

I. S. & J. W. HYATT.
 Manufacture of Brushes.

No. 156,355.

Patented Oct. 27, 1874.

Fig. 1.

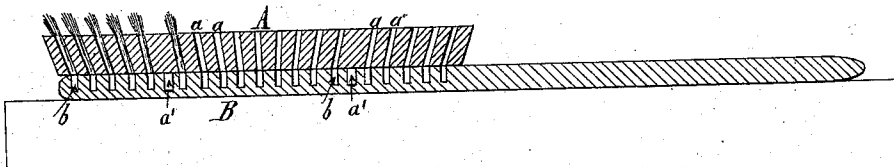


Fig. 2.

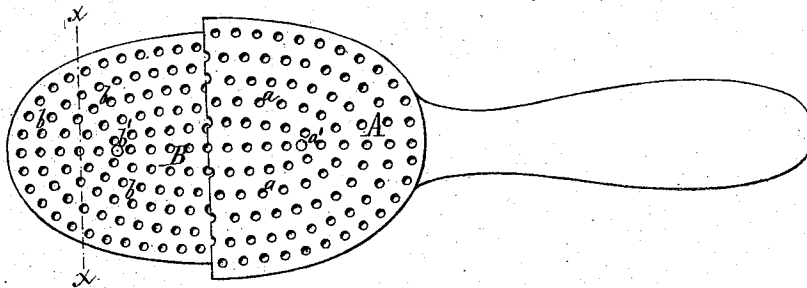
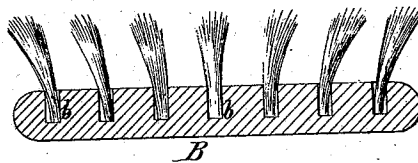


Fig. 3.



J. J. Bonner
Ernest H. D. D.
 Witnesses.

I. Smith Hyatt
John W. Hyatt... Inventors
by Jay Hyatt
 Atty.

UNITED STATES PATENT OFFICE.

I. SMITH HYATT AND JOHN W. HYATT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN THE MANUFACTURE OF BRUSHES.

Specification forming part of Letters Patent No. **156,355**, dated October 27, 1874; application filed May 25, 1874.

To all whom it may concern:

Be it known that we, I. SMITH HYATT and JOHN W. HYATT, of Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in the Art of Manufacturing Brushes.

Our improvements relate more especially to an improved method of inserting and securing bristles into brush-stocks.

The first part of the invention consists in the process of securing bristles into brush-stocks by first inserting the bristles into a perforated block or templet, the holes or perforations of which are relatively arranged in the same manner as the tufts are desired to stand in the stock of the completed brush, and then applying the templet or holder containing the bristles to the brush-stock, provided with sockets partially filled with a suitable cement, and arranged to correspond and coincide with the perforations in the tuft-holder, and then driving or forcing all the bristles into and down to the base of the sockets of the previously-formed brush-stock, and allowing the holder to remain in place until the cement has set, when it is withdrawn, leaving the bristles properly secured in place.

The second part of the invention consists in the process of producing the required penetration, as it is called, or an unequal length of the bristles in the tufts of the brush by cutting the bristles of the required difference in length and mixing them in proper proportion, and then inserting them in a tuft-holder such as is above described, but of a thickness less than the length of the bristles, and then driving them in the sockets of the brush-stock by means of a small mallet, the outer portions of the bristles projecting sufficiently beyond the tuft-holder to permit the longer bristles to spring or bend laterally, so as to allow the face of the mallet to come in contact with the ends of the shorter bristles, whereby all of the bristles are forced into the cement of the sockets, while the bristles of each tuft are of the required difference in length, for facility of penetration without re-

quiring additional trimming or cutting for the purpose.

In the accompanying drawings, for illustrating our improved process, Figure 1 is a longitudinal section of the brush-stock and tuft-holder applied thereto. Fig. 2 is a top plan view thereof, with one-half of the tuft-holder removed. Fig. 3 is a cross-section on an enlarged scale in line *xx*, Fig. 2.

A is the tuft-holder and guide, and *a* the perforations in which are inserted the bristles for forming a tuft. B is a brush-stock, and *b* the sockets in which the ends of the tufts or bristles are cemented. *a'* are pins projecting from the tuft-holder, and *b'* corresponding holes in the brush-stock, in which fit the ends of these pins when the two parts are properly applied to each other, so as to retain them in position, and the holes and sockets *a b* in coincidence.

The brush-stock may be supported and held in place in any suitable manner.

The sockets in the brush-stock are made most economically and conveniently at right angles to the plane of the brush-stock and parallel to each other, while the holes in the tuft-guide and holder are made in the direction in which the tufts are required to stand in the completed brush, as the cement in the sockets retain the tufts in the same position after the holder or templet has been removed that they were held by it while being cemented, as clearly shown in Fig. 3.

As the tufts when inclined are required to diverge or incline outward, the bristles, when secured in place, are pressed against the outer or most exposed edge of the sockets, while the remaining portion of the mouths of the sockets that are filled with cement are on the inner side of each tuft, so as to be concealed from view, as shown in Fig. 3.

What we claim as our invention is—

1. The process herein described of inserting and securing the bristles in the previously-bored back or stock by first inserting the bristles through a templet into the sockets in the brush-stock, subsequently forcing them

down to the bases thereof by hammering or otherwise, and retaining the templet in position until the cement has set, substantially as set forth.

2. The process herein described of producing the required penetration by employing a templet and tufts of bristles of unequal lengths and forcing the same down to the base of the cement-filled sockets, the longer

bristles buckling above the templet to allow the shorter to be forced, substantially in the manner set forth.

I. SMITH HYATT.

JOHN W. HYATT.

Witnesses:

W. C. LEFFETS,
S. M. THOMPSON.