

(No Model.)

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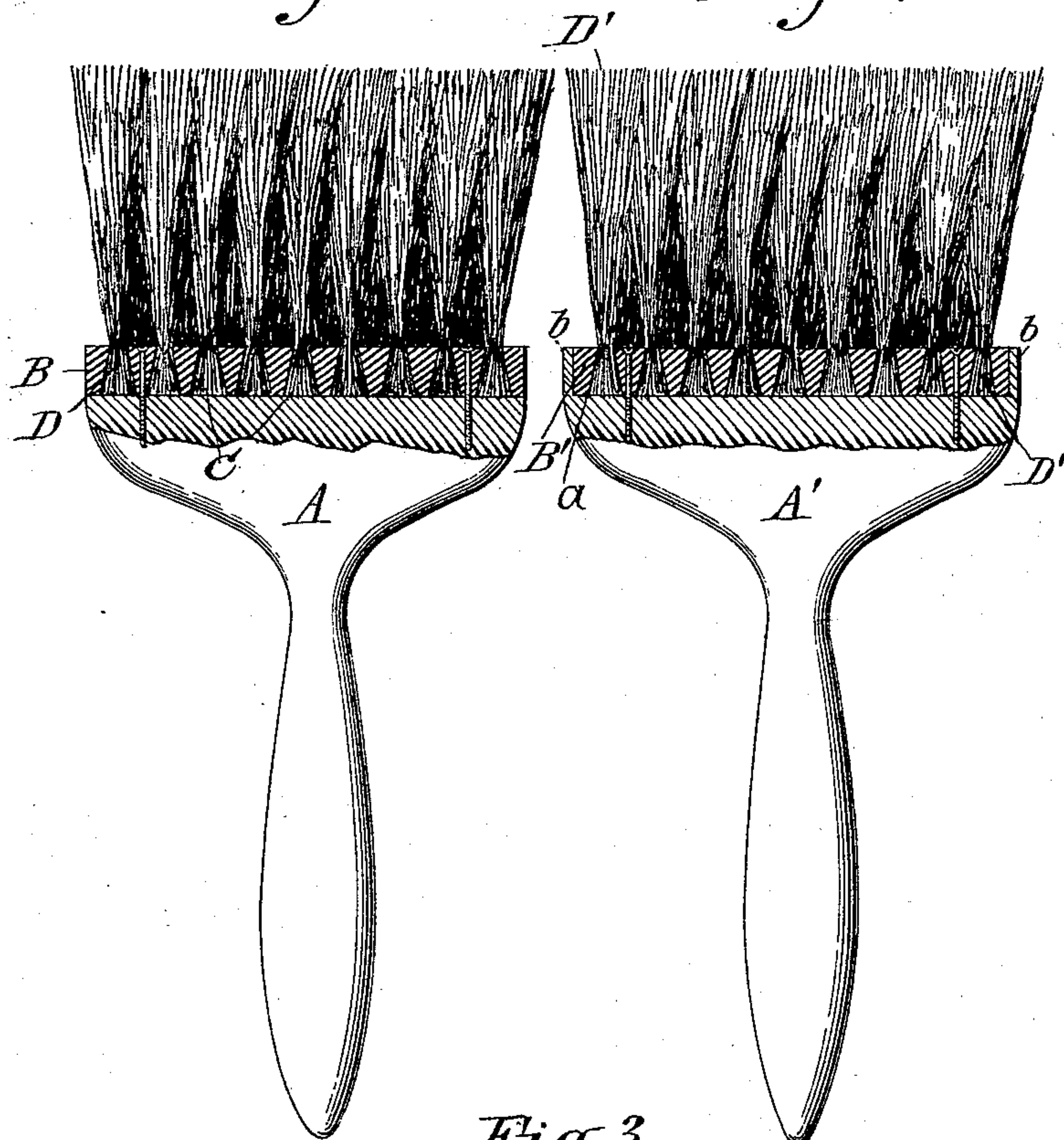
M. HELLWIG.  
BRUSH.

