

(No Model.)

W. UNGER.

BRUSH.

No. 377,180.

Patented Jan. 31, 1888.

Fig. 1.

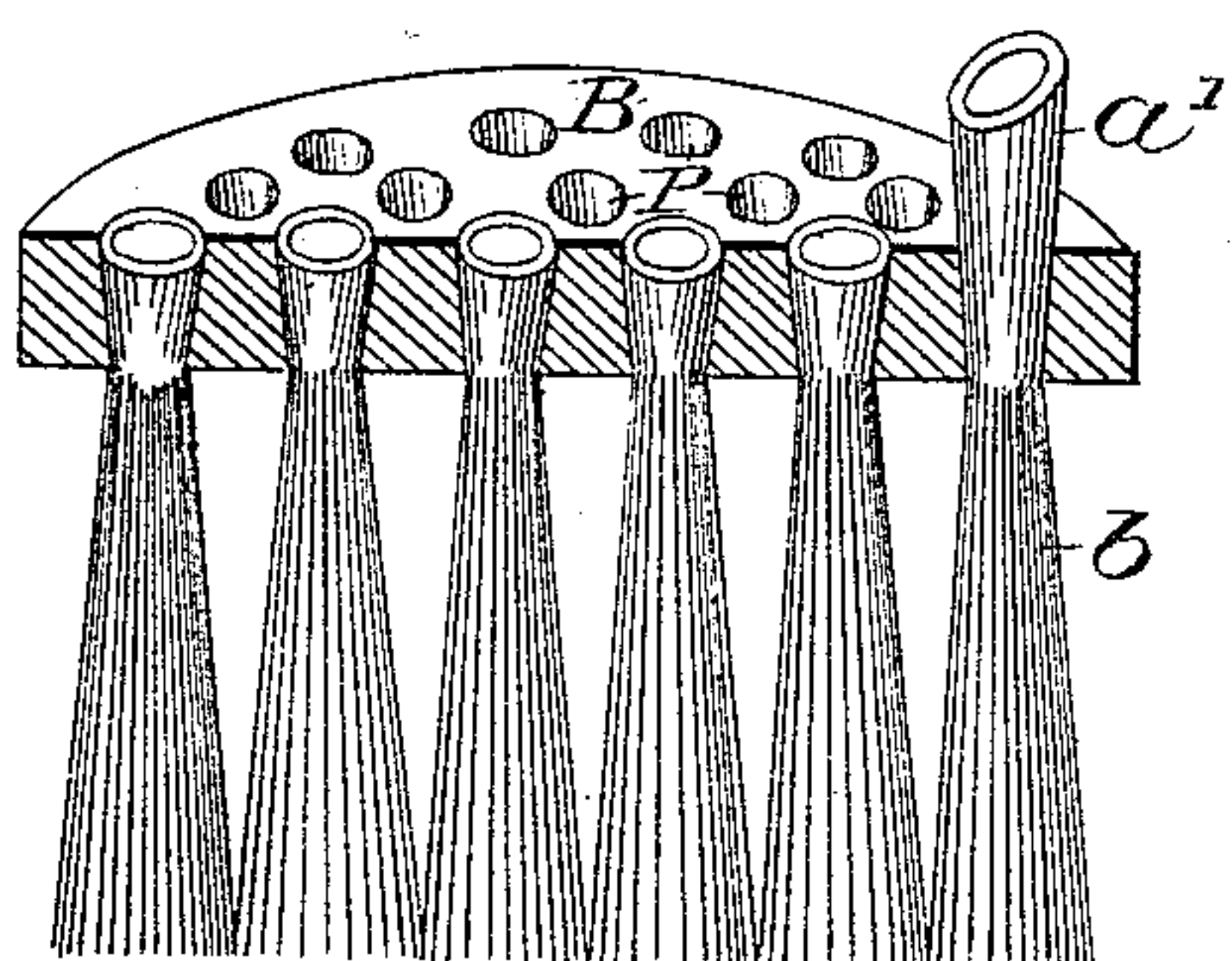


Fig. 2.

