(No Model.) 2 Sheets—Sheet 1.

W. G. ENTREKIN.

PHOTOGRAPH BURNISHING MACHINE.

No. 327,778. Patented Oct. 6, 1885.

FIG. 2.

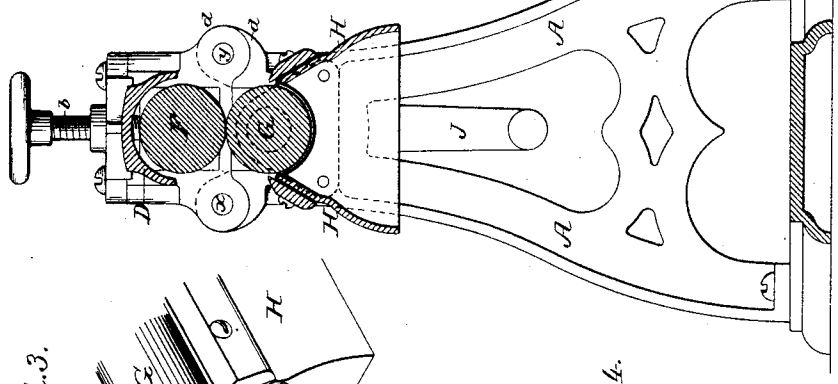


FIG. 3.

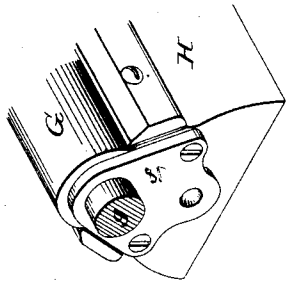


FIG. 4.

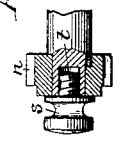


FIG. 1.

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Harry Drury

Inventor:
William G. Entrekin
by his Attorneys
Howson & Sons

N. PETERS. Photo-Lithographer. Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 7.

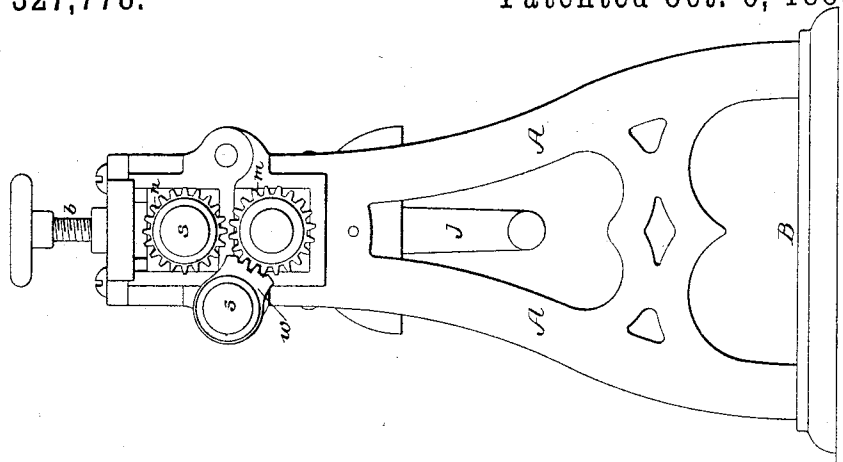


FIG. 6.

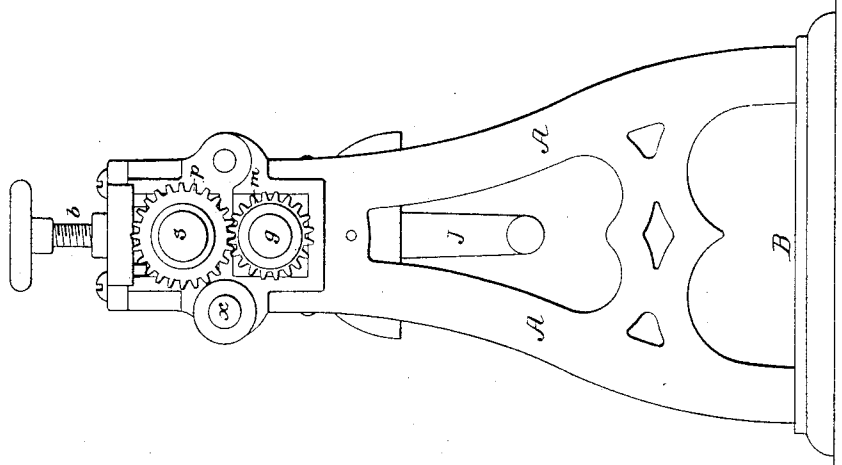
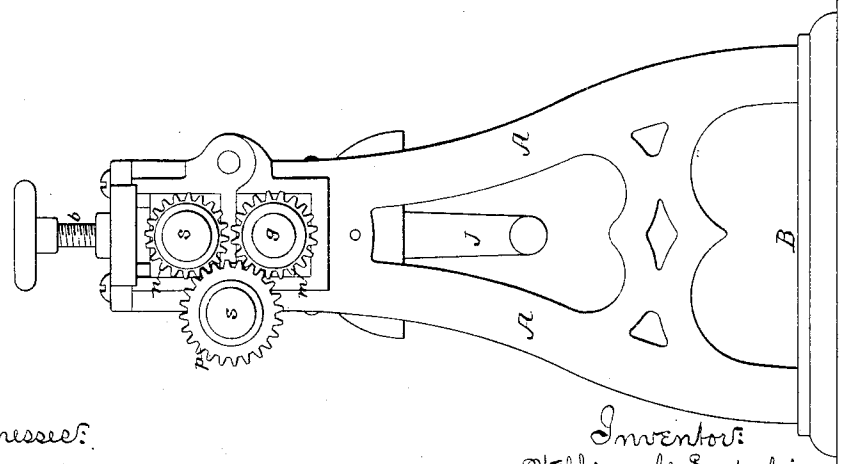


FIG. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM G. ENTREKIN, OF PHILADELPHIA, PENNSYLVANIA.

