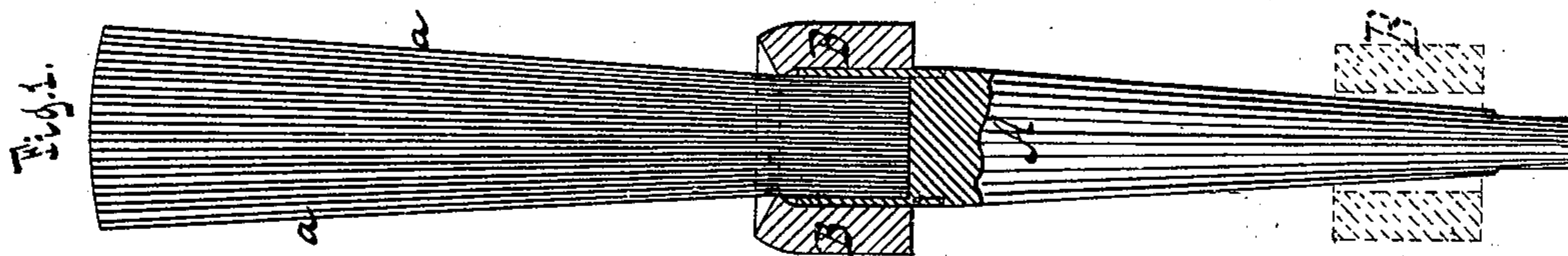
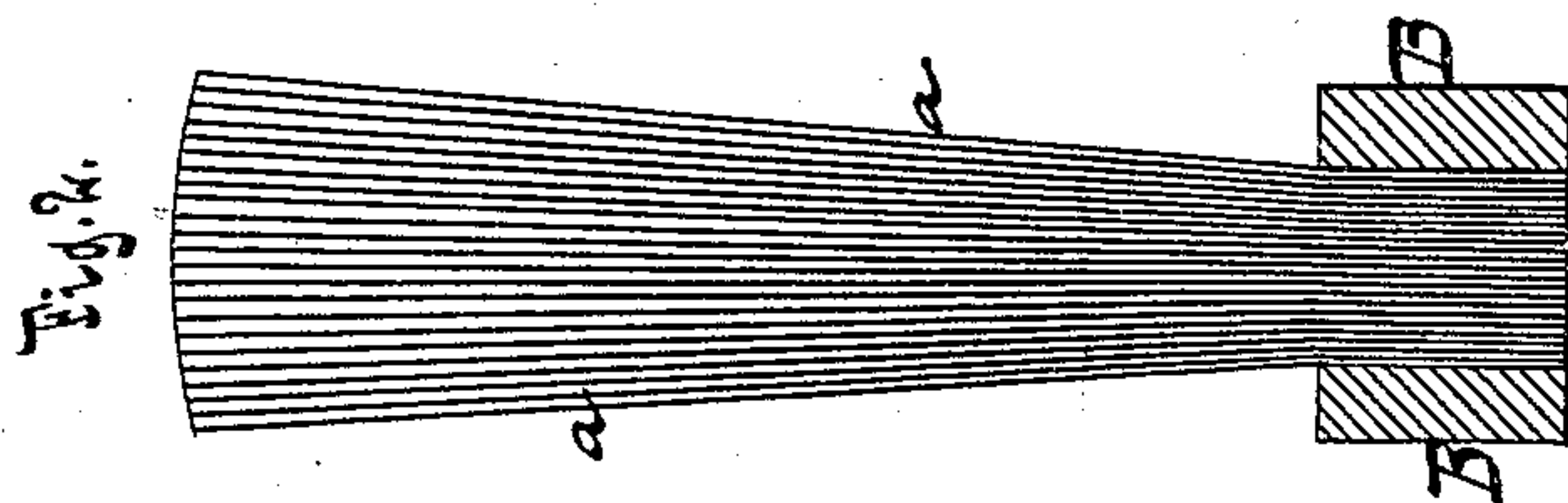
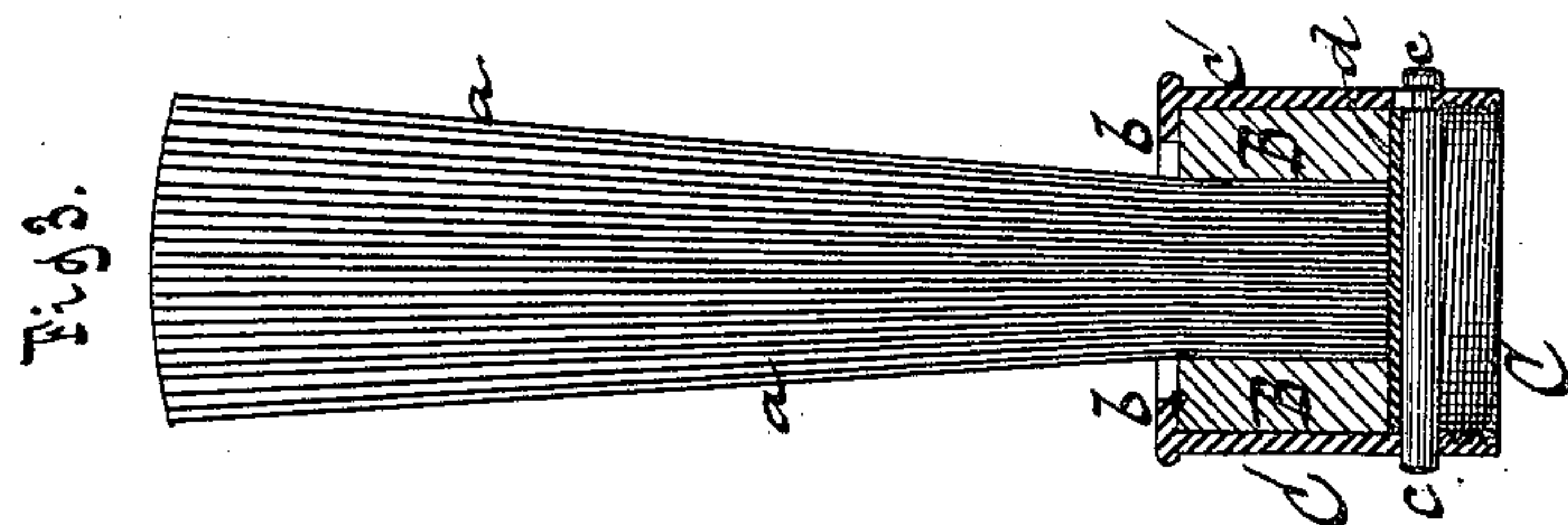