No. 539,942.

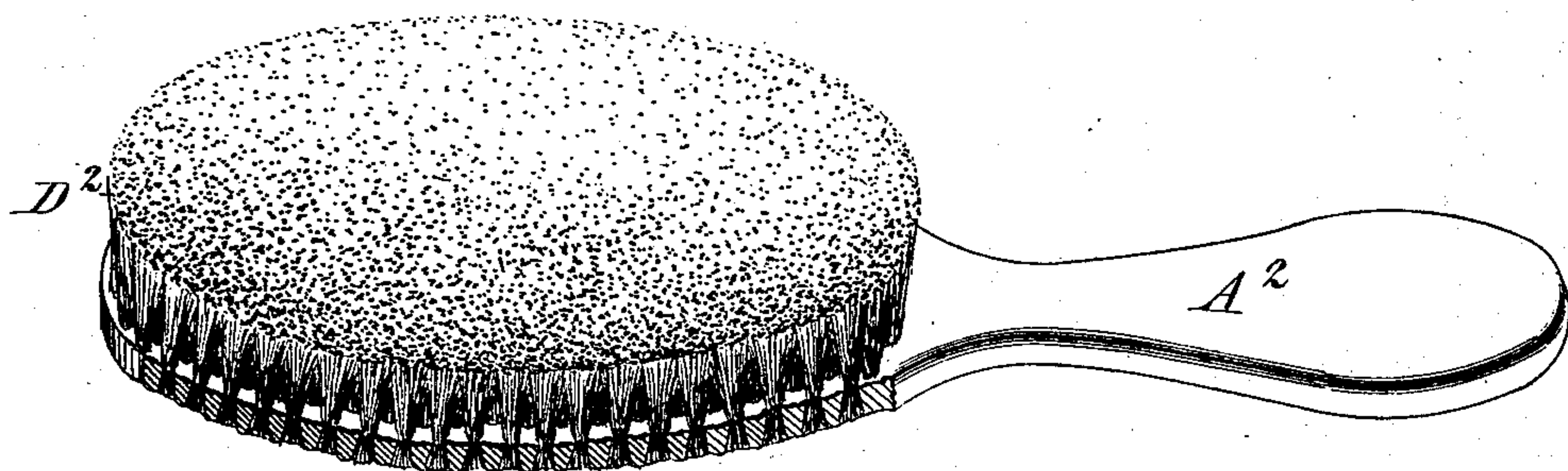
Patented May 28, 1895.

