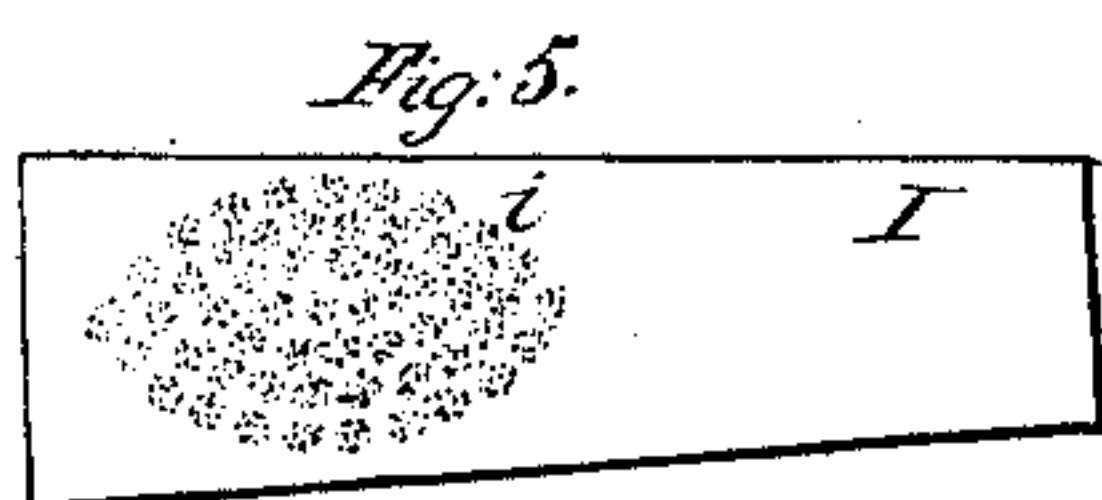
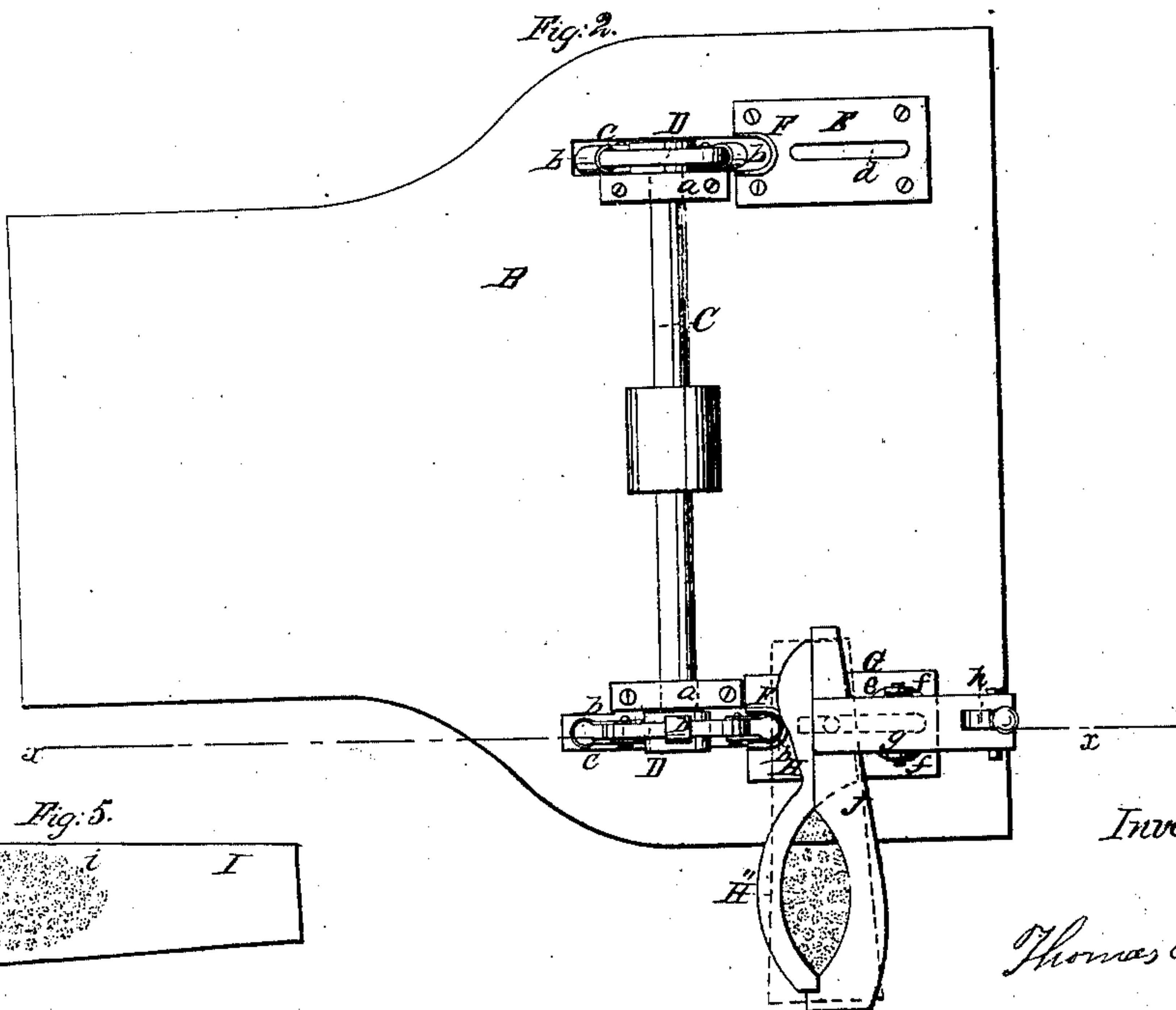
