

(No Model.)

O. AKERLEY.  
Metallic Brush.

No. 230,915.

Patented Aug. 10, 1880.

Fig. 1.

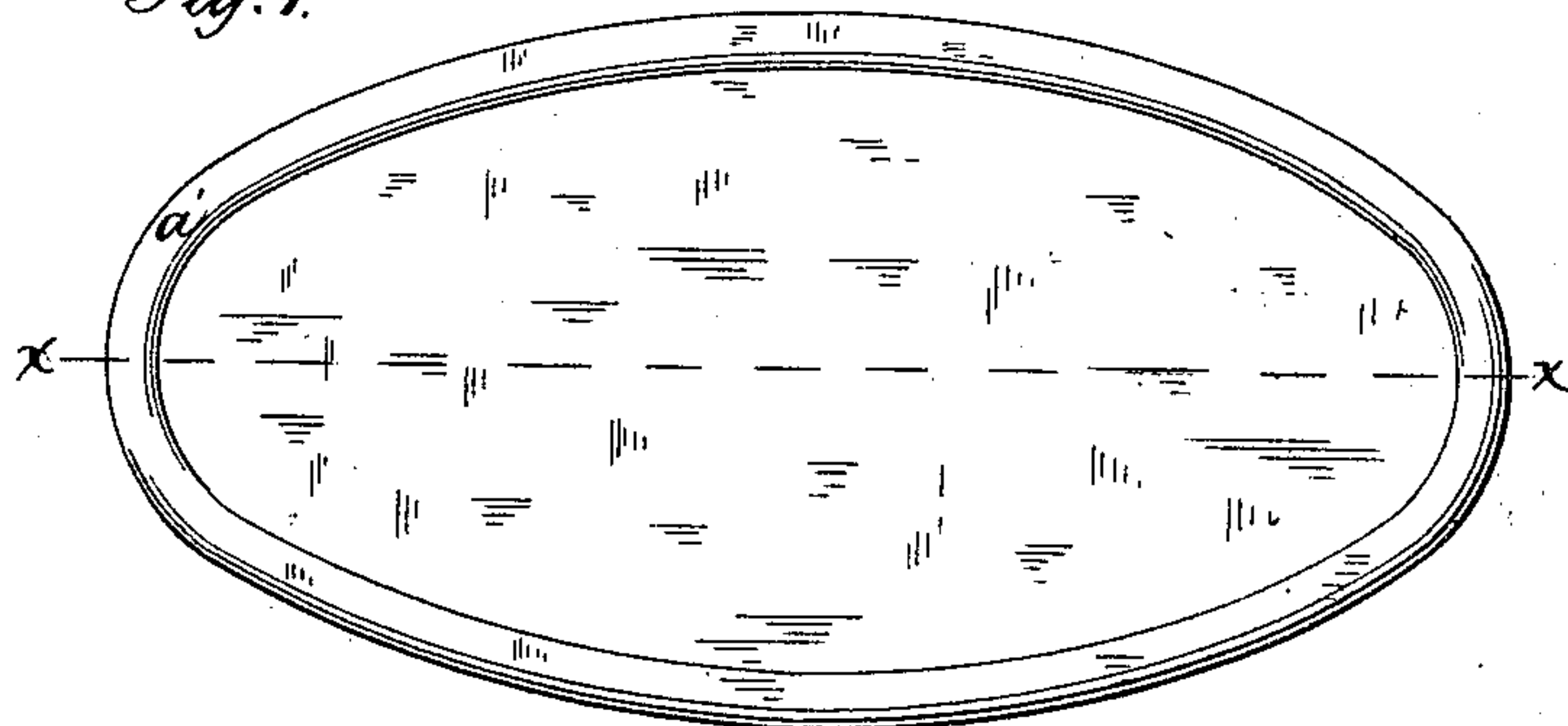


Fig. 2.

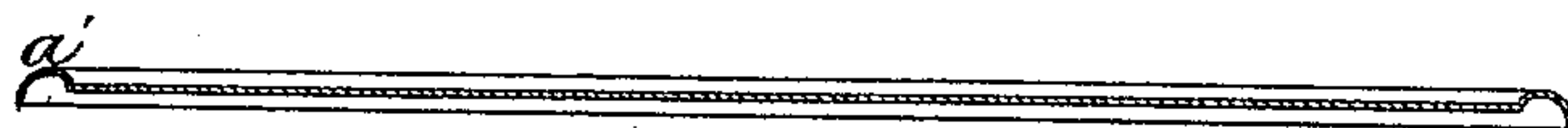


Fig. 3.

