E. Brown,

Polishing Daguerreotype Plates,

No. 13,196. Patented July 3, 1855.

Fig: 1.

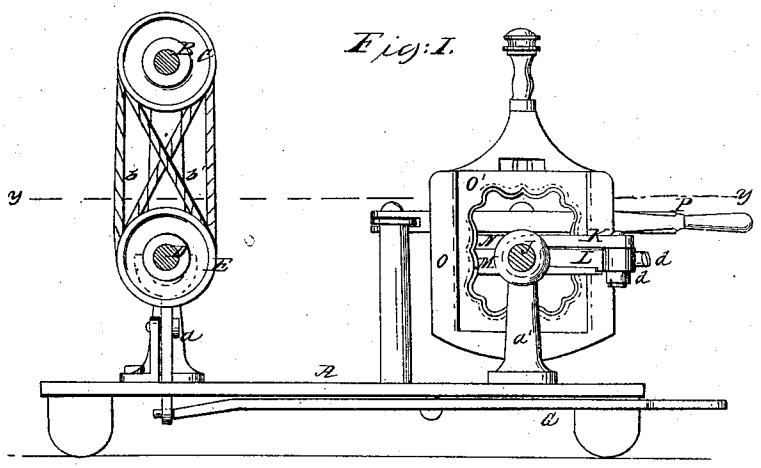

Fig: 3.

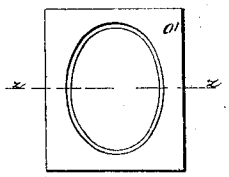

Fig: 2.

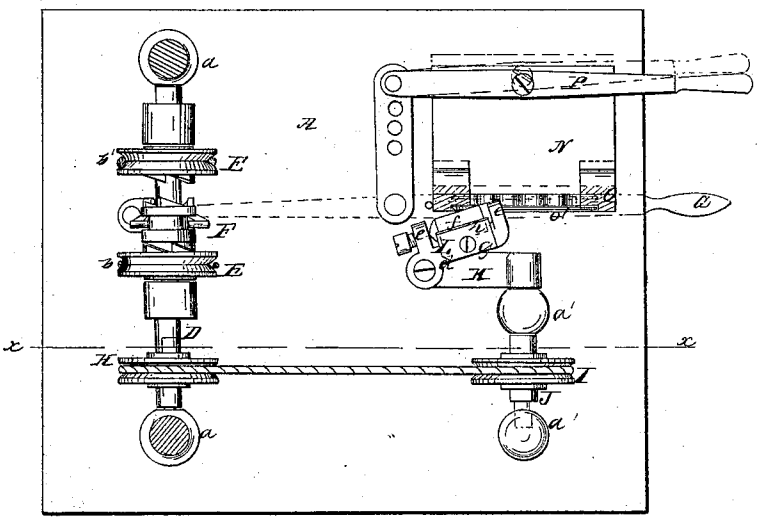

Fig: 4

UNITED STATES PATENT OFFICE.

EDWARD BROWN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE SCOVILLE MANUFACTURING COMPANY.

MACHINE FOR BEVELING AND POLISHING THE INNER EDGES OF DAGUERREOTYPE FACE PLATES OR MATS.

Specification forming part of Letters Patent No. **13,196**, dated July 3, 1855.

To all whom it may concern:

Be it known that I, EDWARD BROWN, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and useful Machine for Beveling and Polishing the Inner Edges of Daguerreotype Face-Plates, technically termed "Mats;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section of my improvement, *x x*, Fig. 2, showing the plane of section. Fig. 2 is a horizontal section of the same, *y y*, Fig. 1, showing the plane of section. Fig. 3 is a detached view of a face plate or mat. Fig. 4 is a section of the same, *z z*, Fig. 3, showing the plane of section.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful machine for beveling and polishing the inner edges of daguerreotype face plates or mats; and it consists in the combination of a rotary burnisher and vibrating frame arranged as will be hereinafter fully shown and described.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a horizontal bed-plate of suitable dimensions, on which the working parts of the machine are supported by uprights *a a'*. On the upper part of the uprights *a a'* there is placed a shaft B, having two pulleys C hung upon it.