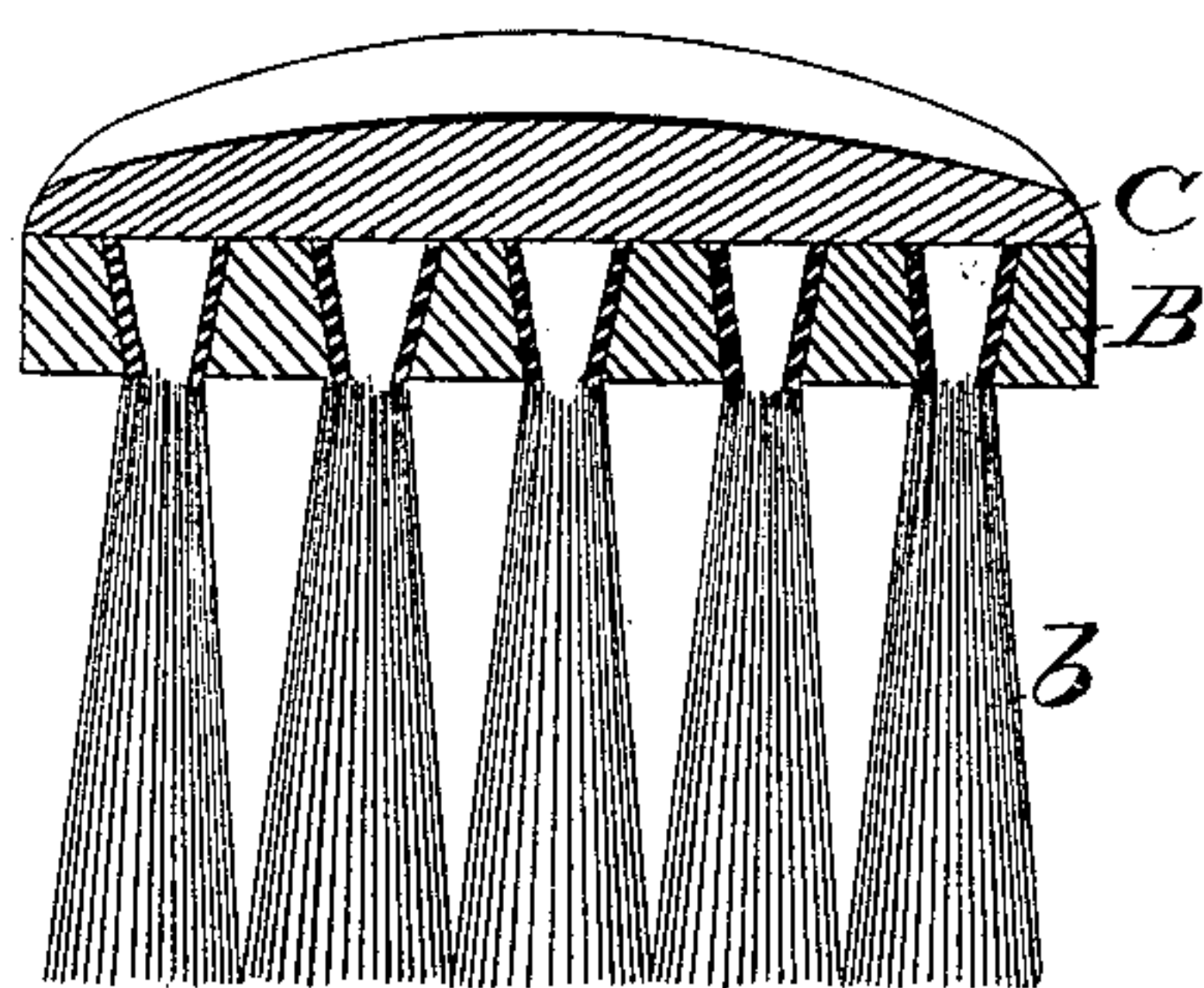


Fig. 4.