*Fig. 1.*

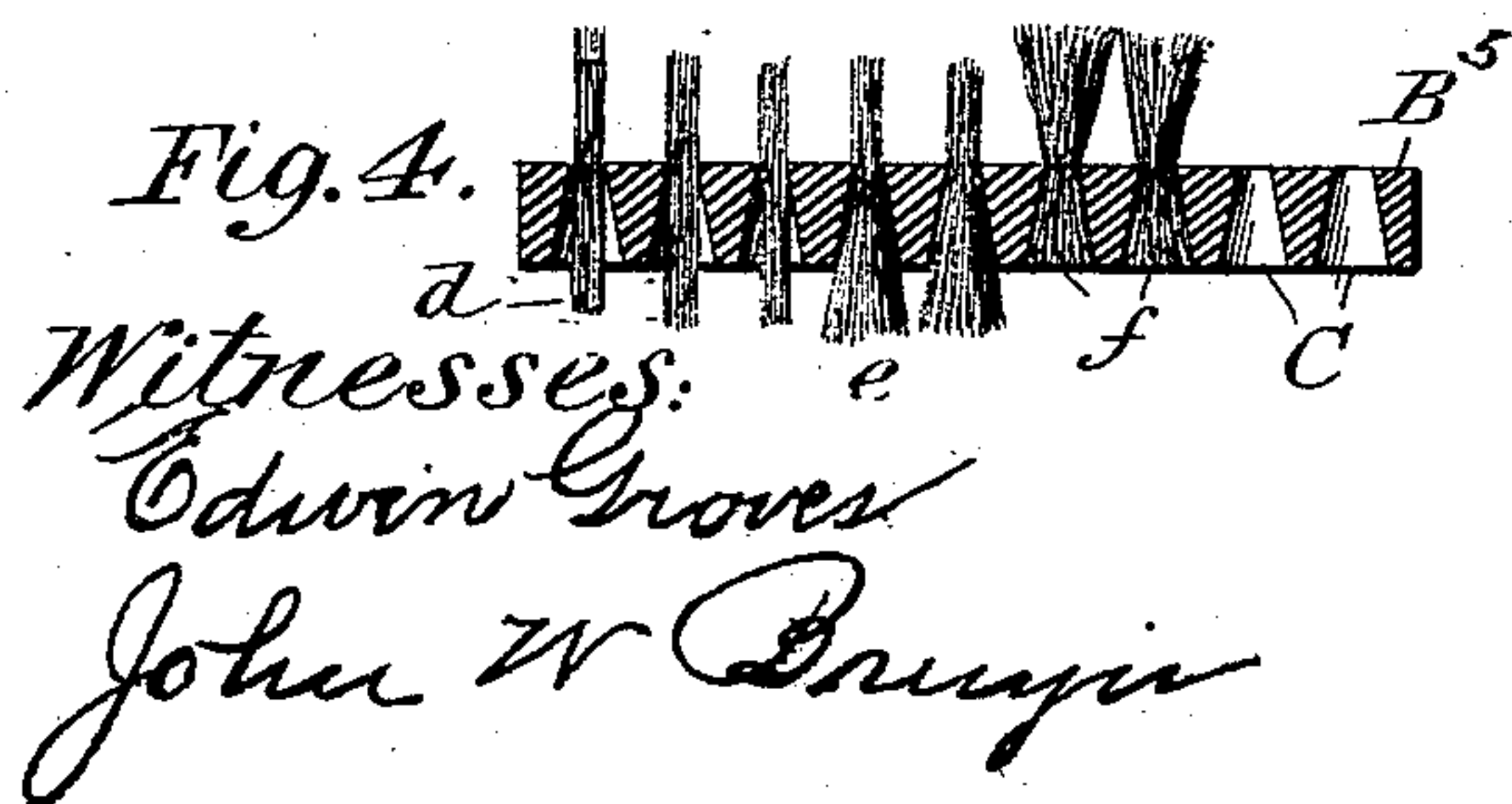
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:

Edwin Groves

John W. Dwyer

Inventor.  
Maurice Hellwig



(No Model.)

