

F. W. COCKER.

BRUSH.

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1,064,444.

Patented June 10, 1913.

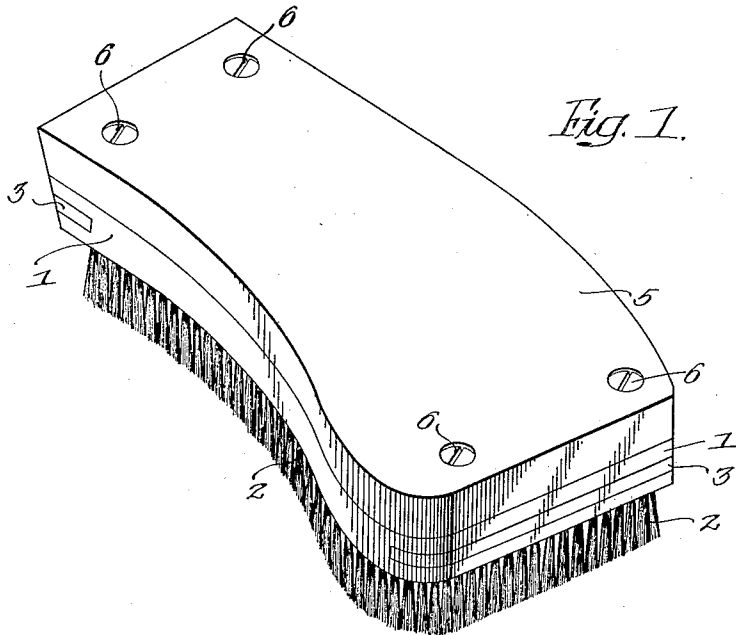


Fig. 1.

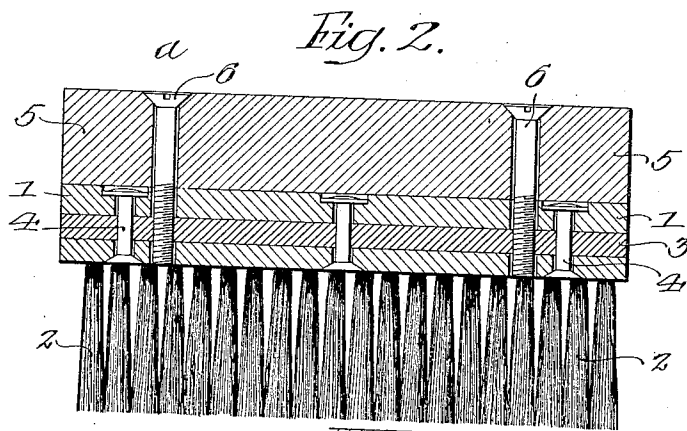


Fig. 2.

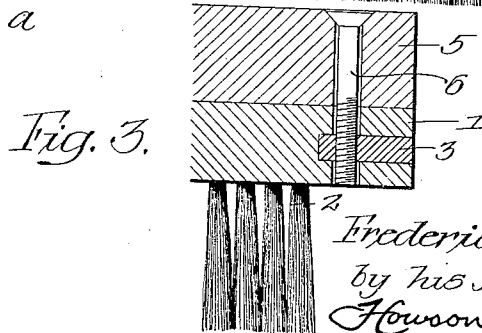


Fig. 3.

Witnesses—
Walter Cullinger
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Frederick W. Cocker
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UNITED STATES PATENT OFFICE.

FREDERICK W. COCKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO M. COCKER & CO., OF PHILADELPHIA, PENNSYLVANIA, A FIRM CONSISTING OF MARY COCKER AND FREDERICK W. COCKER.

BRUSH.

1,064,444.

Specification of Letters Patent.

Patented June 10, 1913.

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To all whom it may concern:

Be it known that I, FREDERICK W. COCKER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Brushes, of which the following is a specification.

