the bar.

In view of the patent of D. M. and B. Marshall, No. 43,515, July 12, 1864, I disclaim the concavo-convex bed or base, considered as a separate element; but

I claim as my invention—

1. The combination of the base and burnishing-bar of a burnishing-machine with the two plates D D′, hinged to the base and carrying the serrated roller H and cross-bar G, and with devices for depressing the bar at a point midway, or thereabout, between its opposite ends, all substantially as set forth.

2. The combination of a base, the roller-carrying plates D D′, and a bar, G, swiveled to the said plates with the threaded spindle E, having its bearing in the base, and adapted to a threaded orifice in the said bar G, all substantially as specified.

3. The combination of the concavo-convex base A, its end *a*, legs *b*, and ribs *e e*, all cast in one piece, with the removable burnishing-bar *f*, as described.

4. The combination of the roller-carrying arms D D′ and their bar G, the base A and its slotted projection *m*, and the screw-stem E, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM G. ENTREKIN.

Witnesses:

WILLIAM J. COOPER,

HARRY SMITH.