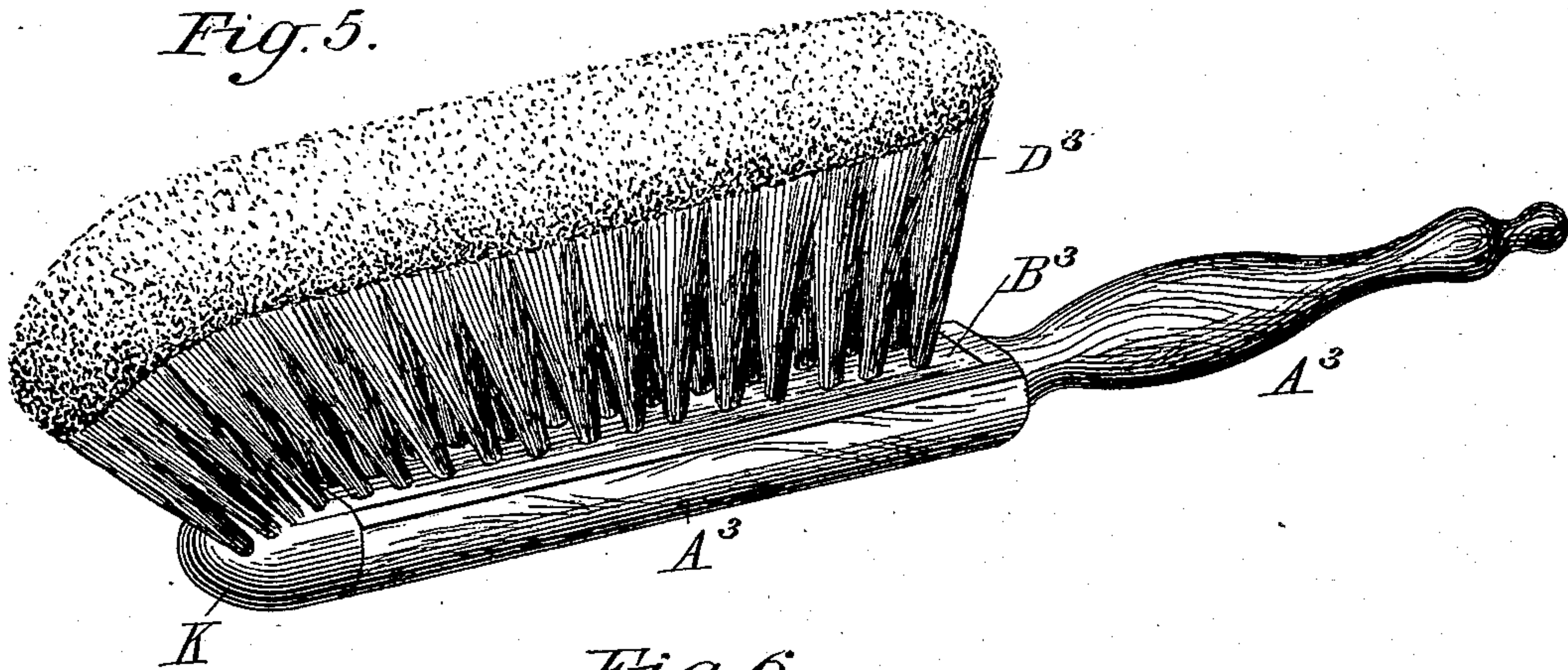
2 Sheets—Sheet 2.