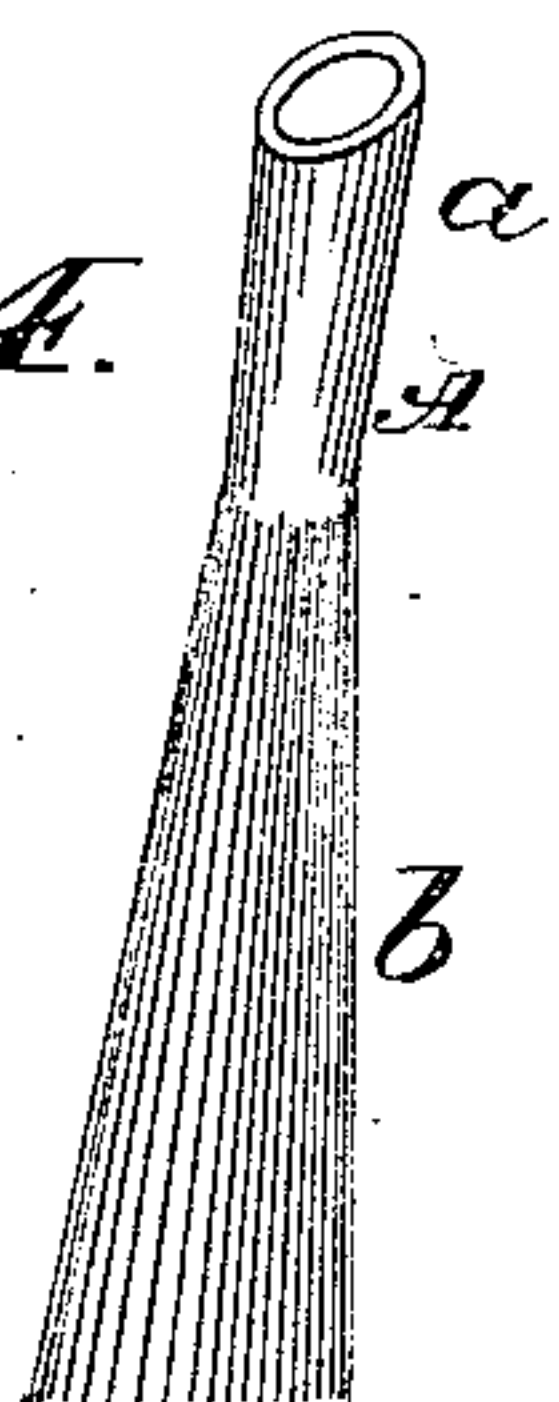
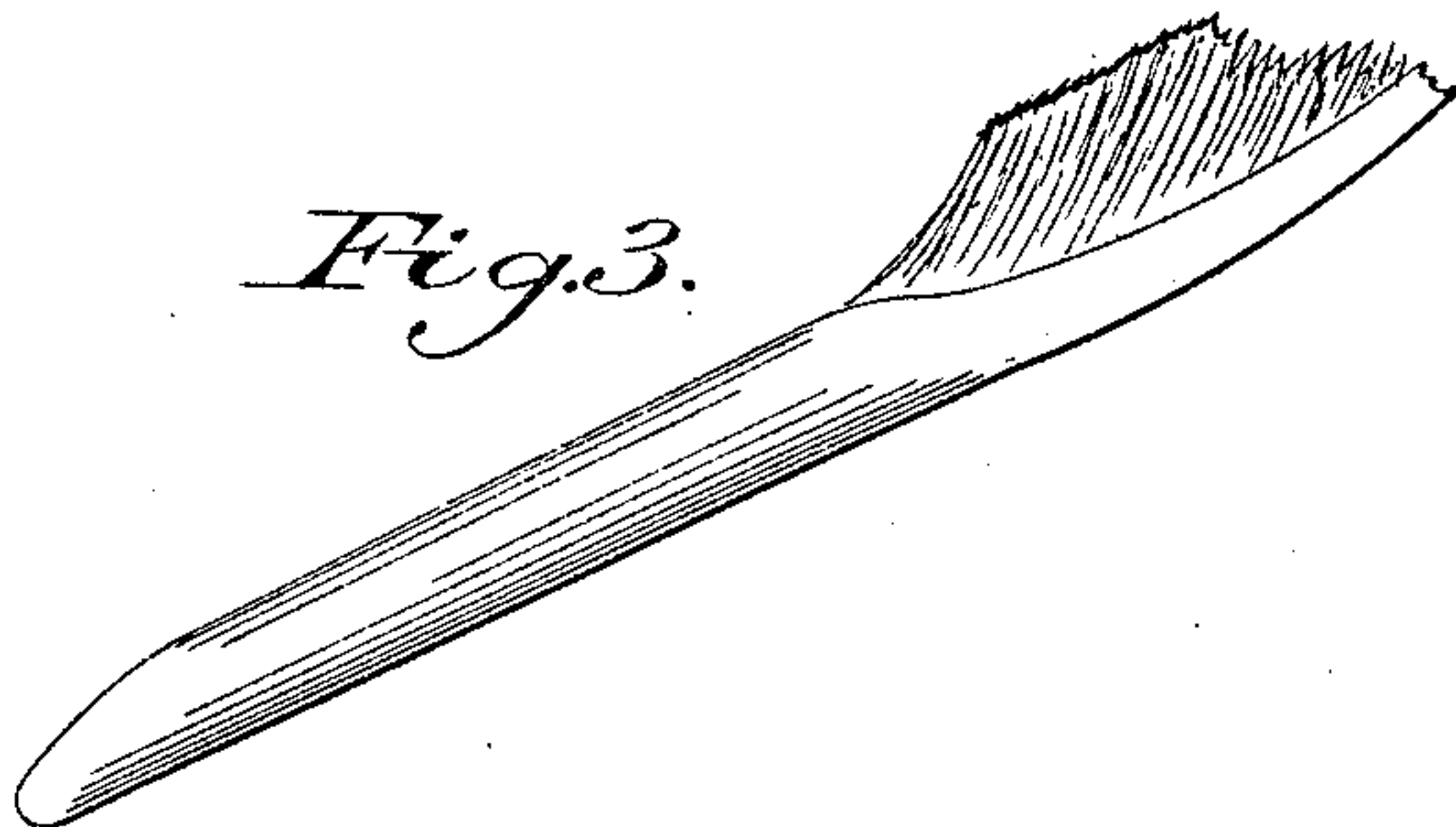


