J. WHITTAKER.

Apparatus for Engraving Glass by means of Sand-Blast.

No. 203,395. Patented May 7, 1878.

Fig. 1

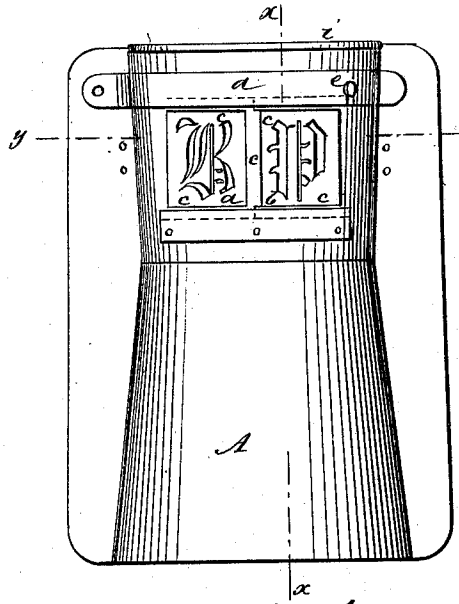


Fig. 2

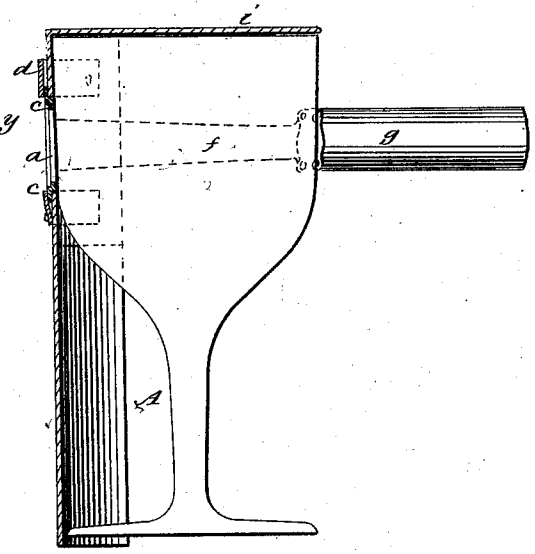


Fig. 4

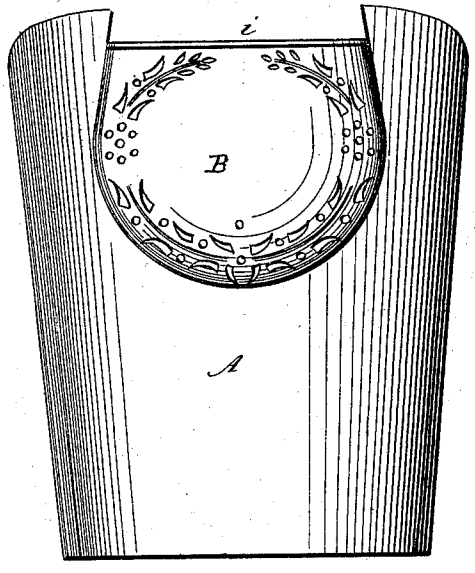


Fig. 3

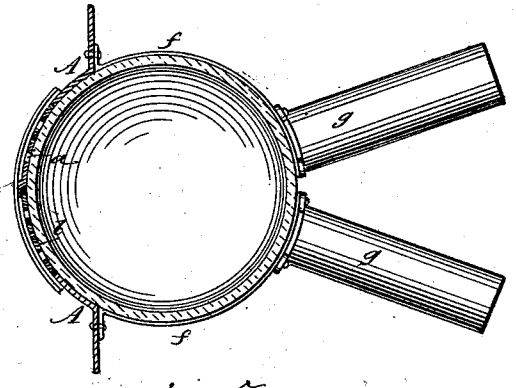
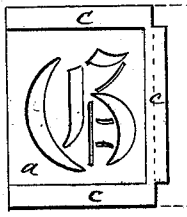


Fig. 5



WITNESSES:

C. Neveux

C. Sedgwick

INVENTOR:

J. Whittaker

BY Munn & Co

ATTORNEYS.

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

UNITED STATES PATENT OFFICE.

JOHN WHITTAKER, OF GREEN POINT, NEW YORK.

IMPROVEMENT IN APPARATUS FOR ENGRAVING GLASS BY MEANS OF A SAND-BLAST.

Specification forming part of Letters Patent No. **203,395**, dated May 7, 1878; application filed April 12, 1878.

To all whom it may concern:

Be it known that I, JOHN WHITTAKER, of Green Point, in the county of Kings and State of New York, have invented a new and useful Improvement in Apparatus for Engraving Glass, of which the following is a specification:

Figure 1 is a front elevation of my improved apparatus. Fig. 2 is a vertical section, taken on line *x x* in Fig. 1. Fig. 3 is a horizontal section, taken on line *y y* in Fig. 1. Fig. 4 is a side elevation of an ornamental stencil and shield. Fig. 5 is a detail view of one of the letter-stencils.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide an expeditious method of applying stencils to glassware to be engraved by means of a sand-blast.

The invention consists in a curved shield having either fixed or removable stencils, and adapted to the surface of the ware to be engraved, and having spring-handles, by which it is clasped to the ware, and by which both it and the ware are held under the sand-blast.

Referring to the drawing, A is a shield having the concavo-convex portion B, which is adapted to the ware to be engraved.

The shield may have a stencil of fixed design, as in Fig. 4, the stencil there representing a wreath, which is designed to surround one or more letters or a monogram, or it may have the removable letter-stencils *a b*, as represented in Fig. 1, the said stencils being formed to exactly fit a rectangular aperture in the shield, and provided with lips *c*, which overlap the joints between the stencils, and also between the stencils and the shield, one end of each stencil being slipped under a strip of metal riveted to the shield, while the other end is secured in place by a curved strip, *d*, which is pivoted at one side of the shield, and is slotted to receive a button, *e*, at the opposite side of the shield.

To the back of the shield two flexible bands or springs, *f*, are secured. These springs have about the same curvature as the shield, and are each provided with a handle, *g*, at their free end. The shield is of sufficient size to cover the entire piece to be engraved, leaving the glass exposed only in the openings in the stencils. The sand acts upon these places and quickly cuts the design represented.

The shield, in the present case, is applied to the engraving of goblets, and it is provided with an end piece or cover, *i*, for the top of the goblet. The shield may be quickly changed from one piece to another, and a great number of pieces may be cut with a single stencil.

This device may be employed in engraving convex surfaces of various objects capable of being cut by a sand-blast.

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

1. A concavo-convex shield having springs *f* and handles *g*, for securing it to the piece to be engraved, substantially as herein shown and described.

2. A concavo-convex shield having removable stencils *a b*, substantially as herein shown and described.

3. A shield having a fixed stencil-pattern, and provided with spring-handles, substantially as herein shown and described.

JOHN WHITTAKER.

Witnesses:
GEO. M. HOPKINS,
C. SEDGWICK.