One object of my invention is to provide a novel form of brush particularly designed to withstand the hard usage to which it is subjected as part of a worsted combing machine, it being especially desired that the brush head shall be so reinforced as to prevent it from splitting or warping under operating conditions.

Another object of the invention is to provide a novel form of brush reinforcing means particularly designed to prevent splitting of the brush head and at the same time to form the nut or holding means for the reception of the screws or other members whereby the back of the brush is held to the head.

These objects and other advantageous ends, I secure as hereinafter set forth, reference being had to the accompanying drawings in which,

Figure 1 is a perspective view of a brush constructed according to my invention; Fig. 2 is a transverse vertical section of one end of the brush shown in Fig. 1, and Fig. 3 is a fragmentary longitudinal vertical section of the brush taken on the line *a-a* Fig. 2.

I have found that the brushes of the form commonly used in worsted combing machines rapidly deteriorate and become useless by reason of the warping of their heads and also because of the cracking or splitting of the heads and backs, in view of the severe strains to which such brushes are subjected, and for the purpose of preventing this injurious action, I have devised the construction hereinafter described.

In the above drawings, 1 represents the head of the brush in which the bristles 2 are set in the manner well known to those skilled in this art. For the purpose of preventing warping and splitting of this head I form at each of its ends a transverse slot preferably extending the full width of the brush and in this slot I mount a metal plate or bar 3 whose outer edges are substantially flush with the edges or ends of the brush head. For the purpose of holding these plates in position I preferably employ rivets

4, mounting them in the head in holes whose diameters are materially larger than the diameter of the stems of the rivets so that the latter engage the brush structure only at their heads. Said rivet heads are counter-sunk in the head so that lateral movement of the rivets is effectually prevented, as is also movement of the reinforcing plate 3, the holes in which preferably have substantially the same diameter as the rivet stems passing through them. The brush is likewise provided with a back 5 held to the head 1 by screws 6, which while engaging said back at their heads, loosely pass through holes therein and in the head 1 but are threaded into the metal reinforcing plate 3. There is thus provided a rigid holding structure for the screws which if merely threaded into the wood of the back are apt to become loosened or cause splitting of said back. Moreover I have found that by causing the screws to engage the back at their heads only the tendency of the said back to split or crack is still further reduced.

By the above described construction it will be noted that the reinforcing plate 3 performs a double function, for it not only stiffens and prevents warping of the brush head but it serves as the nut or holding means for the screws whereby the back is held to the head 1. With this arrangement and construction of parts I have found that the lives of brushes, especially of the class above described, have been materially prolonged and the strains which ordinarily tend to cause splitting or cracking have been in a large measure eliminated.

I claim

1. The combination in a brush of a head; bristles mounted in said head; a back; a reinforcing plate mounted in one of the two members comprised by the head and back; and means engaging said reinforcing plate for holding together the head and the back.

2. The combination in a brush of a head; a series of bristles mounted therein; a back; a reinforcing plate set in said head; means for holding said plate in position; and means for holding together the back and the head.

3. The combination in a brush of a head; bristles mounted therein; a transversely extending reinforcing plate set in each end of said head; a back; and independent sets of devices for holding together the back and

the head, and retaining the plate in place in the head respectively.

4. The combination in a brush of a head; bristles mounted therein; a back; a plate of
5 reinforcing material set in said head; and screws mounted in the back and engaging the head for holding the back and the head together.

5. The combination in a brush of a head;
10 bristles mounted therein; a back; a plate of reinforcing material set in said head; and screws mounted in the back and threaded into the plate in said head for holding the back and the head together; said screws en-
15 gaging the back only at their heads.

6. The combination in a brush of a head; bristles mounted therein; a back; a reinforcing plate set in said head; rivets loosely mounted in the head and engaging the same only at their heads for holding the plate in
20 position; and screws threaded into the reinforcing plate for holding the back to the head.

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

FREDERICK W. COCKER.

Witnesses:

WILLIAM E. BRADLEY,
WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
