[17.]

JAMES MINETREE.

Improvement in Brushes.

No. 118,871. Patented Sep. 12, 1871.

Fig. 3.

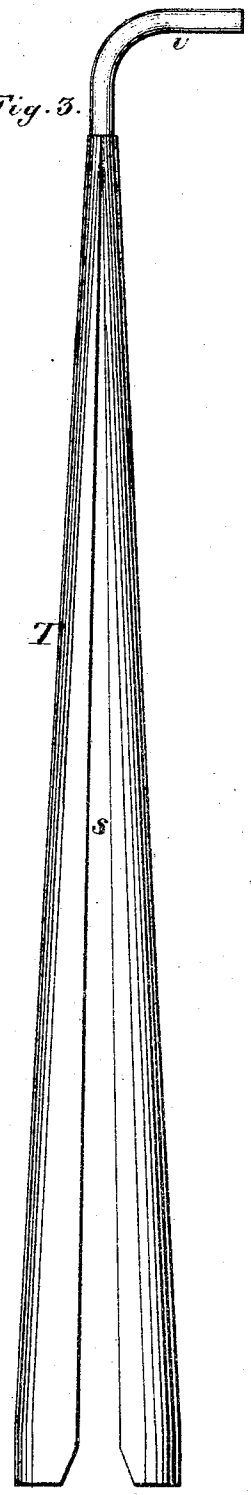


Fig. 1.

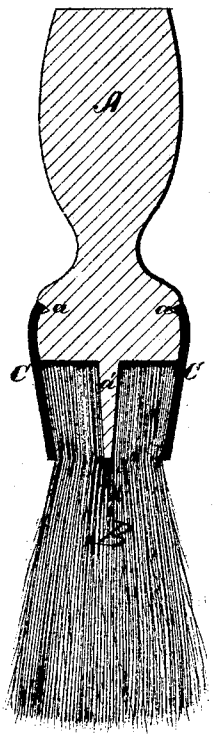
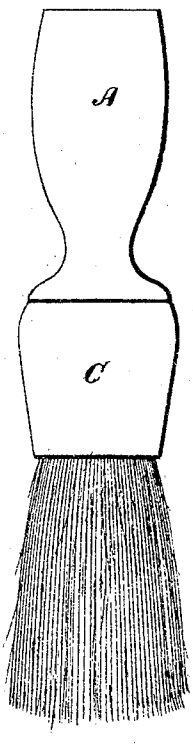


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES MINETREE, OF PETERSBURG, VIRGINIA.

IMPROVEMENT IN BRUSHES.

Specification forming part of Letters Patent No. 118,871, dated September 12, 1871.

To all whom it may concern:

Be it known that I, JAMES MINETREE, of Petersburg, in the county of Dinwiddie and State of Virginia, have invented an Improved Brush; 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 is a longitudinal section through the center of the brush. Fig. 2 is a side view of the brush, and Fig. 3 is a side view of the instrument employed in manufacturing the brushes.

Similar letters of reference in the accompanying drawing denote the same parts.

This invention relates to all classes of brushes in which the bristles or their equivalent are attached to the end of the handle in line with it; and my improvement consists in a new method of attaching the brush to the handle, and in a new process of manufacture, substantially as hereinafter set forth.

In the drawing, A is the handle, which may be of wood or any other suitable material, constructed in any form, provided that it has a circumferential notch or groove, *a*, around it near its lower end, and that it also has a tongue, *a'*, projecting from its lower end, as shown in Fig. 1. B represents the bristles, which are arranged on each side of the tongue *a'* with their ends abutting against the lower end of the handle, and C is a stout rubber band sprung over the end of the handle so as to encompass the bristles, clasp them together, and clamp them firmly against the transverse tongue *a'*, thereby securing them permanently to the handle. In manufacturing this improved brush an instrument, represented in Fig. 3, is employed, consisting of a tapering tube, T, divided into two parts at its larger end by means of a longitudinal slit, *s*. The bristles designed to form a single brush are placed properly against the end of the handle, half on one side of the tongue *a'* and half on the other side, and while they are in this position the divided ends of the instrument T are spread apart and placed over the bristles, so as to cover the whole of them and the handle up to the notch *a*. A stout and strong elastic band, C, constructed with a very small opening through it having been previously placed around the tube at its smaller end, is then forced toward the larger end of the tube, being thereby so expanded that it easily passes over the bristles and over the lower end of the handle until its upper edge escapes from the end of the tube and lodges in the groove or notch *a* where it contracts and attaches itself permanently. The tube is then withdrawn leaving the rubber band securely fastened upon the handle and holding the bristles firmly in place, as shown. The smaller end of the tube at *v* may be bent into the form of a hook to facilitate its attachment to the work-bench during the operation.

The brushes thus consist of only three parts, viz., the bristles, the handle, and the elastic band, all arranged and connected together in the simplest possible manner, thereby saving very largely in the cost of material, while, by using the instrument T, as described, they can be manufactured with great facility and with the outlay of only a small part of the time and labor heretofore required for the purpose.

The manufactured article, besides its great cheapness, has several other advantages over the brushes hitherto known to the trade, among which may be mentioned the following: First, the clasp C, being elastic, is never burst by the expansion of the bristles within it in consequence of their becoming wet. Second, the bristles abutting squarely against the end of the handle the latter is never forced into the mass of bristles by falling and striking on its end, as is often the case with paint-brushes of the old construction. Third, a round brush can easily be flattened out by a few minutes' compression, so as to become a flat brush, and after being used as such can be restored to its former shape as readily as it was flattened. Fourth, the bristles are held in place much more firmly and securely than when attached by cords or metal clasps, and when they expand in consequence of filling with water they do not thereby loosen the band around them, but the latter contracts as soon as they become dry, and thus restores all the parts to their former relations.

As compared with those brushes in which the bristles are secured by wrapping with twine my improved brush has also this advantage, that the clasp cannot become loosened, or partially or wholly detached by unwrapping or the breaking of strands, but, on the other hand, is always substantial and not liable to injury from any slight cause.

If properly made, in the manner herein set forth, a brush will last till the bristles are absolutely worn out, as no exposure to the weather, and no roughness of handling will cause them to work loose or to become detached from the handle.

A very excellent brush can be made in substantially the manner above set forth by omitting the handle and binding the ends of the bristles by means of the rubber, which, in that case, operates as a substitute for the handle. This method of construction is particularly useful in the manufacture of whisk-brooms, brushes, &c., made of any kind of materials.

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

1. The combination of the handle A having the groove *a* and tongue *a'*, with the bristles B, and elastic strap C, substantially as and for the purposes set forth.

2. The process of manufacturing brushes, substantially as herein described.

JAMES MINETREE.

Witnesses:

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