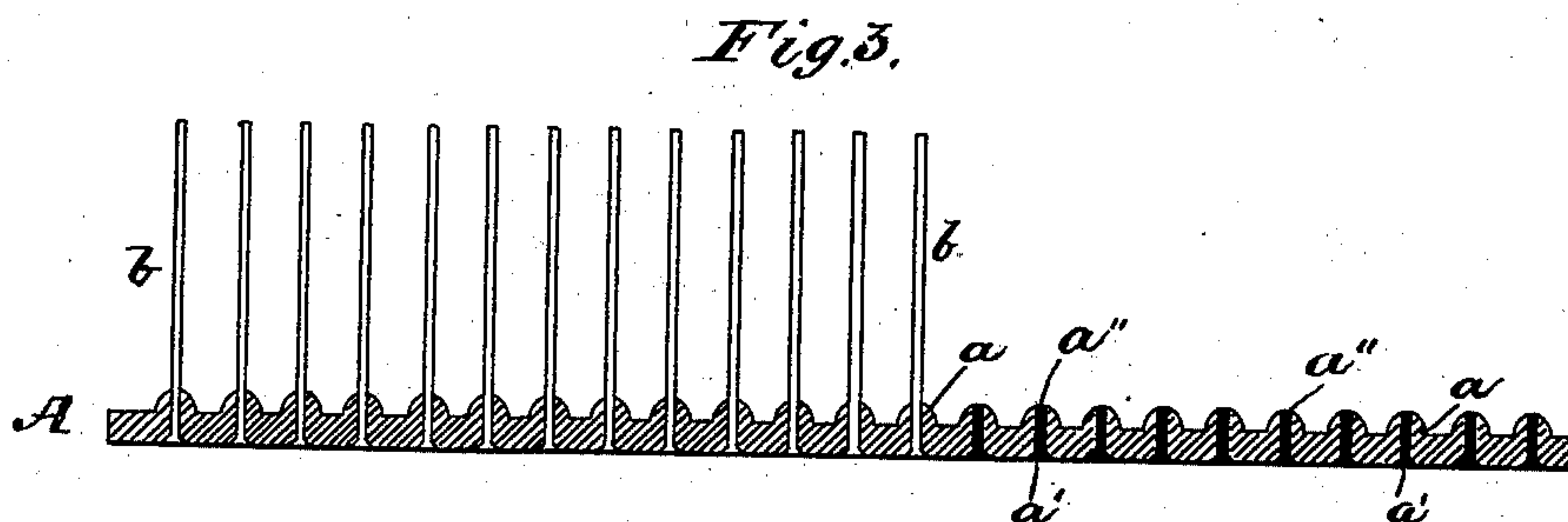
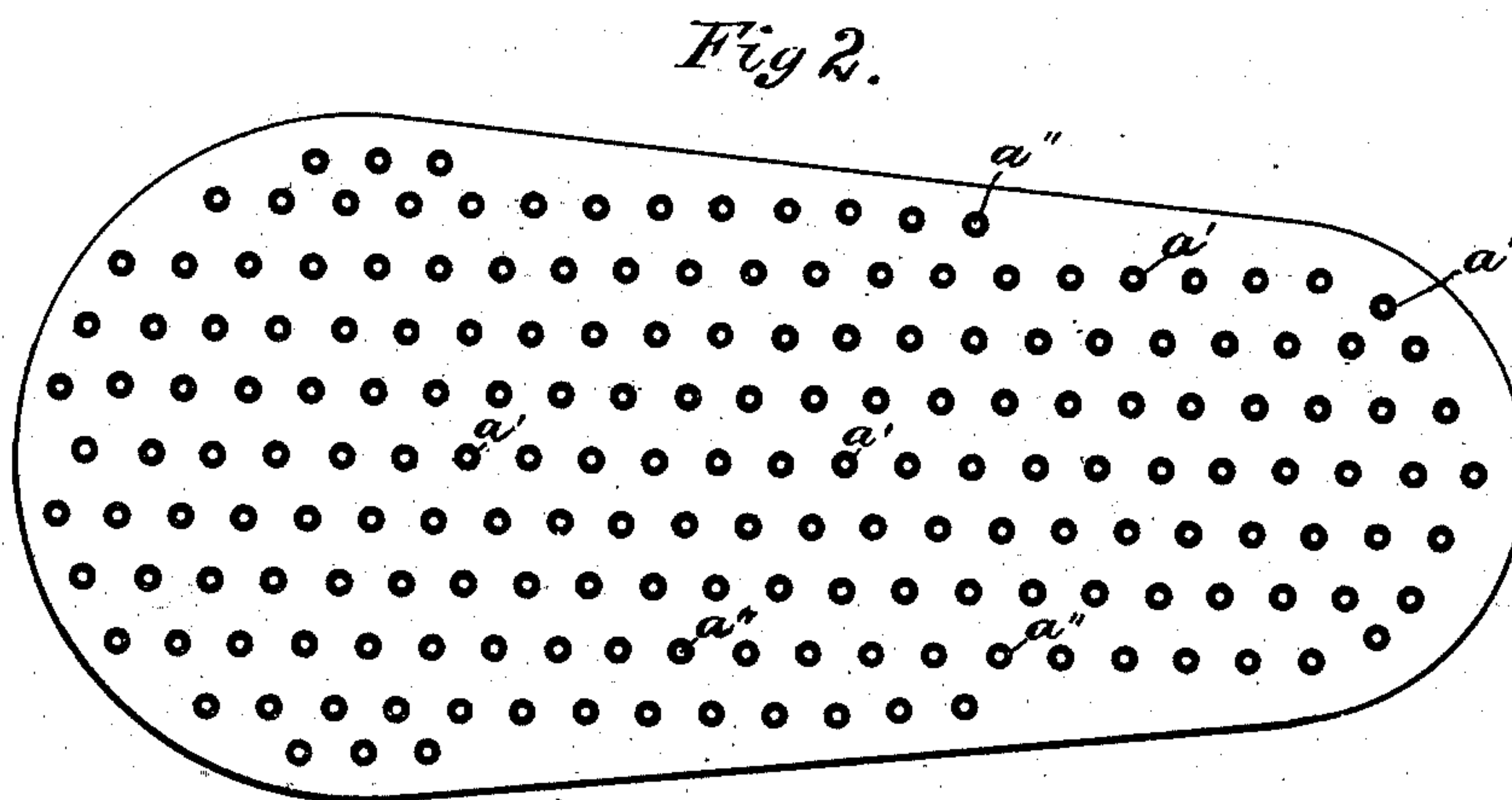
