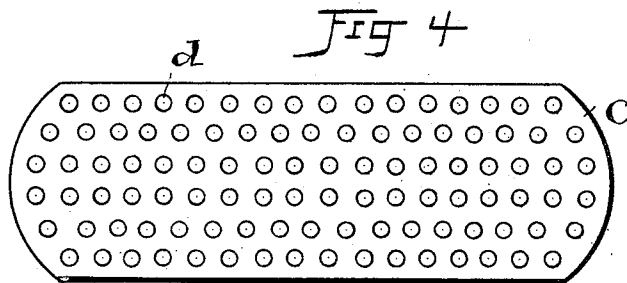
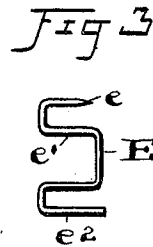
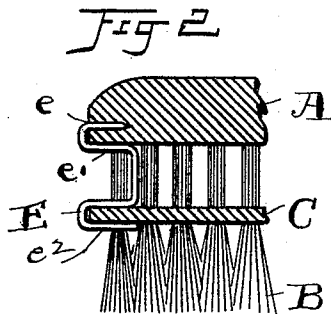
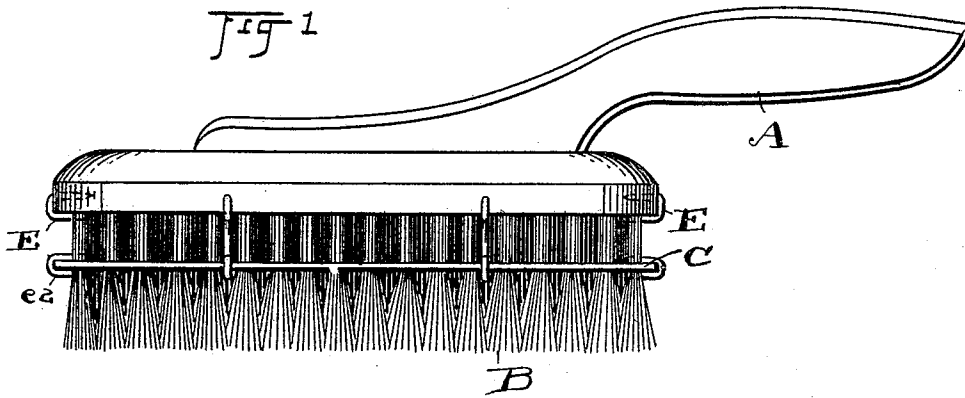


(No Model.)

W. K. LONG.
BRUSH.

No. 499,678.

Patented June 13, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM K. LONG, OF CLEVELAND, OHIO.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 499,678, dated June 13, 1893.

Application filed March 13, 1893. Serial No. 465,746. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM K. LONG, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Brushes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in brushes, and the object of the invention is to provide means for stiffening and strengthening and protecting the tufts of the brush, all substantially as shown and described and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of the brush and body of my improvement. Fig. 2 shows a section of the brush designed to illustrate the relation of the parts to one another as they are used. Fig. 3 is a detail of one of the holders for the supplemental supporting and stiffening plate. Fig. 4 is a plan view of the sustaining plate or sheet detached from the brush.

Brushes of different kinds as hitherto made have had a regulation length of tuft, the length being such usually as to give a good effect when new, but calculated to wear poorer and poorer until worn out. I have sought to provide means whereby the character of the brush may be maintained in substantially its original form for a much longer period than formerly, and a greater length of tuft than usual being employed there is greatly increased service. To these several ends I have provided the brush A with the tufts B and a sustaining plate or sheet C. This plate or sheet may be made of any suitable material, such as from a light strip of wood or wood veneer, leather, metal or the like, and is provided with perforations *d* over its surface, through which the tufts are threaded, so that each tuft passes through one of these perforations and is secured in the brush in the usual way. This plate or sheet C is supported apart from the body of the brush usually about one-third the length of the tufts by means of a detachable holder E. This holder has its end *e* sharpened to enter the edge of the brush and

penetrates the same so as to obtain a firm hold therein, as seen in Fig. 2. A hole may be made with an awl or some other sharp instrument to insert the holder and prevent it from splitting the wood. The body *e'* of the said holder is made substantially U shaped, and the lower extremity *e''* is bent back upon itself, leaving a space, however, for the sheet or plate between the said bent portion and the U portion of the holder. It will be noticed in Fig. 2 that in this way the holder itself is not only firmly secured in the brush by means of the sharpened point or end *e*, but that the upper stem of the U bears against the bottom of the brush, while the supplemental plate or sheet C is firmly held between the lower stem of the U and the bent end *e''*. I use as many of these holders as may be necessary, according to the size and character of the brush. Ordinarily in a blacking brush there would be two on each side and one at each end; but in scrubbing brushes, which are longer, there might be more holders.

When the brush is worn down so as to make the tufts outside of the supplemental plate shorter than desirable, the holders E are withdrawn and the supplemental plate is pressed down to the body A, thus giving increased length and flexibility to the tufts. Then when further wear occurs the plate C is wholly removed and again the brush is renewed. In either case the brush is rendered practically as good as it would have been originally without the plate with the tufts the old length.

It will be noticed that the holder E, having its U portion projecting in beneath the body of the brush and over the supplemental plate as it does, and being made of steel wire which is at best slight insofar as size is concerned, the said holder is practically out of the way and in no sense forms an obstruction in the use of the brush. I, therefore, have a brush which for all purposes is as usable as brushes ordinarily are, and is not inconvenienced by reason of these supplemental parts. And it follows also as an advantage and value that the character of the brush is enhanced and improved by reason of these added parts, and a brush of more serviceability and more intrinsic worth is furnished to the market at

substantially the same cost as brushes formerly.

5 If a blacking brush be made the supplemental plate stiffens up the bristles or tufts and makes a much more serviceable brush than it would be without this plate. Then, again, in machine shops where brushes are used to clean files and other articles, and in
10 stereotype work in printing establishments where stiff bristles are needed and the brush is subjected to hard usage, it is found that a plate to support the bristles between their ends, as in this case, and held firmly in its place as here shown, contributes very materially to the value and character and durability of the brush.
15

Having thus described my invention, what I claim is—

A brush having a perforated removable plate through which the tufts are threaded, 20 and holders for said plate having sharpened ends engaging the edge of the brush and a central portion separating the brush and the plate and their lower ends overlapping the bottom of the said plate, substantially as set forth. 25

Witness my hand to the foregoing specification this 9th day of March, 1893.

WILLIAM K. LONG.

Witnesses:

H. T. FISHER,

GEORGIA SCHAEFFER.