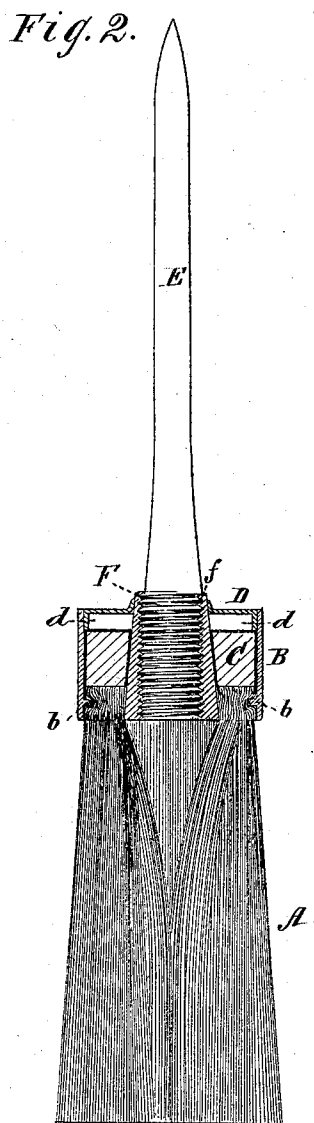
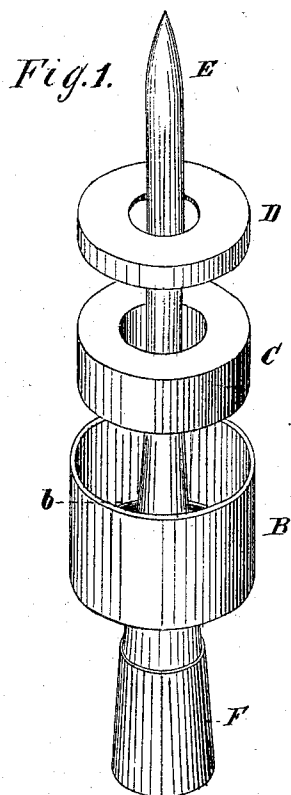


P. WAGNER.
Brushes.

No. 138,213.

Patented April 22, 1873.



Witnesses:
G. Watkins.
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UNITED STATES PATENT OFFICE.

PHILIPP WAGNER, OF NEW YORK, N. Y.

IMPROVEMENT IN BRUSHES.

Specification forming part of Letters Patent No. **138,213**, dated April 22, 1873; application filed March 13, 1873.

To all whom it may concern:

Be it known that I, PHILIPP WAGNER, of New York, in the county of New York and State of New York, have invented a new and useful Improvement in Brushes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents, in perspective, the different parts of the brush head and handle detached. Fig. 2 represents a sectional elevation of a brush.

The invention relates to the means for fastening the bristles of brushes so that they will be firmly secured, and at the same time allowed a good degree of pliability. It consists in a metallic cap-disk, which prevents any ill effect from the shrinkage of the wooden ring that holds the bristles down in socket. It consists, also, in forming a rib on the inside of socket so as to cause the ferrule to hold the bristles by a lateral pressure against said rib, thus firmly retaining the bristles in place.

In the drawing, A represents the bristles, and B the socket, against whose inner surface they are held by a metallic conical ferrule, F. The wooden ring C has a central hole, in which the handle is fastened, and is found ordinarily to contract after being inserted into the socket, thereby causing the handle to work loose. To overcome the loosening of the handle and wooden ring with respect to each other I use a metallic cap-disk, D, which fits tightly in socket B and to the handle E, and down against the wooden ring C. It is provided, preferably, with a downwardly-projecting flange, *d*, on its periphery, which fits into socket. No contraction of the woody fiber can then possibly create any looseness in the parts connecting the bristles to the handle. In order to prevent the loosening of the bristles themselves I form an annular rib, *b*, on the inside and near the lower end of socket B. This causes the wooden ring to bend the bristles laterally toward the socket, and to hold them by a downward pressure against the rib *b*, while

they are also held by lateral pressure against the side of socket and rib. Hence the bristles will be held securely and have no tendency to fall out. In order to compress the wooden handle near the bottom and guard as much as possible against shrinkage I apply a tapering metallic ferrule, F, thereto, either driving it thereon by impact or screwing it thereinto by means of corresponding threads.

The application is as follows: The bristles are placed evenly around the inside wall of the socket B, while the ferrule F is forced up between them until stopped. The handle E is inserted through the bottom and up through the socket and ring, into the latter of which it is driven tightly. The cap-disk D is then passed over upper end of handle and forced until its downward flange *d* presses against the inside of socket, while the edge of central hole is made to press against the metallic ferrule F, and, if deemed necessary, caused to form an upward flange, *f*.

This construction gives great strength and durability, makes but an additional cost of two cents per brush, and gives much more elasticity to the bristles.

When the inside of the brush becomes obstructed by accumulations of any kind the handle may be withdrawn, reversed, and used to relieve it, while the removal or reversal of handle and its insertion through the brush enables these brushes to be packed for transportation in a conveniently small space.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The metallic cap-disk D, combined with a socket, handle, and wooden ring, as and for the purpose described.

2. The brush-socket B, provided with the annular inside rib *d*, arranged in combination with the ferrule and wooden ring, as and for the purpose set forth.

PHILIPP WAGNER.

Witnesses:

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