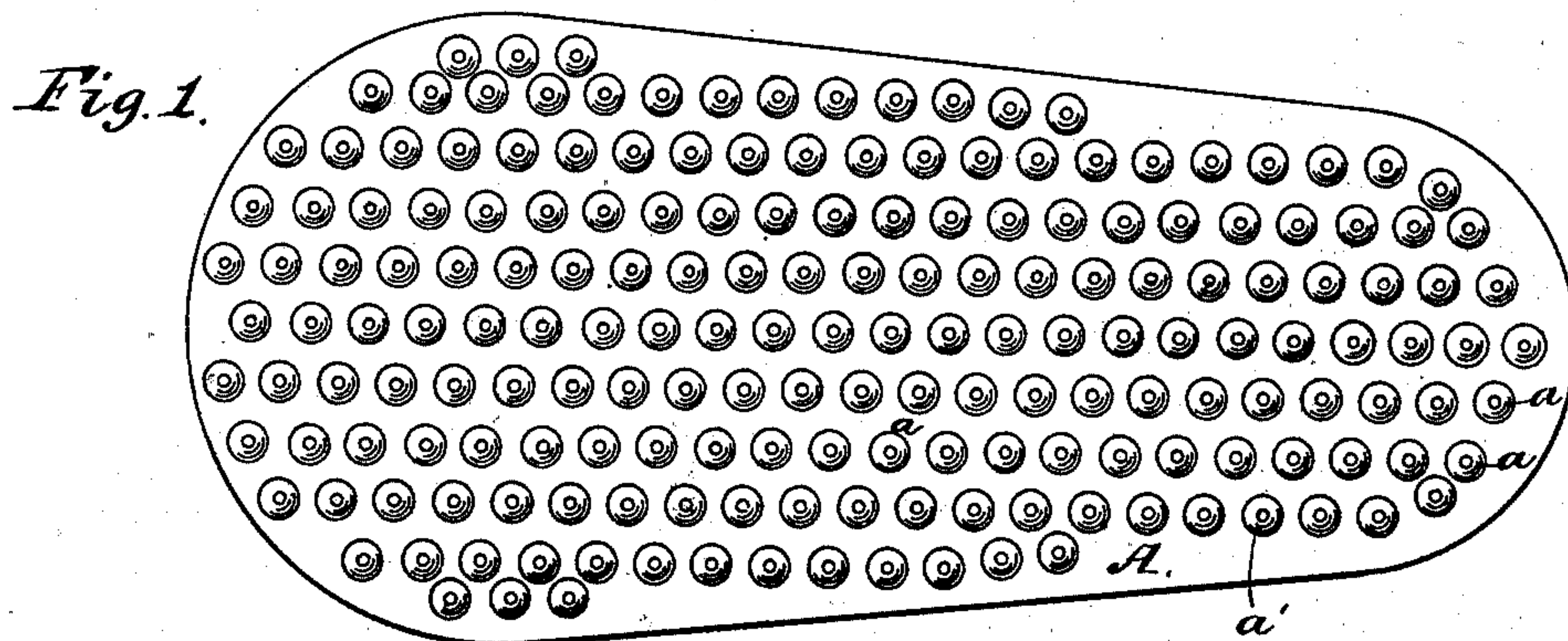


