

P. HENRICHS.

Improvement in Folding Brushes.

No. 116,184.

Patented June 20, 1871.

Fig. 1.

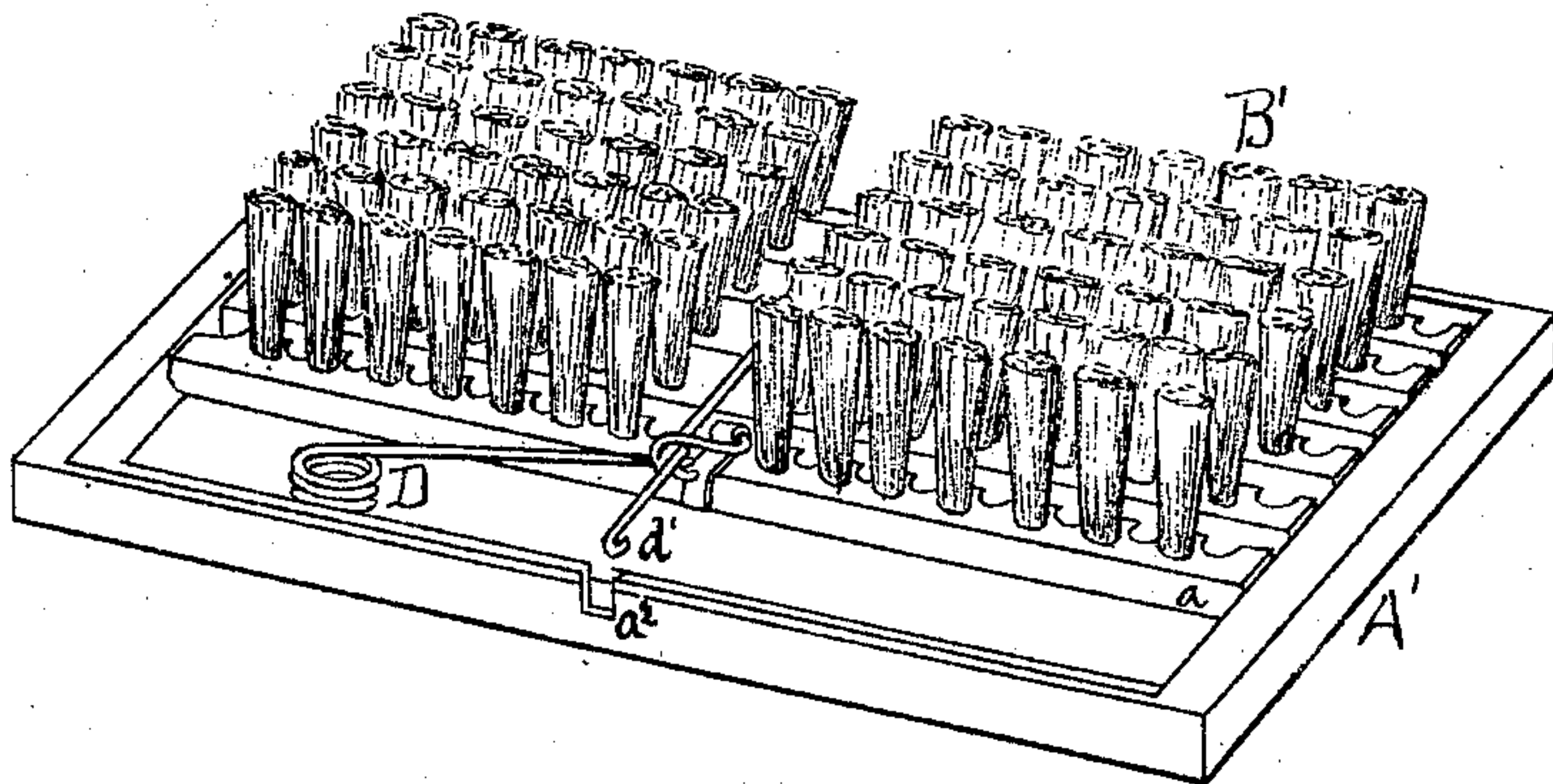


Fig. 2.