D represents a shaft, the ends of which work in the uprights *a a* below the shaft B. On this shaft there are placed two loose pulleys E E', and F is a clutch by which either of the pulleys may be connected with the shaft D, as desired. Around the pulley C C and E E' belts *b b'* pass, one of which *b'* is a a cross-belt.

G is a lever by which the clutch F is operated.

H is a pulley permanently attached to the shaft D, around which a belt *c* passes, said belt also passing around a pulley I, which is hung on a small shaft J, supported by uprights *a' a'*. At one end of the shaft J there is attached an arm K at right angles with the shaft, and a stock L is attached to the end of the arm by a screw *d*. The stock L is merely a metal bar provided at each end with a lip *e*, (see Fig. 2,) between which a burnishing-roller *f* is placed. The burnishing-roller may be set at any proper angle by adjusting the stock L by means of the screw *d*. To one side of the stock L there is attached by a screw *g* a leather strip *h*, the edge of which bears against the burnishing-roller *f*.

To the upper end of the upright on the bed there is secured a horizontal bed M, having upon its upper surface a carriage N, which works upon a proper guide on the bed. To the inner side of the carriage N there is attached a vertical frame O, which has its center portion cut out to correspond with the pattern of the face plate or mat represented by O', which is fitted in grooves directly over the frame, so that the inner edges of the face plate or mat will correspond precisely with the edges of the aperture in the frame, as shown clearly in Fig. 2. The face plates or mats are thin metal plates, with their centers cut out either in a plain or ornamental form. In Fig. 3 the aperture is of elliptical form; but the one shown in the frame O in Figs. 1 and 2 is of a more irregular or scroll pattern. These plates are fitted on or over the glass in daguerreotype-cases, the picture showing through the apertures in the plates. The edges of the apertures are beveled and polished, in order to give a "finish" to the plates or mats. This work the machine performs in the following manner.

The face plates or mats are placed over the frame O, and motion is given the shaft B in any proper manner. One of the pulleys E or E' is connected to the shaft D by operating the lever G, and a rotary motion is given the shaft J and arm K and burnishing-roller *f*. The plate or mat is pressed against the burnishing-roller *f* by means of a lever P or in any proper manner, and the burnishing-rollers form a bevel on the edges of the apertures of the plates or mats and also polish the bevel. The lever P or other device is operated by the hand, and the frame O, to which the plate or mat is secured, is allowed to give or yield in order to allow for the difference between the major and minor diameters of the apertures, or, in other words, for the variation in distance from the center of

the plates or mats of the several points forming the shape or pattern of the aperture.

In case the aperture in the plate or mat is of a plain form—such as an oval or ellipse, as shown in Fig. 3—the arm K and burnishing-roller need rotate in one direction only in order to perform good work; but in case the aperture is of irregular or scroll form, as shown in Figs. 1 and 2, the burnishing-roller will pass over certain parts of the quick or short curves without touching the surface, and the motion is reversed by operating the clutch F, so that the parts of the edges of the aperture which were untouched by the burnishing-roller during the direction of its first movement will be acted upon as the burnishing-roller rotates in the reverse direction.

The burnishing-roller is preferable to one permanently attached to the stock, although a permanent one may be used; but the roller as it rotates is kept perfectly clean by the leather *h*, and the edges of the aperture of the plates or mats will not be scratched or disfigured by dirt, which will often stick to a permanent burnisher.

The above machine is very simple and effects a great saving in labor. It will bevel and polish twenty gross of plates or mats per day. The work is now done by hand, the bevels being filed and afterward polished. A workman will bevel about three gross per day only, the polishing being done afterward. The latter work is performed by girls.

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

The combination of the rotary burnisher *f* and vibrating or yielding frame O, arranged and operating as herein shown, and for the purpose as set forth.

EDWARD BROWN.

Witnesses:
I. G. MASON,
J. W. COOMBS.