E. A. HILL.
 Vulcanized Rubber Face for Metallic Brush.
 No. 216,408. Patented June 10, 1879.



WITNESSES.
C. C. Hodgkin.
J. A. Stockman.

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UNITED STATES PATENT OFFICE.

EDWIN A. HILL, OF READING, MASSACHUSETTS.

IMPROVEMENT IN VULCANIZED-RUBBER FACES FOR METALLIC BRUSHES.

Specification forming part of Letters Patent No. **216,408**, dated June 10, 1879; application filed May 12, 1879.

To all whom it may concern:

Be it known that I, EDWIN A. HILL, of Reading, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Vulcanized-Rubber Brush-Faces for Metallic Brushes, of which the following is a specification.

Figure 1 is a perspective view of the brush-face, showing the front side. Fig. 2 is a perspective view, showing the back side of the brush-face. Fig. 3 is a central section from end to end of the brush-face.

The object of the present invention is to produce a rubber brush-face with teats or projections on the front side, and depressions or countersinks on the back side, with small pin-holes molded through the brush-face and teat, to be used in the manufacture of metallic hair-brushes.

It consists more particularly in a rubber brush-face with teats or projections on the front side, properly prepared by vulcanization, and having metallic pins inserted through the pin-holes in said brush-face from the back side, so that each shall project through one teat on the front side, all as will now be more in detail set out and explained.

In the drawings, A denotes a rubber brush-face, having on its front side teats or projections *a*, and on the back side indentations or countersinks *a'*, with small holes *a''* from the countersinks through the center of the teat molded therein during the process of vulcanization. This brush-face is made by placing a piece of rubber compound of proper size for the brush in a suitable metal mold, in the face of one portion of which are projections or steel wires, which form the holes through the teats for the reception of the brush-pins, while in the other or opposite part are the indentations or depressions, and thus, in the process of vulcanization, the teats *a* will be formed on the front of the brush-face, and the depressions or countersinks *a'* will be made on the back side, and the pin-holes *a''* from the back to the front through the center of the teats will be formed. The pins or wires *b* can now be inserted in the pin-holes of the brush-face very quickly by hand, but more rapidly by machinery.

To insure any desired degree of flexibility

in the brush when completed, I may sink the heads of the brush-pins more or less in the countersinks, and fill the spaces over the heads of the pins with prepared rubber cement, and cover the same with a thin sheet of rubber, which will be held by the prepared rubber cement, making, as it were, one body.

The position of the pins in the brush-face is very strong and durable, while from this peculiar construction all necessary elasticity will be secured.

It is obvious that this brush-face, as above described, can be very easily and economically constructed; also, the brush-face can be made in any form or shape desired and fastened to the handle by prepared rubber cement, or in any desirable way or manner, and thus a neat, cheap, handsome, and durable device is produced.

Heretofore perforated rubber pads have been made by vulcanizing and molding, as in my patent of September 16, 1873; also, vulcanized-rubber brush-pads having teats or projections on their face, about the shanks of pins, the heads of which are embedded by vulcanization in the rubber, are shown in my pending application of September 20, 1878. Therefore I do not now claim these; but

What I do claim is—

1. The vulcanized-rubber brush-face A, having teat or projections *a* on one side, and depressions or countersinks *a'* on the other, with pin-holes *a''*, substantially as described.

2. The combination of the vulcanized-rubber brush-face A, having teats or projections *a*, depressions or countersinks *a'*, and pin-holes *a''*, with the metallic pins or headed wires *b*, substantially as described.

3. As a new article of manufacture, the herein-described vulcanized-rubber brush-face A, as prepared for the reception of the wires, the whole made substantially in the manner and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EDWIN A. HILL.

Witnesses:

GEO. H. TOWLE,
FRED. NOURSE.