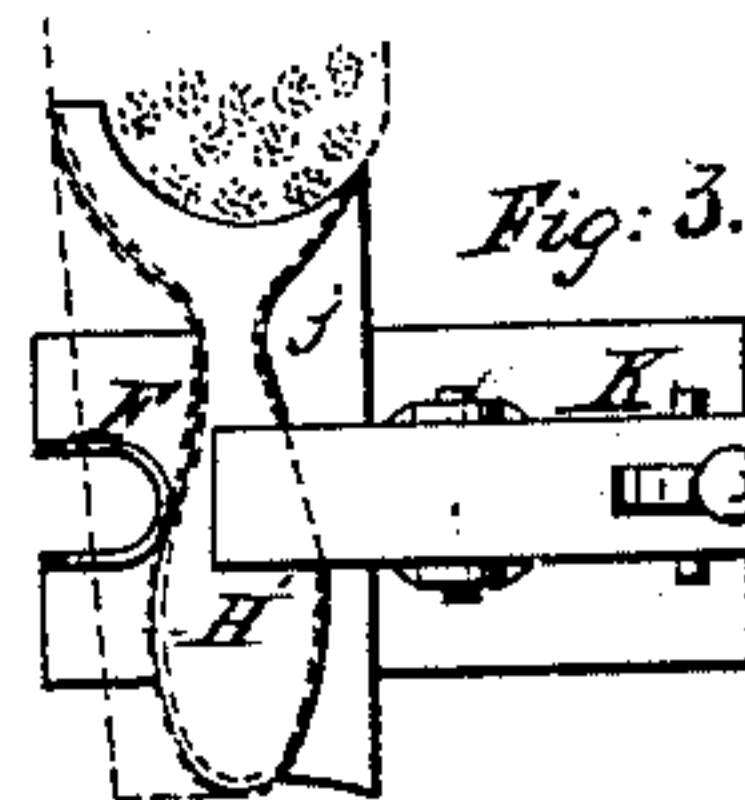