PHOTOGRAPH-BURNISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 327,778, dated October 6, 1885.

Application filed April 10, 1885. Serial No. 161,814. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. ENTREKIN, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Photograph-Burnishing Machines, of which the following is a specification.

The objects of my invention are to permit ready access to all parts of the burnishing-roll and to vary the burnishing effect of the machine as desired. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a front view of a burnishing-machine constructed in accordance with my invention; Fig. 2, a transverse section of the same on the line 1 2; Figs. 3 and 4, detached views of parts of the machine, and Figs. 5, 6, and 7 end views showing different arrangements of gearing for the shafts of the feed and burnisher rolls.

A A are the opposite end frames or standards, secured to the base B, and connected together at the top by a transverse brace, D, which also acts as a shield or guard for the top or feed roll, F, which has a roughened surface, the journals of the said roll being adapted to boxes guided in the upper portions of the standards and acted upon by springs *a* and adjusting-screws *b*, so that the said roll can be adjusted vertically to regulate the distance between the same and the lower or burnishing roll, G, the journals of the latter being adapted to fixed bearing-boxes in the frames A. The upper portions of the frames A are hinged to the power portions at one side by pins *x*, and are secured thereto at the opposite side by pins *y*, adapted to openings in lugs *d*, so that on removing these pins *y* the said upper portions of the frames with the feed-roll and its bearing-boxes can be thrown over to one side, away from the burnishing-roll. This is of importance when the machine is being heated before commencing to work, for during this operation moisture has a tendency to condense upon the feed-roll and drop from the same onto the burnishing-roll, which causes rust and impairs the polished surface of said burnishing-roll.

In order to facilitate the heating of the burnishing-roll, the lower portion of the same is enveloped in the usual petticoat, H, which consists of a box open at the bottom to receive the gas-flame, but closed at all other points. Instead of securing this box rigidly to the frame, as usual, I provide the same at each end with a plate, *f*, hung to the journal *g* of the burnishing-roll. (See Figs. 1 and 3.) The petticoat is kept in its proper position under ordinary circumstances by the engagement of a spring-bolt, *h*, on the frame with a recess in one of the plates *f;* but said petticoat can by slight effort be swung up on one side or the other, so as to expose a large surface of the burnishing-roll for cleansing or other purposes.

Secured to one end of the burnishing-roll G is a spur-wheel, *m*, the corresponding end of the feed-roll F being constructed with reference to the ready application to or removal from the same of either of two spur-wheels, *n* or *p*, the opposite end of said roll F having an operating crank or handle, J. In the present instance the spur-wheels are held in position on the roll by the head *s* of a threaded stem, *t*, adapted to a threaded opening in the journal of the roll. (See Fig. 4.) One of the pivot-pins *x* of the frame is also constructed in like manner with reference to the ready application to or removal from the same of the spur-wheels *n* and *p* or a locking-segment, *w*. This construction permits a material variation in the character of the burnishing-surface presented by the roll G. For instance, when the parts are adjusted as in Fig. 5, the feed-roll carrying the spur-wheel *n*, and the pin *x* carrying the spur-wheel *p*, the latter serves to gear together the spur-wheels *n* and *m*, and in consequence both rolls travel at the same surface speed, but as the acting portion of the burnishing-roll is moving in a direction opposite that of the acting surface of the feed-roll the burnishing effect is due to the combined surface speeds of the rolls.

When the spur-wheel *p* is applied to the shaft of the feed-roll, however, as in Fig. 6, said wheel gears directly into the spur-wheel *m* of the burnishing-roll, and the acting faces of the two rolls travel in the same direction; but owing to the difference in the sizes of the spur-wheels the burnishing-roll travels about twice as fast as the feed-roll, the burnishing effect being due to the difference in the speed

of the two rolls. The spur-wheel *n* may in this case be hung to the pin *x* for convenience; but it forms no effective part of the gearing of the machine.

When it is desired to use a stationary burnishing-surface, the spur-wheel *n* is applied to the shaft of the feed-roll, and the locking-segment *w* is adjusted to the pin *x*, this segment engaging with the teeth of the spur-wheel *m* and preventing the rotation of the burnishing-roll, the spur-wheel *m* of which is free from the control of the wheel *n* of the feed-roll. (See Fig. 7.)

I claim as my invention—

1. The combination of the burnishing-roll and its bearings with a petticoat enveloping the lower portion of the said roll and hung to the shaft of the same, so as to be thrown to one side or the other to expose the roll, as set forth.

2. The combination of the frame, the upper and lower rolls, the pins *x*, the spur-wheel *m* on the lower roll, and the locking-segment *w*, as set forth.

3. The combination of the frame, the upper and lower rolls, a spur-wheel hung to the frame, a spur-wheel secured to the spindle of one of the rolls, and a spur-wheel held in place on the spindle of the other roll by means of a thumb-nut, *s*, in the end of the spindle, as set forth.

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

WM. G. ENTREKIN.

Witnesses:
WILLIAM F. DAVIS,
HARRY SMITH.