

(No Model.)

H. B. ASHTON.
BRUSH.

No. 517,994.

Patented Apr. 10, 1894.

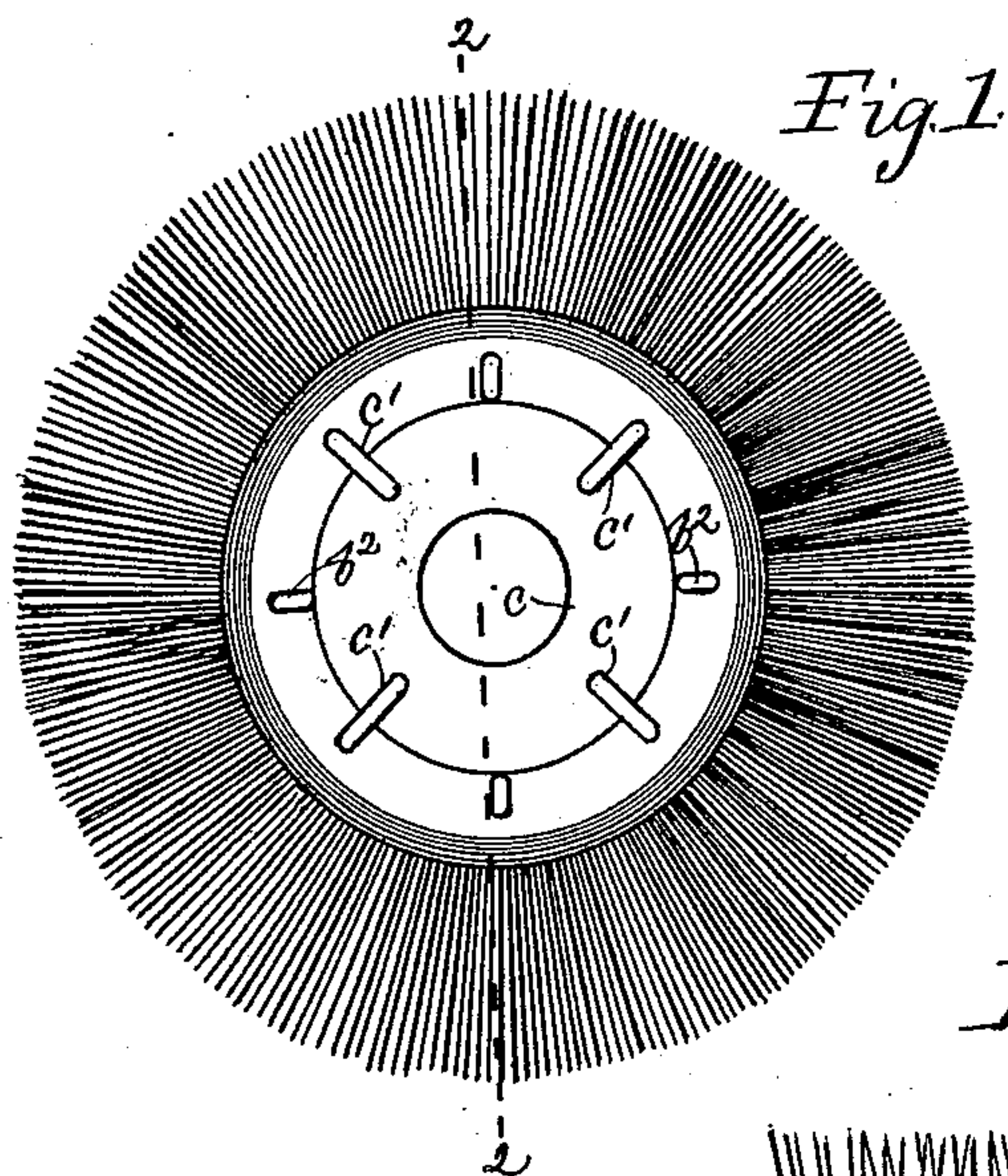


Fig. 1.