M. HELLWIG.  
BRUSH.

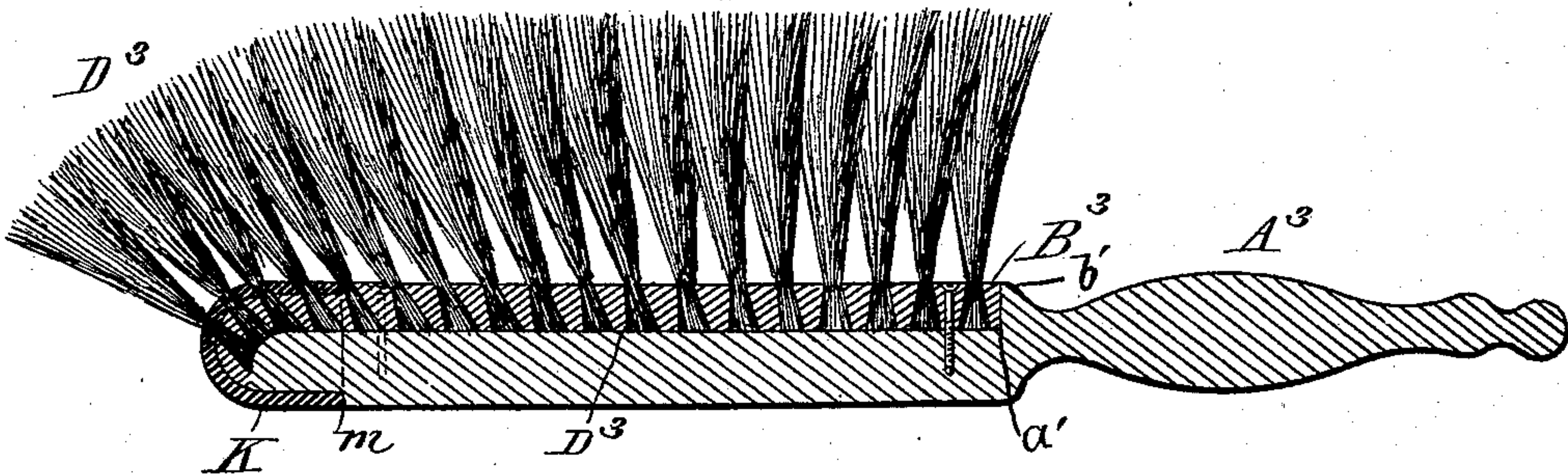
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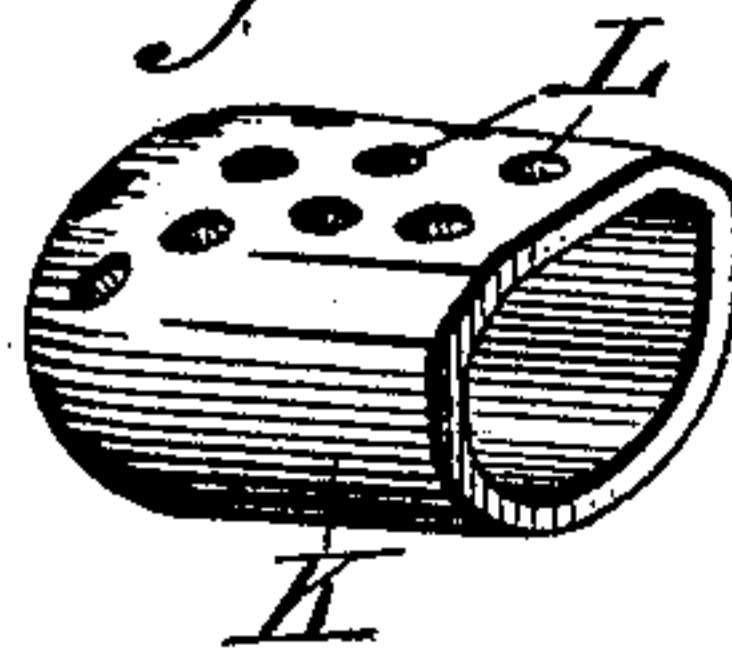
*Fig. 5.*