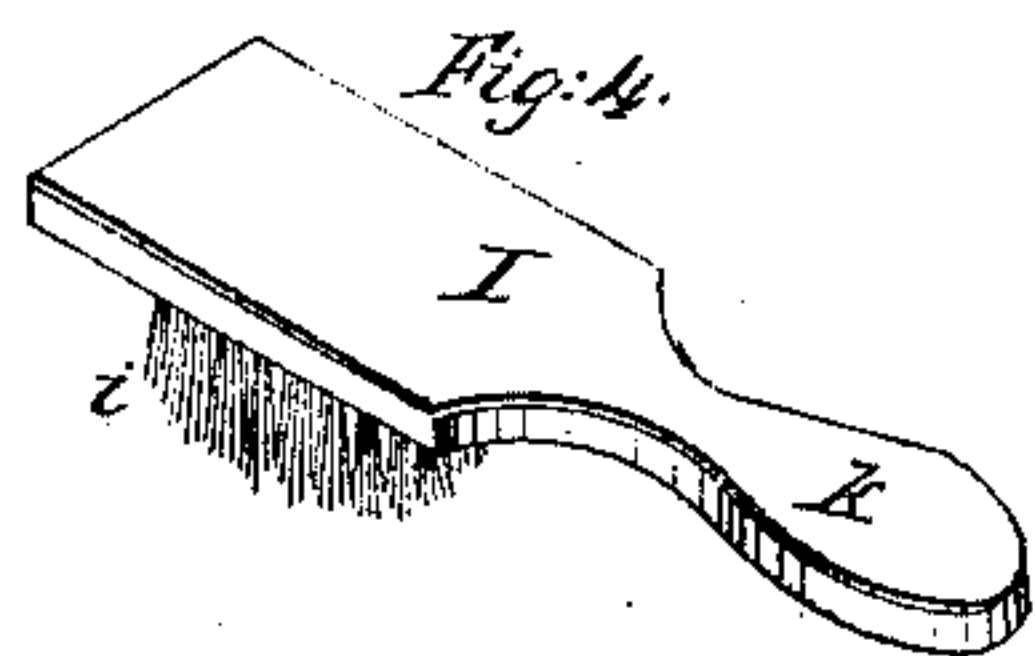
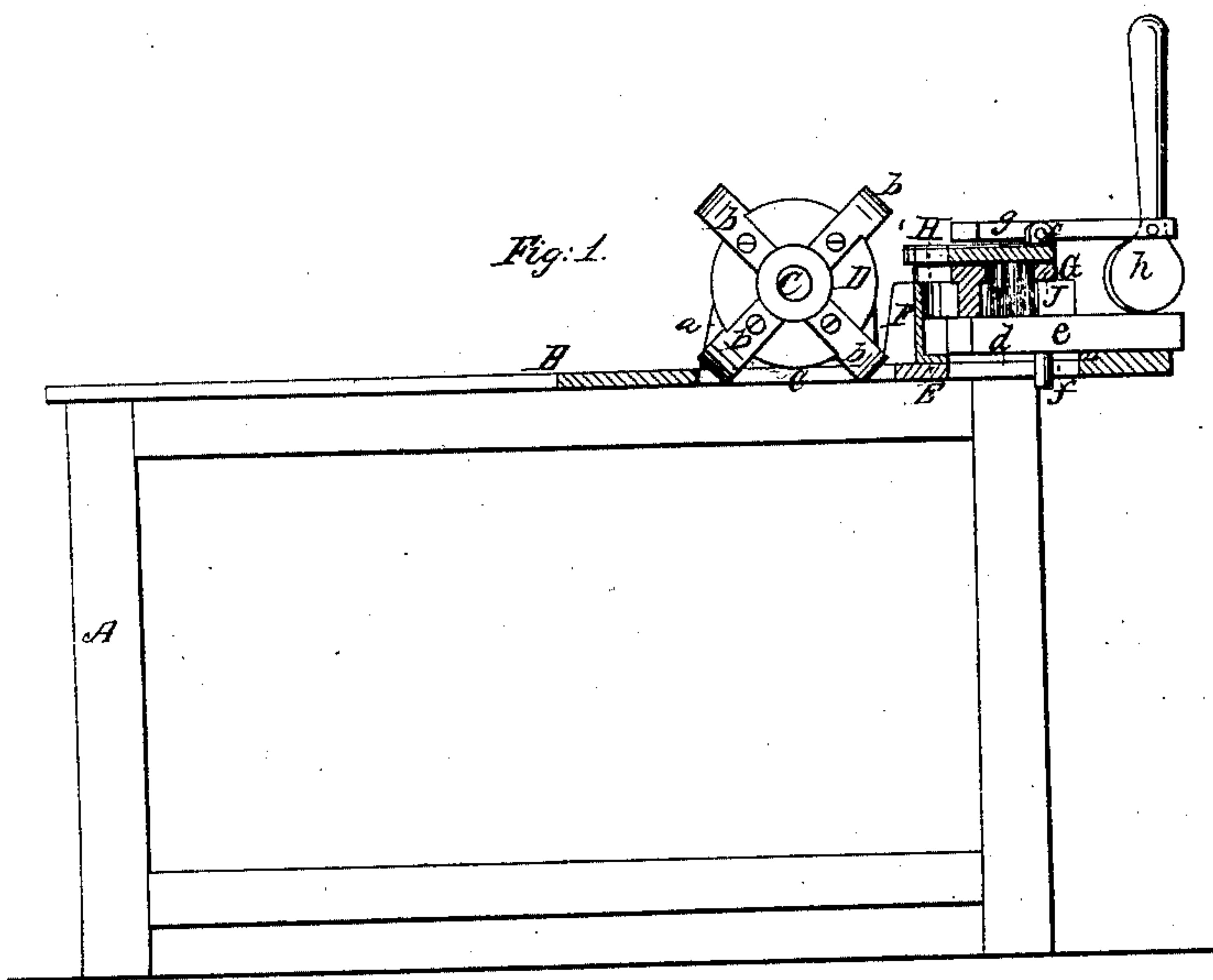