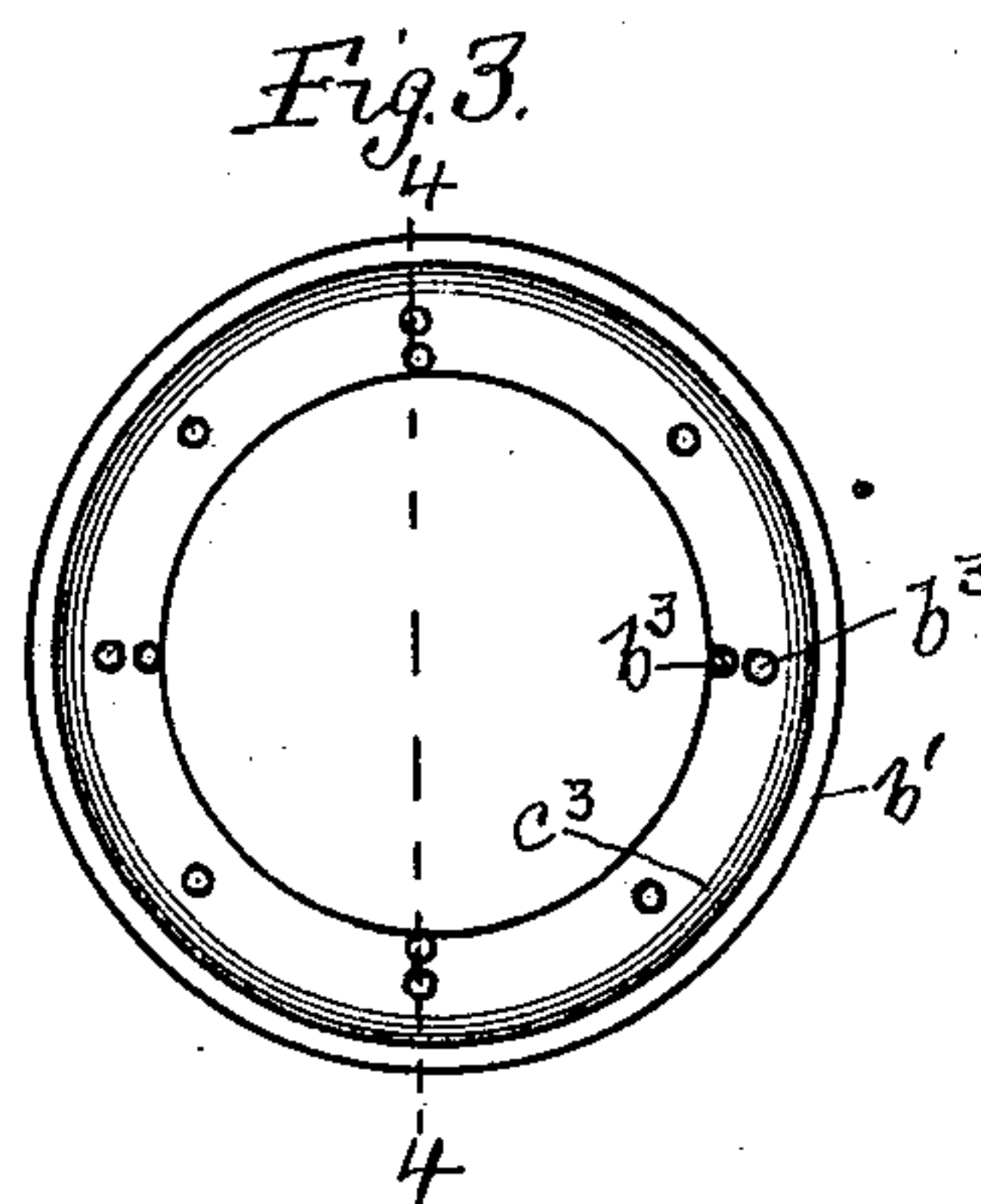


Fig. 3.

Fig. 4.

