W. BARBOUR.
Metallic Brushes.

No. 197,005. Patented Nov. 13, 1877.

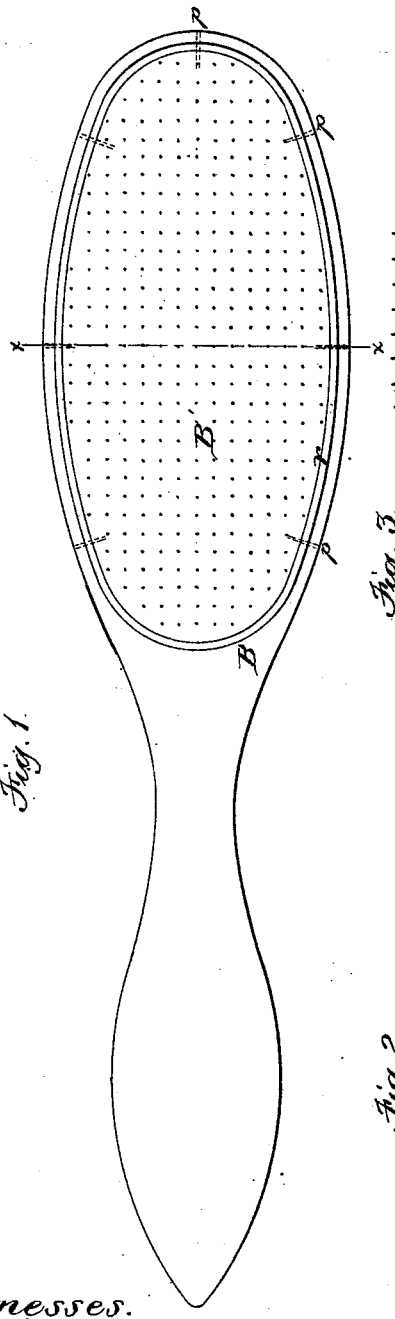

Fig. 1.

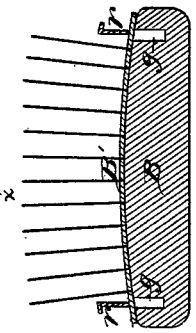

Fig. 3.

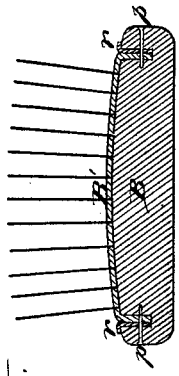

Fig. 5.

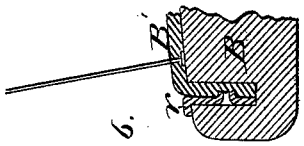

Fig. 6.

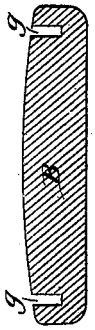

Fig. 2.

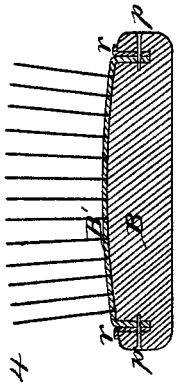

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM BARBOUR, OF READING, ASSIGNOR TO GEORGE F. BAKER, OF HYANNIS, MASSACHUSETTS.

IMPROVEMENT IN METALLIC BRUSHES.

Specification forming part of Letters Patent No. **197,005**, dated November 13, 1877; application filed July 7, 1877.

To all whom it may concern:

Be it known that I, WILLIAM BARBOUR, of Reading, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Metallic Brushes, of which the following is a specification:

In the accompanying drawing, forming a part of this specification, Figure 1 represents a face view of a brush embodying my invention. Fig. 2 represents a section of the back before the brush material is applied. Fig. 3 represents a section, showing the backing unattached to the back. Fig. 4 represents a section of the completed back. Figs. 5 and 6 represent modifications.

This invention relates to that class of brushes having wire teeth set in a sheet of rubber or other elastic backing material, which is secured to a wooden or other rigid back.

The object of the invention is to provide improved means for securing the flexible backing to the rigid back in such manner as to afford a secure connection at a slight expense, and produce a neat as well as strong and durable brush.

To these ends my invention consists in the construction and combination of parts whereby the elastic backing is secured to the rigid back, which I will now proceed to describe.

In carrying out my invention, I provide a brush-back, B, of wood or any suitable material, properly formed, and sink an endless groove, *g*, in the side to which the brush material is to be applied, this groove being substantially parallel with the edge of the brush-back, and of sufficient depth and width to receive and hold two thicknesses of material, as will presently appear.

I also provide a metallic ring, *r*, which is of such shape as to enter and fit closely in the groove *g*, and bear against the outer wall of the same, the width of the groove being greater than the thickness of the material composing the ring. I next take the sheet of elastic backing material B′, having the independent wire teeth applied to it, and place it on the face of the back B, with its edges covering the groove *g*, the backing being trimmed to correspond with the shape of the groove *g*, but covering more area than the latter, so that its outer portions may be forced into all parts of the groove. I then place the ring *r* on the backing B′, in such position that it will coincide with the groove *g*, as shown in Fig. 3, and then, by pressing the ring against the face of the back B, I cause both the ring and the edges of the backing to enter the groove *g* simultaneously until the latter is completely filled, the size of the backing-sheet being sufficient to enable its edges to reach nearly or quite to the bottom of the groove, the thickness of the groove being such that the rubber therein is tightly compressed between the ring *r* and the opposite side of the recess.

This operation causes the edges of the backing to be closely confined at all points, the backing being drawn smoothly at the same time over the face of the back.

After the ring and the edges of the rubber have been inserted into the groove, I prefer to fasten both either by pins *p* driven into the edge of the back B through the ring and the rubber, as shown in Figs. 1 and 4, or by simply perforating the ring by driving a pointed tool into the edge of the back, and thus forming a burr which projects into the rubber, as shown in Fig. 6, the perforating-tool being subsequently withdrawn; or spuds may be formed on the ring before it is inserted, if desired.

By this construction I produce a cheap and simple, as well as a neat, strong, and durable brush, the backing being very securely attached to the back, and is not liable to be easily detached.

I prefer to provide the ring *r* with an outwardly-projecting flange, as shown, this flange resting on the face of the back B, and giving the article a neat appearance.

The face of the brush may be slightly lowered inside of the groove *g*, as shown in Fig. 5, to prevent the rubber from standing out too prominently.

I claim—

1. The combination of the rigid back B,

having the groove *g*, the elastic backing B′, and the ring *r*, as set forth.

2. A brush composed of a rigid back, B, having a groove, *g*, sunk in its face, a sheet of tooth-holding backing, B′, and a ring, *r*, said ring being forced with the edges of the backing B′ into the groove *g*, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM BARBOUR.

Witnesses:

C. F. BROWN,

H. BROWN.