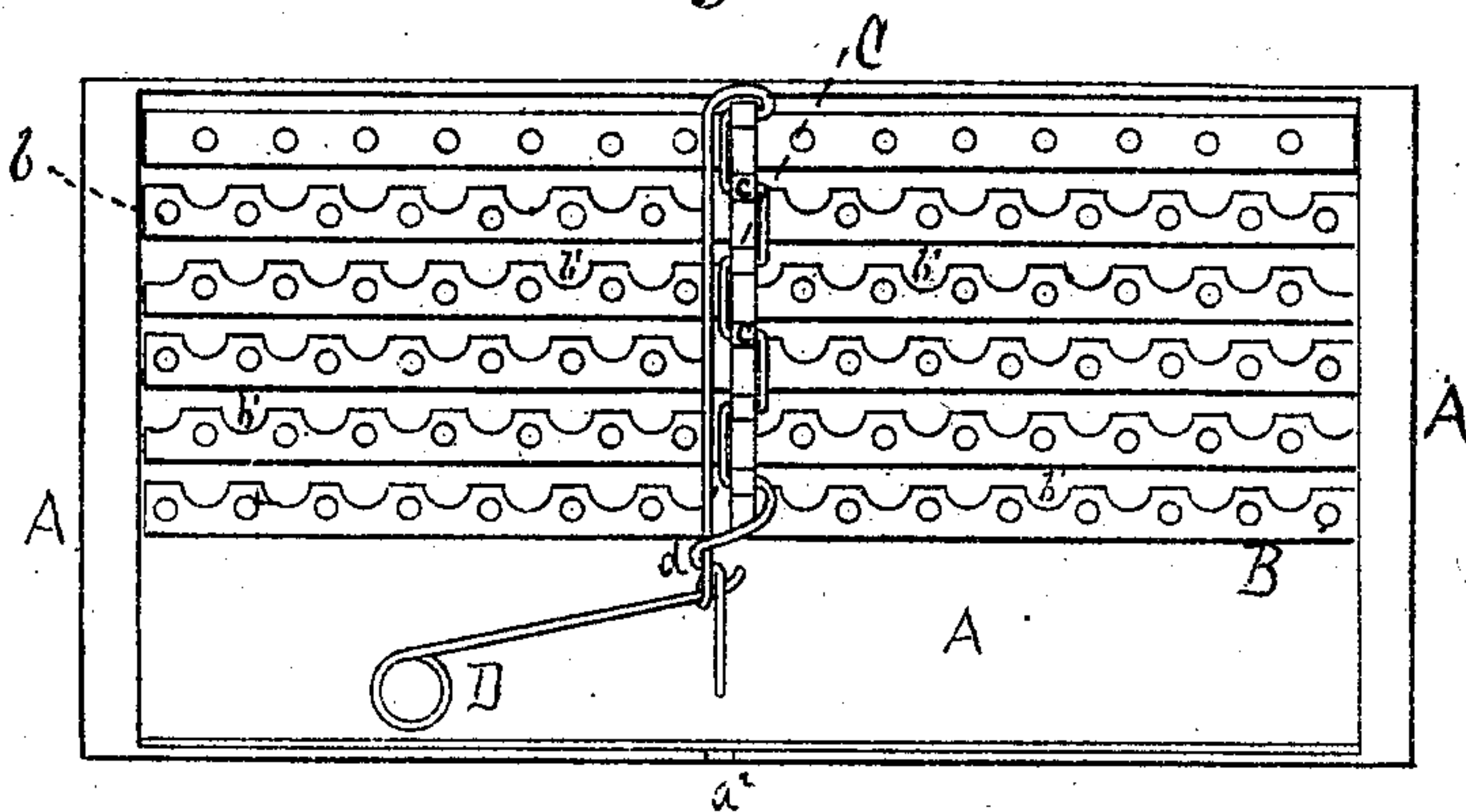
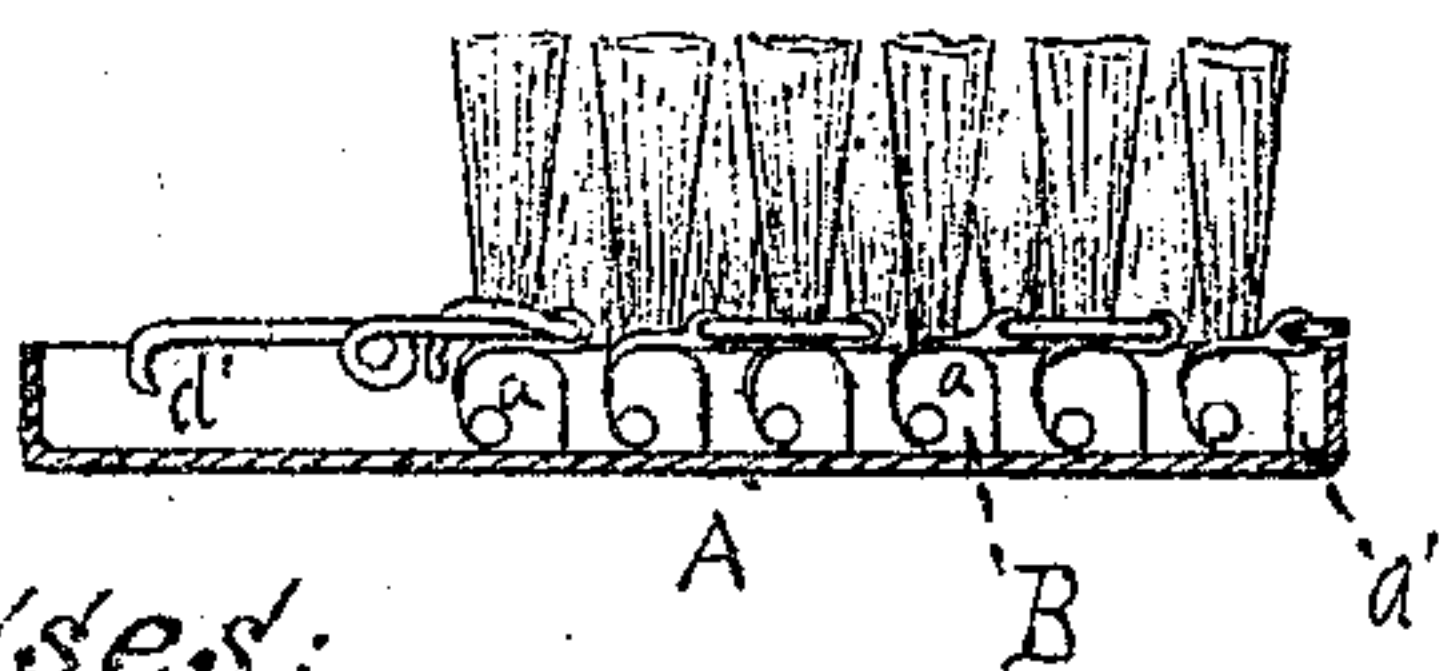