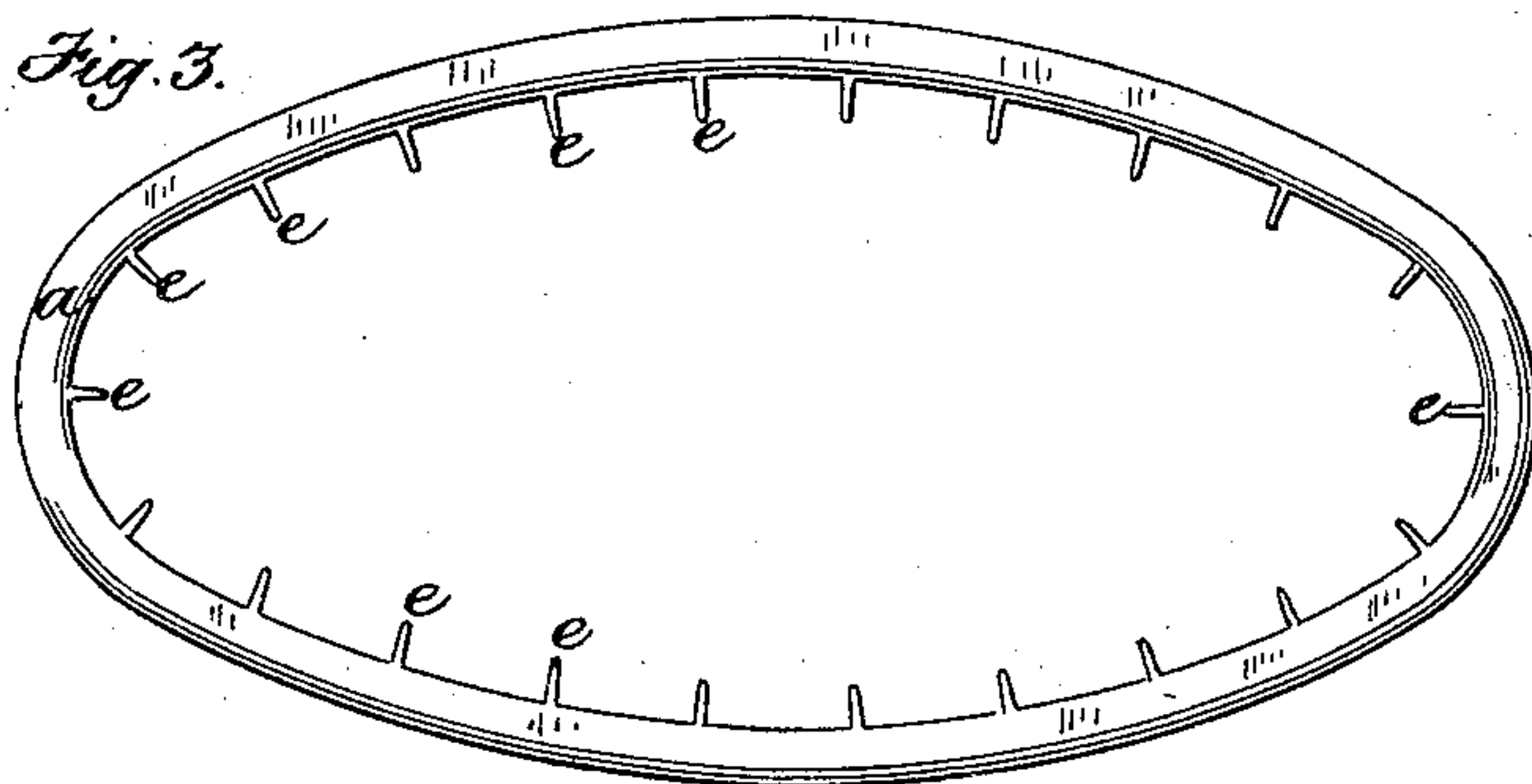


Fig. 4.



Fig. 5.