T. Mitchell  
Mach for Finishing Brush Handles  
No. 24571 Patented June 28, 1859



Witnesses:

Samuel King.  
Hos. A. Alexander

Inventor:

Thomas Mitchell

# UNITED STATES PATENT OFFICE.

THOMAS MITCHELL, OF LANSINGBURG, NEW YORK.

## MACHINE FOR FINISHING HAIR-BRUSH HANDLES.

Specification forming part of Letters Patent No. 24,571, dated June 28, 1859; Reissued January 17, 1860, No. 885.

*To all whom it may concern:*

Be it known that I, THOMAS MITCHELL, of Lansingburg, in the county of Rensselaer and State of New York, have invented a new and Improved Machine for Shaping or Cutting Out in Proper Form the Stocks or Blocks of Brushes; 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 side sectional view of my invention taken in the line *x, x*, Fig. 2. Fig. 2, is a plan or top view of ditto. Fig. 3, is a detached plan or top view of one of the clamps and guides of ditto. Fig. 4, is a detached perspective view of a brush having a portion of its stock or block shaped by my invention. Fig. 5, is a face view of a brush having an unfinished stock or block.

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

This invention consists in the employment or use of rotating cutters, guards and guides, and clamps combined with patterns, the whole being arranged substantially as hereinafter described, whereby the backs or stocks of brushes may, by a very simple manipulation, be expeditiously shaped or cut out in proper form.

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

A represents a rectangular frame which supports a platform B, and C, is a shaft which is placed in suitable bearings *a, a*, and transversely on the platform B. On each end of the shaft C, a cutter wheel D, is secured, the wheels being at the outer sides of the bearings *a, a*, and to the periphery of each wheel D, a series of cutters *b*, are attached. The cutters *b*, are of gouge form and may be made of steel strips, bent in semicircular form with parallel ends and attached to each side of the wheels, as shown clearly in Fig. 2. The bent portions of the cutters may be of flaring form the front or cutting edges of the cutters being the larger ends so as to permit the cutters to clear themselves or work freely during the cutting operation. Slots or openings *c*, are made in the platform to allow the cutters to pass through in their rotation.