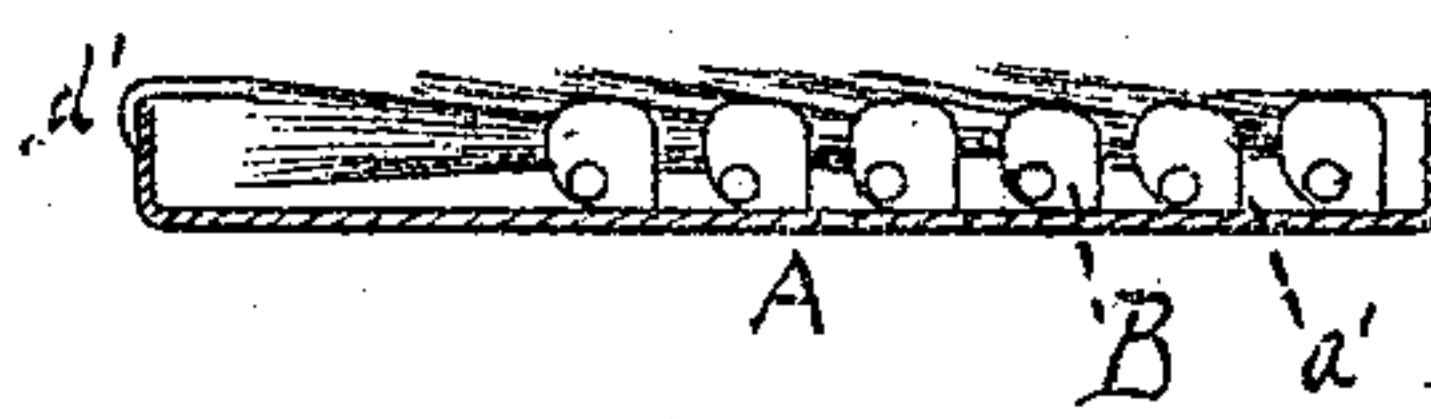