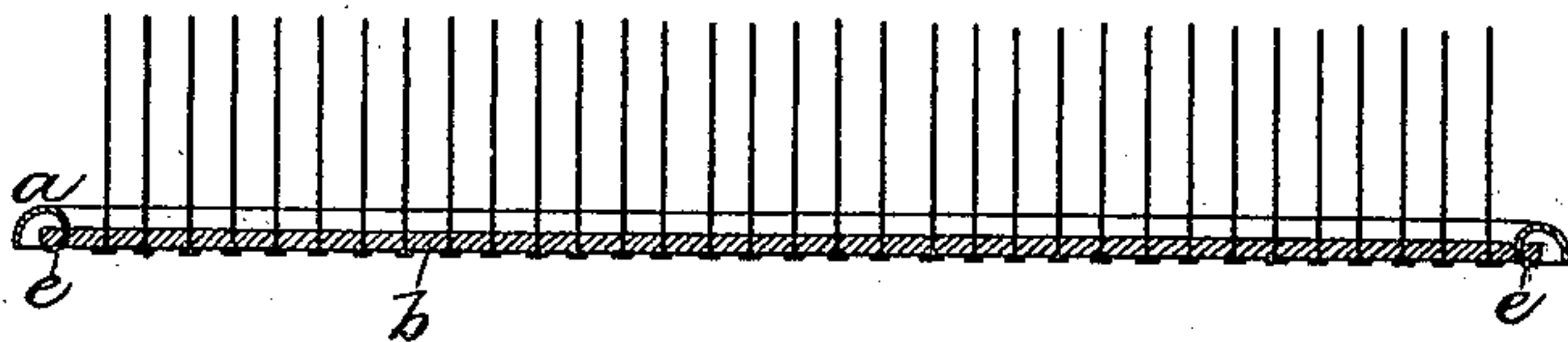
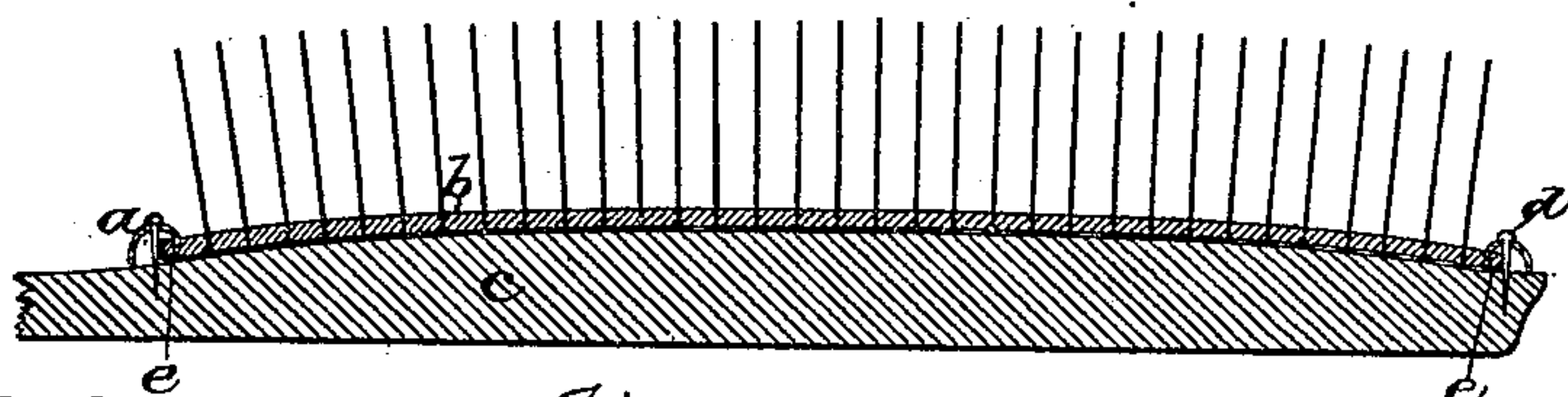


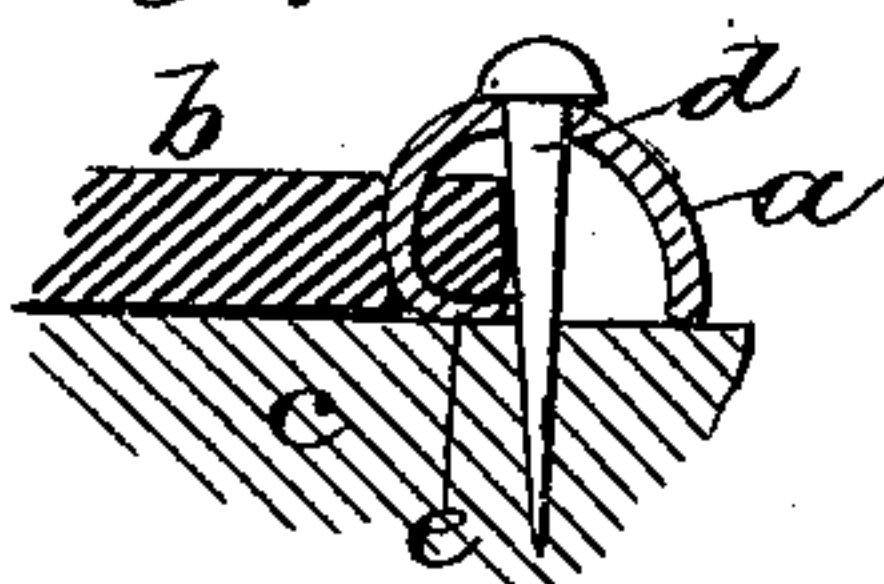
Fig. 6.