T. L. CALKINS & F. O. BADGER.
Brushes.

No. 231,004.

Patented Aug. 10, 1880.



Witnesses.
Otto Stupeland
William Miller

Inventors
Thomas I. Calkins
Franklin O. Badger.
by Van Santvoord & Hauff
their attorneys.

UNITED STATES PATENT OFFICE.

THOMAS L. CALKINS, OF NEW YORK, AND FRANKLIN O. BADGER, OF
BROOKLYN, N. Y.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 231,004, dated August 10, 1880.

Application filed December 29, 1879.

To all whom it may concern:

Be it known that we, THOMAS L. CALKINS, of the city, county, and State of New York, and FRANKLIN O. BADGER, of Brooklyn, in the
5 county of Kings and State of New York, have invented a new and useful Improvement in Brushes, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—
10 Figure 1 is a longitudinal central section of a head, showing the manner of drawing said head over the bristles. Fig. 2 is a longitudinal central section of a brush when complete. Fig. 3 shows the manner of inserting the brush
15 into the capsule.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in connecting bristles with a brush; and it consists in combining with a tubular
20 elastic head which surrounds and clasps the bristles a capsule for connecting the tubular elastic head with the handle of the brush.

In carrying out our invention we proceed as follows: We insert the bristles *a* of the brush
25 into an opening or hole bored for their reception in a piece of metal, wood, or other suitable material, A. This piece A is preferably made tapering or cone shaped. The tubular head B, which may consist of a piece of rubber hose or other elastic material, is then
30 slipped over the small end of the cone-shaped piece A, and is drawn along until it slips over the larger end thereof and clasps the bristles *a*, as shown in Fig. 2. The ends of the bristles
35 which protrude from the lower end of the head B are then cut off flush with said lower end, while the other ends of the bristles are left protruding.

In order to facilitate the drawing of the head
40 B over the cone-shaped piece A, the smaller end of said piece A may be clasped in a vise when the head B has been pulled along far enough to leave said smaller end exposed, after which said head B can be slid along with
45 considerable force. By oiling the surface of the cone-shaped piece A the elastic head will glide along more easily.

The bristles *a* may be replaced by broom-corn, lacing, rags, cotton-waste, or any material suitable for exerting a polishing, wiping, 50 or brush-like action. The head B, containing the bristles, is then inserted into a capsule, C, from below, Fig. 3. The upper end of the capsule C is provided with a lip, *b*, against which the head B abuts, while the bristles *a* 55 protrude. A disk-shaped piece of metal or other suitable material, *d*, is then pressed up against the lower end of the head B, and is held in place by a pin, *e*, which is passed through holes in the capsule C. Said pin *e* may be 60 provided with a notch, so as to clasp the sides of the capsule C, and prevent said pin *e* from slipping or falling out, as shown in Fig. 3.

The lower end of the capsule C may be pressed onto a spindle or handle with a conical head, or said capsule may be tapped and 65 screwed onto the end of a spindle-mandrel or onto a handle. Of course we do not limit ourselves to this precise form of capsule C, since several forms of capsules may be used 70 which will answer the purpose of retaining the head B.

The advantages of this brush are that it is cheaper, since the head B and capsule C can be used for a long time without wearing out, 75 while the bristles *a*, when worn out, can be readily replaced.

In order to press the disk *d* firmly up against the lower edge of the head B, Fig. 3, we make use of a cylindrical-shaped plug of wood, 80 metal, or other fit material. This plug is provided with a notch cut into one end thereof, and is pressed into the capsule C, so that said notch corresponds to the opening in said capsule C through which the pin *e* is to pass. 85 When the disk *d* has thus been firmly pressed up and the head B compressed against the lip *b*, the pin *e* is inserted, after which the plug is withdrawn. The notch in the pin *e* is then caused to clasp the sides of the capsule C by the reaction of the elastic head B, thus preventing said pin *e* from falling out. 90

This manner of construction can be applied to paint-brushes, feather-dusters, or any kind

of brush or buff for polishing or painting purposes.

What we claim as new, and desire to secure by Letters Patent, is—

- 5 A brush consisting of a tubular head, B, containing bristles or equivalent material, and a capsule adapted to receive and retain said tubular head, all constructed and arranged substantially as set forth.

In testimony whereof we have hereunto set to our hands and affixed our seals this 23d day of December, 1879.

THOS. L. CALKINS. [L. S.]
FRANKLIN O. BADGER. [L. S.]

Witnesses:

W. HAUFF,
CHAS. WAHLERS.