Fig. 3.



Witnesses:
Edwin James
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Fig. 4.



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UNITED STATES PATENT OFFICE.

PETER HENRICHS, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN FOLDING BRUSHES.

Specification forming part of Letters Patent No. 116,184, dated June 20, 1871.

To all whom it may concern:

Be it known that I, PETER HENRICHS, of the city and county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Folding Brushes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification, in which—

Figure 1 is a perspective view, the brush being open and ready for use. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a vertical sectional view of Fig. 1. Fig. 4 is a vertical sectional view of my invention, the brush being closed.

The object of my invention is to furnish, as a new article of manufacture for toilet, household, and general domestic purposes, a brush, so constructed that when not required for use the same can be folded into an exceedingly compact form, and of such size as to allow of its being readily and conveniently carried on the person. The nature of my invention consists in securing the tufts of bristles that compose the brush in a series of parallel bars or slats. These bars or slats are curved on their lower section, and their axial rods are so secured in their bearings on the bed or frame as to allow of their free partial revolution, whereby the position or direction of the bristles is readily changed. These bars or slats are all so connected, by radially-recessed bearing-plates and the long arm of a traveling or other spring, as to insure their uniform action.

The great advantage of this arrangement will readily suggest itself. By drawing the bar that is connected with the traveling spring and fastening its hooked end, the bars are partially revolved, which causes the tufts of bristles to all lie in a longitudinal position and on a line parallel with the back or frame-bed of the brush. This reduces the brush to the most compact form conceivable. When the brush is desired for use, simply unhook the spring-rod, when, through its tensional action, the spring will automatically revolve the bars in a reverse direction, which so elevates the bristles as to leave them on a vertical line with the back or frame, as in the ordinary brush.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

A is the rectangular back or frame of the brush, which may be constructed of any suitable material and of any desired dimensions. A' A' are flanges or side pieces of the frame, and serve as bearings for the axial rods *a a* of the bars B B. B B is a series of bars or slats, and may be formed either of wood, metal, or rubber. These bars B B are formed with openings or apertures *b b*, as clearly shown in Fig. 2, and in which are secured the tufts of bristles B' B' that compose the brush. These openings *b b* are so arranged that when the bars are fastened on or in the frame the openings of the alternate bars shall be on a line, which permits the tufts of bristles of each bar, when the brush is folded, to fall between those of the bar immediately in front, and are supported thereon in the recesses *b' b'*. These bars B B have inserted through them horizontal axial rods *a a*, which are secured in the flanges A' A' of the frame. A portion of the surface of these rods B B is rounded, as clearly shown in Figs. 3 and 4, which allows the bars to be so moved or rocked as to effect the necessary change in the direction of the bristles—that is, from a longitudinal, as when the brush is folded, to a vertical, their necessary position when the brush is to be used. The curved sectional surface of these bars B B terminates in a straight square shoulder, as shown at *a¹ a¹*, Figs. 3 and 4, and which acts as a brake or stop, and which prevents the bars being thrown by the spring beyond a given point, or a point which will carry the bristles beyond a true vertical line of bearing. C is a looped corrugated connecting-rod, and is passed through the eyes of the bearings *c c* on the bars B B. The free end of this rod is to be attached to a spring, D. Any spring suited to the purpose may be used. I prefer, however, the one illustrated in the drawing, as practical experience has shown that it is admirably adapted for the purpose designed. The spring shown is what is known as the ordinary steel-rod traveling spring. The free end of this spring is bent so as to leave a curved or annular shoulder or arm, *d*, which terminates in a hooked end, *d'*. To the angle or curve of the arm *d* is attached the rod C.

I have said any style of spring may be used, and I also wish it understood that any other system of connecting the bars B B that will

insure their uniform action, as stated, may be substituted for the rod C, and also that any material may be used in the manufacture of the frame-bars, and as a substitute for the tufts of bristles illustrated in the drawing.

The operation is as follows: When the brush is folded it is as represented in Fig. 4, the bars B B being in such position that the tufts of bristles B' B' which they carry all lie in a horizontal direction, or parallel with the back or frame A. The tufts of one bar fall between those of the bar immediately in front, and rest in the recesses $b' b'$ of the same. The hooked end d' of the spring is now fastened in the slot or catch a^2 of the frame, and which retains the brush in its folded form. When the brush is required for use, you simply have to free or loosen the hook d , when, through the tension of the spring D, the bars B B are automatically revolved in the opposite direction, and the tufts of bristles, through the spring and shoulder a^1 , are held in the position shown in

Figs. 1 and 3, and which is the same as the ordinary brush. To fold it again, you simply have to press on the arm d of the spring and fasten its hook d' in the slot a^2 , the connecting-rod C in each movement insuring the uniform action of the bars B B.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

The bars B B, having tufts of bristles B' B', connecting-rod C, and spring D, when the same are so combined and arranged as to furnish a folding brush that is automatically opened for use, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER HENRICHES.

Witnesses:

JOS. T. K. PLANT,
W. A. BOSS.