To the upper surface of the platform

B, and directly in front of each cutter wheel D, a metal plate E, is secured. These metal plates are slotted longitudinally as shown at *d*, and they are "let in" the platform so as to be flush with its upper surface. The platform B, is slotted to correspond with the slots *d*, in the plates E, and to the front end of each plate E, a vertical guard and guide F, is attached. These guards or guides are transversely of semicircular form, the concave sides being opposite the cutter wheels D, D, so as to serve as guards on the cutters *b*.

G, Figs. 1 and 2, is a clamp, which is formed of a block *e*, having a pin *f*, projecting from its under side fitting in the slot *d*, of the left hand plate E, the pin being allowed to slide freely in said slot. To the upper surface of the block *e*, two uprights *f, f*, are attached, said uprights forming bearings for a plate or jaw *g*, in the outer part of which an eccentric *h*, is fitted. On the front part of the block *e*, a curved pattern H, is permanently secured, said pattern corresponding in form to the outer edge of one longitudinal half or any portion of a half of the brush stock or block I. The inner edge of the pattern H, is made concave, corresponding to the curve of one half of the bristles *i*, of the brush, see Fig. 2.

J, is a strip or plate the inner edge of which adjoins the pattern H, the inner edges of the pattern and strip or plate corresponding inversely in form with each other.

The unfinished brush is secured in the clamp G, by placing its bristles *i*, in the concave inner surface of the pattern H, and then adjusting the strip or plate J, to the opposite side of the bristles and forcing the jaw *g*, down on the block or stock I, of the brush by actuating the eccentric *h*. By this arrangement the unfinished brush will be accurately centered in the clamp, the bristles *i*, serving as a guide.

From the above description it will be seen that the bristles *i*, are fitted in the block or stock I, previous to the shaping of the same. When the unfinished brush is thus clamped, the clamp G, is adjusted on the platform B, the pin *f*, being fitted in the slot *d*, and the face of the pattern H, being pressed against the guard and guide F, the operator moves the clamp so that the cutters *b* as the wheels D, rotate will cut the edge of the block or stock of a form corresponding to the face



side of the pattern H, the pattern as it moves along being kept against the guard and guide, see Figs. 1 and 2. When one side of the block or stock I, is cut, it is removed from the clamp G, and secured in a clamp K, Fig. 3, which is constructed like clamp G, with the exception that the strip or plate J, is not used, the brush not being centered by the bristles *i*, but by means of the finished side of the stock or block which abuts against a curved ledge *j*, as shown in Fig. 3, the pattern H', of clamp K, corresponding to that H, of clamp G.

In case the handles *k*, see Fig. 4, of the brushes are only shaped by the machine, the pattern H, is only made of a corresponding length but an extension H'', would be required on the clamp G, in order to permit of the centering of the brush by the bristles *i*. The clamps in the drawings are shown as being thus formed, the pattern H', of clamp K, in Fig. 3, corresponding with the length of the handle *k*, and the part H'', in Fig. 2, being an extension to allow the brush to be centered in the clamp.

The clamp K, has its pin fitted in the slot in the right hand plate E, and is manipulated in the same way as the clamp G, in

order to cut the remaining side of the stock or block.

By this invention the stocks or blocks I, of brushes may be readily shaped and the work performed in a very uniform manner.

I do not claim broadly and separately the employment or use of rotating cutter wheels for they have been previously used for the same purpose and constructed in various ways; but,

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

1. The rotating cutter wheels D, D, and guards and guides F, in combination with the clamps G, K, provided with patterns H, H', arranged substantially as and for the purpose set forth.

2. I also claim centering the unfinished brushes in the clamp G, by means of the bristles *i*, in connection with the strip or plate J, and the inner edge of the pattern H, or its extension H'', substantially as described.

THOMAS MITCHELL.

Witnesses:

DANIEL KING,

WM. A. ALEXANDER.