Fig. 3.



Witnesses:
Alonso Dow.
Lucas Hattery

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UNITED STATES PATENT OFFICE.

WILHELM UNGER, OF WOOSTER, OHIO.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 377,180, dated January 31, 1888.

Application filed April 8, 1887. Serial No. 234,210. (No model.)

To all whom it may concern:

Be it known that I, WILHELM UNGER, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Brush, of which the following is a specification.

My invention relates to improvements in brushes; and it consists of the novel method of constructing brushes by the use of knots formed of the stems of quills, as hereinafter specified.

My invention is illustrated by the accompanying drawings, in which—

Figure 1 is a longitudinal section of a brush embodying my invention. Fig. 2 is a transverse vertical section of a brush, showing its several parts. Fig. 3 is the stem of a quill such as I use for the knots of the brush. Fig. 4 is a view of the same split and prepared to constitute one of my improved knots for brushes.

Referring to the drawings, A is one of my improved knots for brushes, which is made by cutting off the lower or stem end of a quill and splitting the same from the lower end upwardly into splints of suitable fineness for brush purposes, leaving the upper end, *a*, unsplit. B is the block of the brush, and similar to such as heretofore used. It is provided with a series of perforations, P, which are preferably made to diminish in size from top to bottom. Into each of these perforations is passed one of my improved knots A, split

into suitable splints, as aforesaid. In placing it in the block the knot is drawn downwardly until the upper or unsplit end enters and tightens in the perforation.

It is evident, the lower end being split, as shown, and by means of the form of the perforation, the knot may be drawn tightly into the perforation and be there held secure against downward movement without the use of wires or cement of any kind. After the knots are in position, their projecting upper ends, *a*, are cut off even with the upper surface of the block B, and by surmounting this with the back C the knots are permanently secured in the brush.

Having thus fully described my invention, what I claim is—

1. The brush-knot A, made of the stem of a quill, having its exposed or brush end *b* split into splints of suitable fineness, and having its upper end, *a*, unsplit, substantially as set forth.

2. In a brush, the combination, with the block B, perforated, as shown, of a series of knots, A, formed of the stem end of quills, having their exposed or brush ends split into splints of suitable fineness and their upper ends unsplit, and thereby secured in the perforations of the block to form a brush-surface, substantially as set forth.

WILHELM UNGER.

Witnesses:

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