Witnesses.

W. H. H. Knight  
W. Blackstock.

Fig. 7.



Inventor  
Oliver Akerley  
by Knight & Brown  
Attys.

# UNITED STATES PATENT OFFICE.

OLIVER AKERLEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO JAMES A. HORTON, OF SAME PLACE.

## METALLIC BRUSH.

SPECIFICATION forming part of Letters Patent No. 230,915, dated August 10, 1880.

Application filed June 26, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, OLIVER AKERLEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and Improved Metallic Brush; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

This invention relates to metallic brushes composed of a flexible vulcanized-rubber brush-face studded with metallic pins and a rigid back, to which said face is secured.

The object of the invention is to provide improved means for securing the brush-face to the rigid back; and to this end the invention consists in a marginal metallic frame or holder attached to the margin of the brush-face by prongs formed in said frame and passed through and clinched at the back of the brush-face, the frame or holder being adapted to be secured to the brush-back and formed to bear against the latter and cover the margin of the rubber, as I will now proceed to describe.

Of the accompanying drawings, Figures 1, 2, and 3 represent views showing the manner of forming the pronged frame or holder. Fig. 4 represents a longitudinal section of the holder, showing its prongs ready for insertion into the brush-face. Fig. 5 represents a similar section, showing the holder attached to the brush-face and its prongs clinched. Fig. 6 represents a longitudinal section of the brush completed, and Fig. 7 represents an enlarged view of a portion of Fig. 6.

The same letters of reference in the several figures denote the same parts.

In the drawings, *a* represents the pronged frame or holder. *b* represents the toothed rubber brush-face, and *c* represents the rigid back.

The frame *a* is made of suitable sheet metal, and is concavo-convex in cross-section, and of an outline corresponding to the shape of the brush, the form shown at present being elliptical. The inner edge of the frame *a* is adapted to bear upon the brush-face close to the margin thereof, and the outer edge is deeper than the inner, and is adapted to bear against the

back, the margin of the brush-face being entirely covered by the frame.

On the inner edge of the frame are formed prongs *e e e*, which are of flexible metal, and are integral with the frame. Before the frame is applied to the brush-face, these prongs stand at right angles to the plane of the frame, as shown in Fig. 4, projecting inwardly from the frame. When the prongs are in this position they are adapted to perforate and pass through the brush-face near the margin thereof, the brush-face being previously perforated to receive the prongs or not, as desired, and laid against their points in the proper position. Pressure is then applied to force the prongs into the brush-face until the inner edge of the frame *a* bears against the outer surface of the brush-face. The prongs are clinched on the back side of the brush-face, as shown in Figs. 5, 6, and 7, either while being forced through or subsequently, and when clinched they firmly attach the margin of the brush-face to the frame *a*. After the attachment of the brush-face to the frame the latter is attached in any suitable manner to the back *c*, preferably by tacks or nails *d*, as shown in Figs. 6 and 7, the frame being provided with orifices for the reception of such nails or tacks. This pronged frame presents a very neat appearance when attached to the back, being very narrow and yet effectually concealing the margin of the rubber.

I prefer to make the frame *a* by stamping a bead, *a'*, on a plate of sheet metal, as shown in Figs. 1 and 2, then cutting out the material inclosed by the bead in such manner as to leave the prongs as shown in Fig. 3, and finally bending down the prongs, as shown in Fig. 4.

I claim as my invention—

1. In a metallic hair-brush, the improved brush-face holder consisting of the marginal metallic frame adapted to be secured to the brush-back and provided with a series of prongs which are passed through the brush-face and clinched on the back side of the latter, the frame being formed to cover the margin of the brush-face and bear against the brush-back, as set forth.

2. In a metallic brush, the combination of



the toothed rubber brush-face, the holder consisting of the pronged marginal frame formed to cover the margin of the brush-face and secured to the latter by the clinched prongs, and  
5 a rigid back to which the brush-face holder is secured, as set forth.

In testimony whereof I have signed my name

to this specification, in the presence of two subscribing witnesses, this 24th day of June, A. D. 1880.

OLIVER AKERLEY.

Witnesses:

JAMES A. HORTON,  
C. T. BROWN.