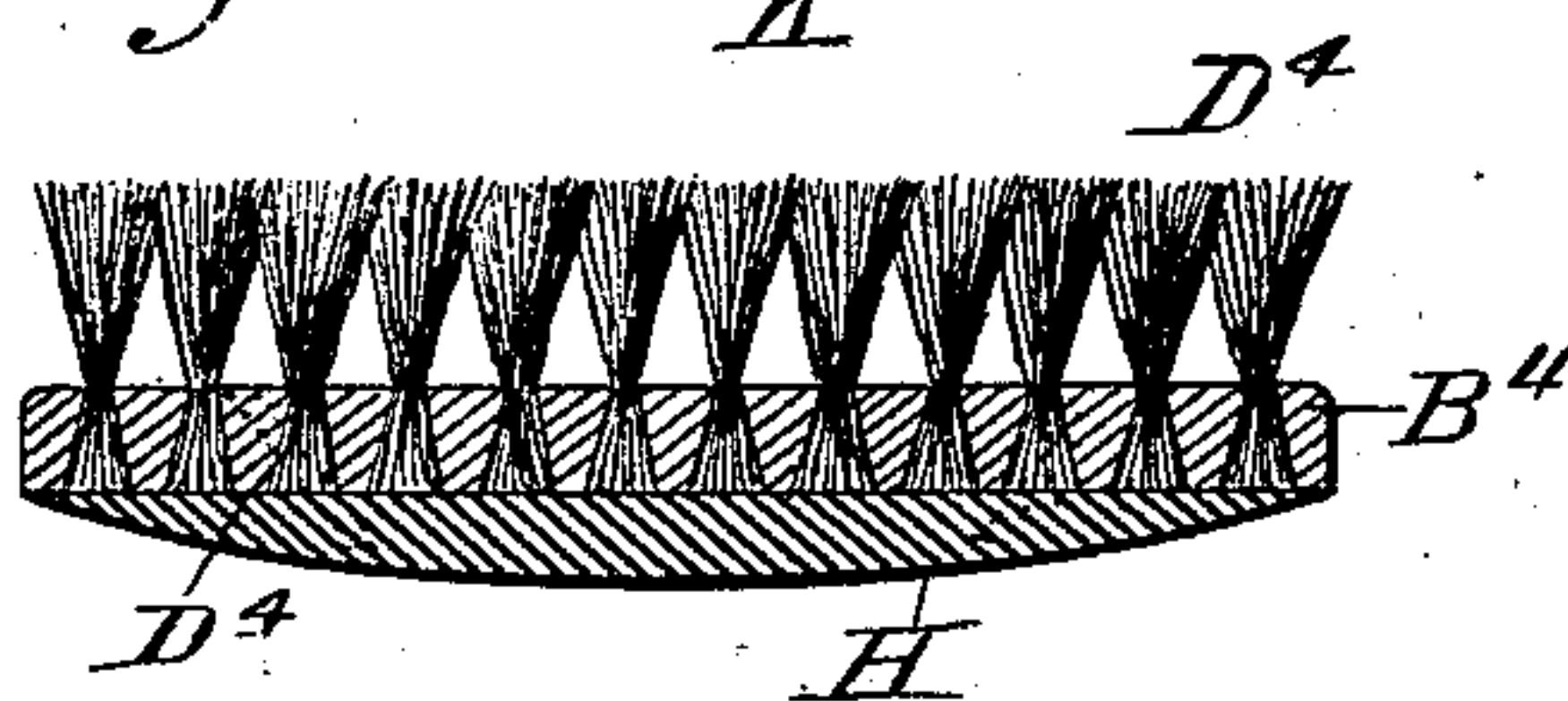
*Fig. 6.*



*Fig. 7.*



*Fig. 8.*



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Edwin Groves  
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# UNITED STATES PATENT OFFICE.

MAURICE HELLWIG, OF BROOKLYN, NEW YORK.

## BRUSH.

SPECIFICATION forming part of Letters Patent No. 539,942, dated May 28, 1895.

Application filed February 28, 1893. Serial No. 464,093. (No model.)

*To all whom it may concern:*

Be it known that I, MAURICE HELLWIG, of Brooklyn, county of Kings, and State of New York, have invented certain new and useful  
5 Improvements in Brushes, of which the following is a specification.

My invention relates to brushes and to the method of making the same.

The main objects of the invention are to provide an improved brush, and a more economical and efficient method for filling and making  
10 such brushes than the methods now in use.

The improvement in the brush consists in a new construction of protecting device there-  
15 for.

The improvement in the method of making the brush consists, mainly, in forming conical or tapering holes in the back, the smaller ends of the holes being at the front side of the  
20 back, inserting bristles through the holes from the smaller ends, so that they extend rearwardly the desired distance, applying adhesive material to the inserted ends of the bristles, thereby enlarging the ends and rendering  
25 them adhesive, and then moving the tufts in the reverse direction, bringing the enlarged adhesive ends into the larger ends of the holes, where they are firmly held.

In the drawings, Figure 1 is a side view, partly in section, of a painter's or domestic  
30 brush. Fig. 2 is a similar view of a modified form of brush. Fig. 3 is a perspective view of a hair-brush with a part broken away. Fig. 4 shows a brush-back in section and tufts in different stages therein. Fig. 5 is a per-  
35 spective view of a different form of brush and having a protecting-cap. Fig. 6 is a sectional view of the same. Fig. 7 is a view of the cap detached, and Fig. 8 is a sectional view of  
40 another form of brush.

In Fig. 1 is shown a brush back B, in which are formed conical or tapering holes C, converging from behind forward, in which the hair or bristles forming the tufts D, are se-  
45 cured; the back after being filled being mounted on the flat enlarged end of handle A, of a form common in painters' brushes. The handle forms a cover for the back and prevents the tufts being pushed out. The cement and  
50 the enlarged tuft ends wedged in the tapering holes prevent the bristles from being pulled out forward.