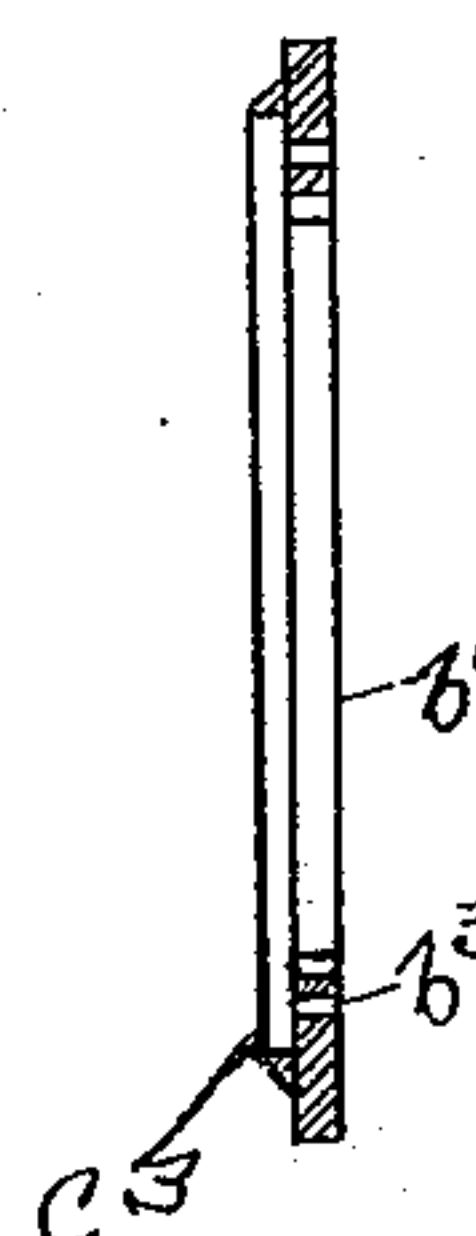


Fig. 2.

Fig. 6.