Fig. 2 shows a similar brush. The handle A' has a flange b, forming a depression a, into which the back B', holding tufts D', fits. 55

Fig. 3 shows a hair brush with a handle A<sup>2</sup>, integral with the back holding the tufts D<sup>2</sup>.

In Figs. 5 and 6 the handle A<sup>3</sup>, is integral with the part forming a cover for the brush back B<sup>3</sup>, and has a flange b' forming a de- 60 pression a' for reception of the back. The distal end of this brush is provided with a cap K of soft non-abrading material, which gives a finished appearance to the brush and protects articles finished, and may also aid in  
65 holding the back and cover together. The holes L (Fig. 7) in the cap are arranged so that they register with some of the holes of the back, see Fig. 6, and the tufts D<sup>3</sup> project through holes L. The back and cover are preferably reduced, as at m, so that the cap  
70 is flush with said parts.

In Fig. 8 back B<sup>4</sup>, holding bristles D<sup>4</sup> has a cover consisting of a plate H without a handle.

Fig. 4 shows a back B<sup>5</sup> with tufts as they 75 would appear at different stages in the manufacture of the brush. The tufts d have been simply inserted; tufts e have been enlarged by application of cement; and tufts f, after being thus enlarged, have been pushed back 80 into the tapering holes. C are tapering holes without tufts therein.

In the manufacture of a brush the tufts will never appear simultaneously as shown at d, e, and f, but will so appear successively. 85

The bristles are inserted according to my method in any of the brushes shown, or in brushes of other forms, as follows: The tapering holes are formed in the brush back, and the back is supported with the smaller ends 90 of the holes on the upper side. A mass of untufted bristles or similar material is supported in an upright position above the back in a suitable receptacle, and the bristles that are in line with the holes are then, by con- 95 tinued and violent jolting, caused to work forward from the mass of bristles into said holes. The jolting is preferably performed by the machine set forth in my Patent No. 506,397, dated October 10, 1893, but this particular ma- 100 chine is not essential.

It is found that bristles can be inserted much more easily and satisfactorily from the small ends of the tapering holes than into cy-



lindrical holes, or into the large ends of the tapering holes, particularly when jolting them in, probably because it allows the bristles to spread a little after entering the holes, thereby reducing friction, which is not the case with cylindrical holes. If the larger ends of the holes face the mass of bristles more bristles will enter the larger ends than can pass out of the smaller ends. Hence irregular and imperfect tufts, and in some instances no tufts, will result.

The cement or adhesive material is preferably applied by dipping the rearwardly protruding ends of the tufts into liquid cement and causing it to work in among the bristles. All the tufts are then pushed back until their ends are flush with the rear side of the back. Any one of the covers described, or a substantial coat of paint or lacquer, is then placed over said side of the back.

I claim—

1. The combination of a brush back, having holes with bristles in them, a cap on the part of the brush back liable to be struck against articles brushed, extending over some of the holes of the back, and tufts of the brush passing through holes in the cap.

2. The improvement in the method of filling perforated brush backs which consists in

working the hair or bristles into the holes from the front so that the tufts project from the rear of the back, applying adhesive material to said projecting ends, and then forcing the tufts forward in the reverse direction to that of their entrance, bringing the adhesive ends into the holes.

3. The improvement in the method of filling brushes which consists in forming conical holes in a brush back, inserting tufts through said holes from the smaller ends thereof, enlarging the ends of the tufts and making them adhesive by working cement into the ends of the tufts, and then forcing the tufts in the reverse direction to that in which they enter, bringing the enlarged ends into the conical holes.

4. The improvement in the method of filling brushes which consists in forming backs with conical holes therein, supporting such backs with the smaller ends of the holes upward, with bristles above the same, and jolting the bristles into said holes.

In testimony whereof I affix my signature in presence of two witnesses.

MAURICE HELLWIG.

Witnesses:

EDWIN GROVES,  
JOHN W. BRUYN.