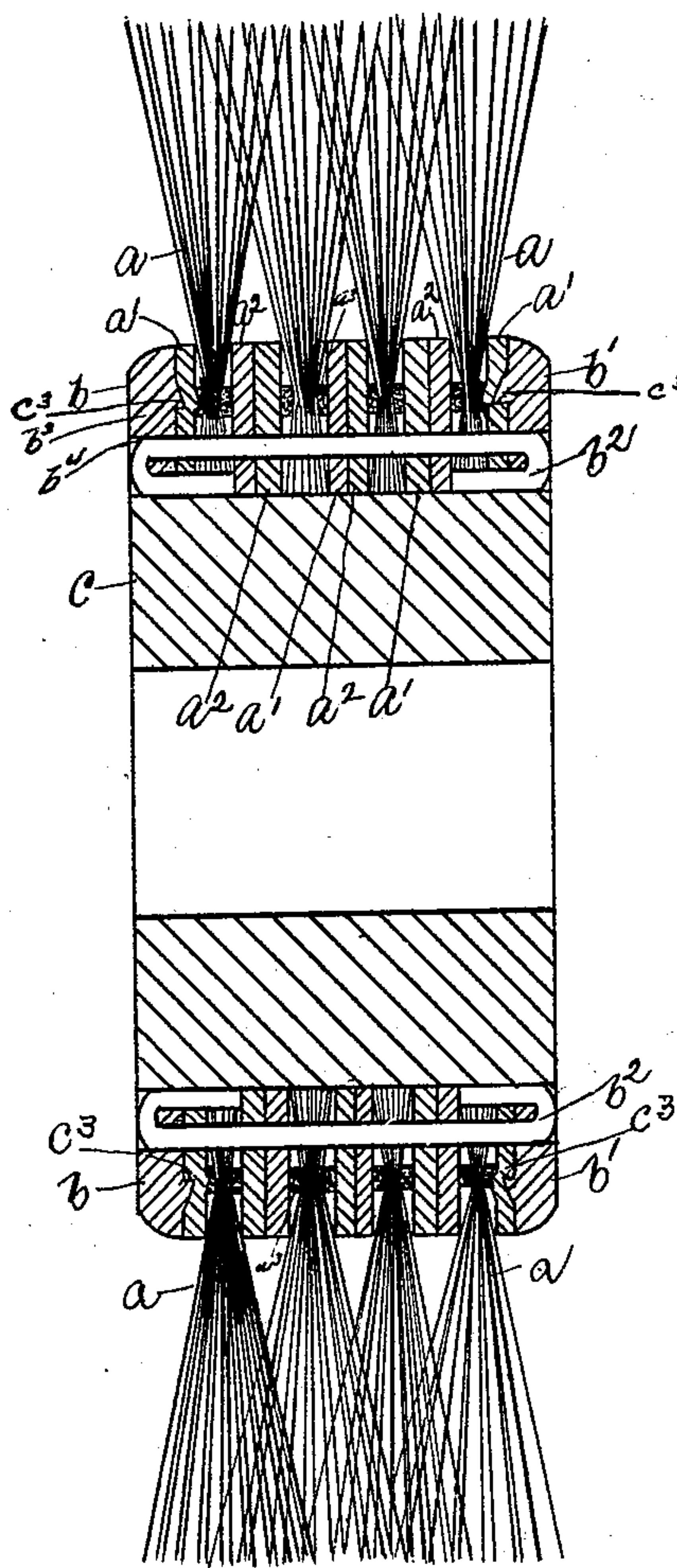
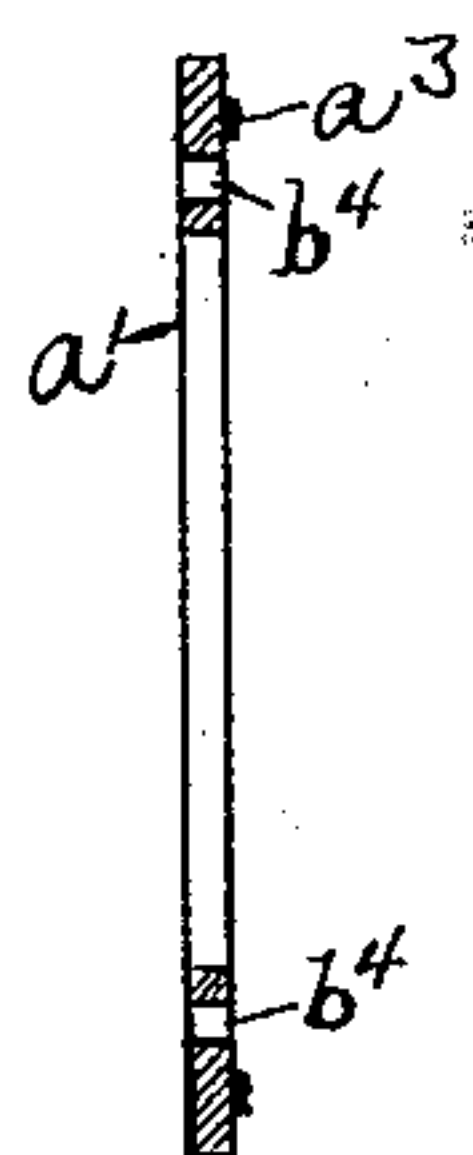
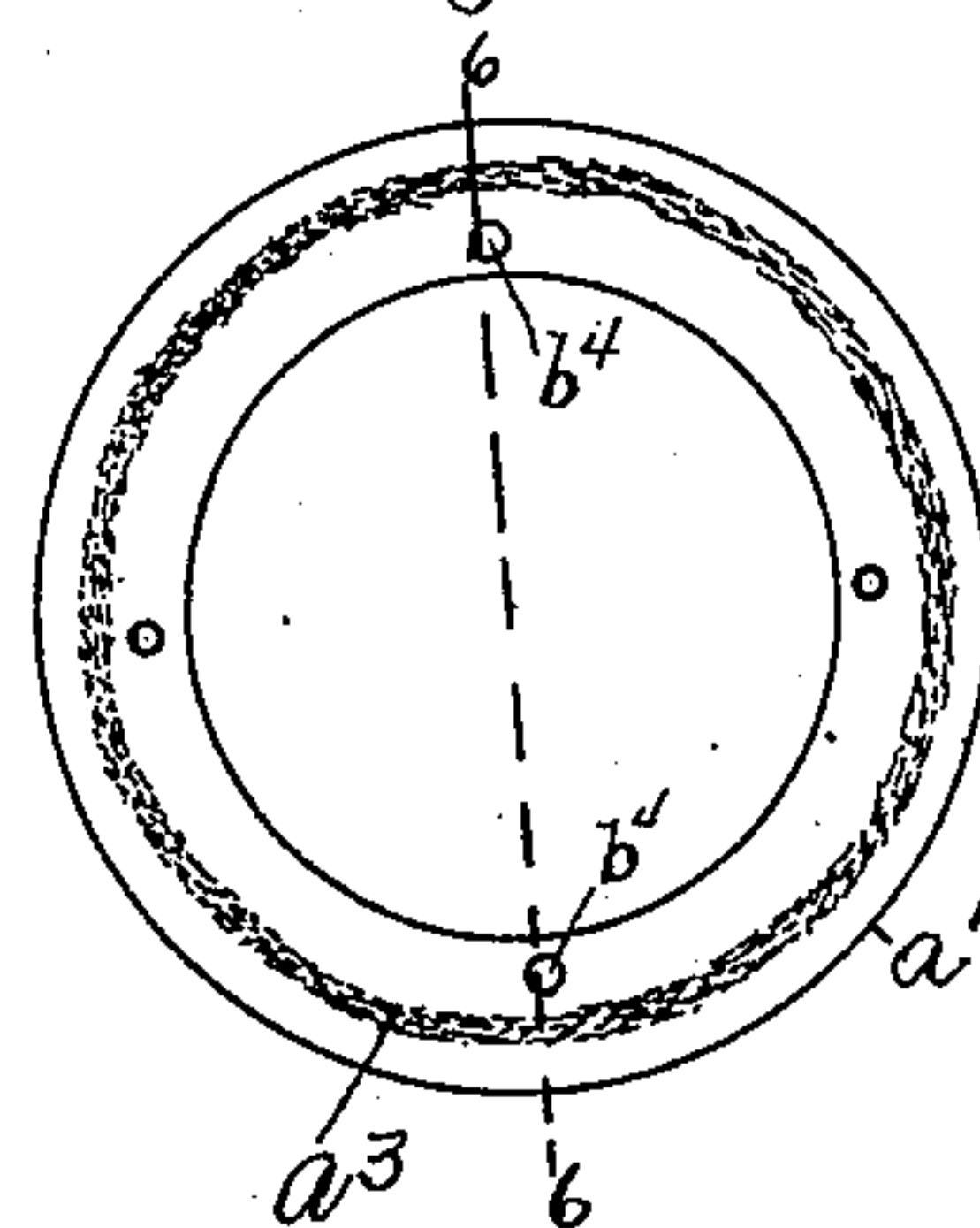


Fig. 5.



Witnesses
J. M. Parsons
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UNITED STATES PATENT OFFICE.

HENRY B. ASHTON, OF MEDFORD, MASSACHUSETTS.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 517,994, dated April 10, 1894.

Application filed March 20, 1893. Serial No. 466,843. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. ASHTON, residing in Medford, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Brushes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention relates to brushes, and is herein shown as embodied in a rotary brush especially adapted, among other things, to be used in boot and shoe factories, my invention having for its object to provide an efficient, 15 simple and cheap brush of the class described. In accordance with my invention, the bristles are arranged in layers between washers, preferably of card-board, each row or layer of bristles being preferably clamped between two 20 washers. The washers referred to, are provided on their faces contiguous to the layer of bristles with a holding or locking projection or surface, in the form of a ring of sand secured to the face of the washer by a suitable cement, the said locking projection acting to compress or force together the bristles 25 near their butt ends, so as to more securely hold the said bristles and prevent them from being drawn out from between the washers, 30 or from being thrown out by the centrifugal action of the brush.

The particular features in which this invention consists will be pointed out in the claims at the end of this specification.

35 Figure 1, is a side elevation of a rotary brush embodying my invention. Fig. 2, a diametrical section, on an enlarged scale, of the brush shown in Fig. 1, the section being taken on the line 2—2. Fig. 3, a detail of one of the clamping rings. Fig. 4, a section of the clamping ring shown in Fig. 3 on the line 4—4. Fig. 5, a detail of one of the washers to more clearly show the locking surface for the bristles, and Fig. 6, a sectional detail 45 on the line 6—6, Fig. 5.

The brush herein shown (see Fig. 2) is made up of a plurality of layers of bristles a , each layer, for the best results, being interposed between two washers a' a^2 , each of which is 50 preferably provided on its inner side with an attached locking surface or projection a^3 , com-

posed of a ring of sand secured to the washer by cement, whereby the bristles are more securely held between the washers, when the latter are assembled into the form of a brush, 55 as will be described. The washers referred to, are secured between clamping rings b b' by means of staples b^2 or other suitable form of fastening device, the said staples being inserted through suitable holes b^3 in the clamping rings and through corresponding holes b^4 60 in the washers, see Fig. 5 and after a staple has been inserted through the clamping rings and washers, its ends are bent around and driven into suitable holes or sockets between 65 the clamping rings b b' and hub c . The hub c is made independent of the clamping rings and may be inserted into the brush after the washer and clamping rings have been assembled together, and may be secured to the 70 clamping rings by suitable fastening device, preferably double ended tacks c' . In order to still further effect a compression of the washers, one or both of the clamping rings may also be provided on its inner face with a 75 projection herein shown as an annular rib c^3 , which locks the outside washers and prevents the lower part of the washer from becoming disconnected from the brush in case the said outside washer should become broken by 80 strain imposed upon it.

I prefer to secure each layer of bristles between two washers after the manner shown in Fig. 2, so that, the said layers of bristles are separated by two washers, but I do not 85 desire to limit my invention in this respect, as the locking surfaces a^3 are applicable to brushes having the bristles and washers alternately arranged, or to brushes in which the arrangement of washers, herein shown, 90 has added to it a spacing ring between contiguous washers.

By the term "bristles" as used in the claim, I desire it to be understood to include any of the substances used in the manufacture of 95 brushes, such as horse-hair, fiber, the ordinary bristle, and yarn.

I prefer to make the brush with two clamping rings detachable from the hub, but it is evident that the washers having the locking 100 projections or surfaces to compress the bristles as described, may be used to advantage

with a hub having a flange integral with it at one end and a removable ring adapted to be fastened to the hub at its other end.

I claim—

5 1. In a rotary brush, the combination with a plurality of layers or rows of bristles, of washers between which the said bristles are interposed, and locking projections or surfaces attached to the washers on the surfaces
10 contiguous to the bristles and composed of a ring of granular material cemented to the washers and acting on the butts of the bristles to firmly hold or clamp the same, a hub upon which the washers and bristles are
15 mounted, and means to secure said washers and bristles on said hub, substantially as described.

2. In a rotary brush, the combination with

a plurality of layers of bristles *a* and washers between which the layers of bristles are interposed, of a locking projection or surface attached to the washers on the surfaces contiguous to the bristles and composed of a ring of granular material cemented to the said washers, and clamping rings connected together and between which the bristles and washers are confined, and a hub for said brush detachably secured to both of the clamping rings, substantially as described.

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

HENRY B. ASHTON.

Witnesses:

JAS. H. CHURCHILL,

J. MURPHY.