C. L. W. BAKER.
Manufacture of Brushes.

No. 207,793. Patented Sept. 10, 1878.

Fig:1.

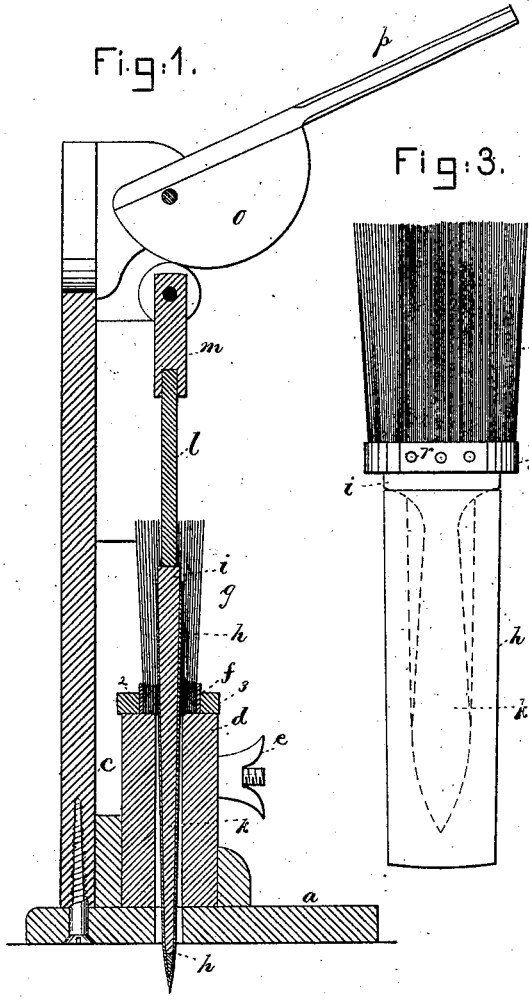


Fig:3.

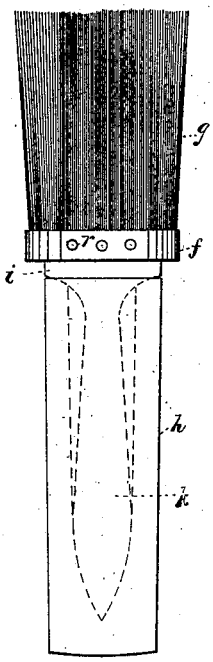
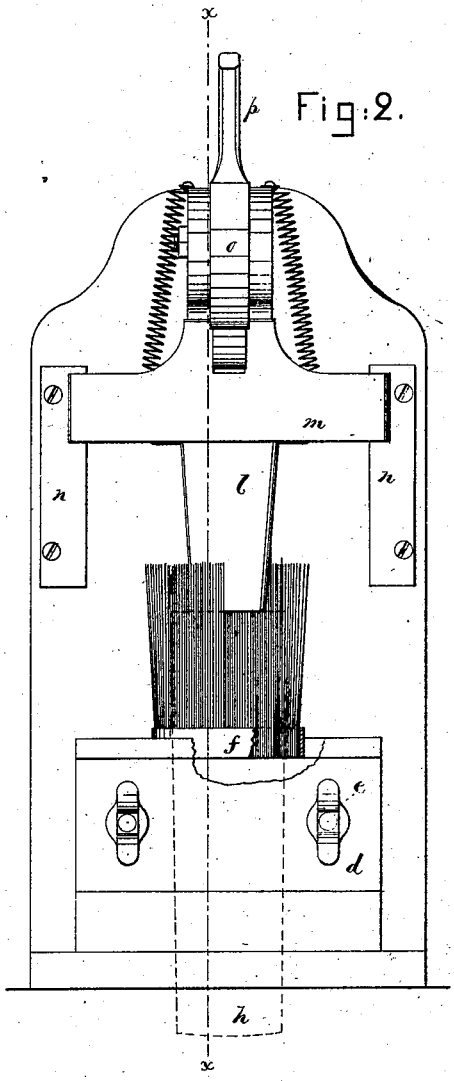


Fig:2.



Witnesses.
N. E. Whitney.
L. F. Connor.

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UNITED STATES PATENT OFFICE

CHARLES L. W. BAKER, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF BRUSHES.

Specification forming part of Letters Patent No. **207,793**, dated September 10, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, CHARLES L. W. BAKER, of Cambridge, county of Middlesex, State of Massachusetts, have invented an Improved Method of and Apparatus for the Manufacture of Brushes, of which the following is a specification:

This invention relates to a new method of, and to mechanism employed in, the manufacture of brushes having oblong heads, such as varnish and whitewash brushes.

One part of this invention consists in placing upon the head or over and about the handle portion of a brush, which is to be inserted within the bristles, a wedged-shaped directing-shoe, which separates and passes entirely through the mass of bristles held in the head-band, the brush-head or handle and head following the shoe into the opening made substantially centrally in the mass of bristles where the head is secured.

This directing-shoe makes it possible to drive handled heads provided with shoulders or corners between the head and handle proper, and also shouldered heads, as of whitewash-brushes, whereby such brushes may be made with rigid one-piece head-bands.

The invention also consists in the combination, with a clamp to hold the head-band and bristles in place, of a plunger and suitable mechanism to operate it, whereby the plunger acting upon the base of the head, or that end of the head which is to rest within and be connected by the bristles, drives such head and the directing-shoe applied at its opposite end through the head-band and bristles held in the clamp. This wedge, commencing at its larger end, is recessed sufficiently to receive within it the shouldered portions of the head or handle portion of the brush, as shown in the drawing.

Figure 1 of the accompanying drawings illustrates in vertical section one form of mechanism for manufacturing a brush in accordance with my invention; Fig. 2, a front view thereof; and Fig. 3, one form of brush which it is proposed to make, the directing-shoe being applied to the brush-head.

Upon the base *a* of the machine are placed the two jaws *c d* of the clamp, the jaw *d* of which is made adjustable in any suitable manner, herein shown, by screws and thumb-nuts *e*, so that the head-band *f*, in this instance shown as a one-piece metal band, may be firmly and securely clamped between the jaw-faces 2 3 of the clamps.

The bristles *g*, to form the brush, are placed, as shown, within the head-band, their butts or ends resting upon the ends of the clamps, except at the center of the mass of bristles, where, for a space equal to the space required for the passage of the wedge-shaped directing-shoe *h* through the center of the mass of bristles and between the clamps, they are unsupported at their extreme ends. This directing-shoe will preferably be made of metal and of wedge form, so as to be forced in a straight line down through the center of the mass of bristles and the head-band, in advance of the head *i* of the brush, or that portion which is to rest directly within the bristles, and immediately above the upper ends of said bristles.

In Fig. 3 the head is shown as provided with a handle, *k*, shaped as delineated in dotted lines, such handle being in such figure, as in Fig. 1, contained in the shoe *h*.

An oblong shouldered head, like an ordinary whitewash-brush or a varnish-brush, having a shoulder between its head and handle portion *k*, could not be driven down through the bristles, as could a round or regularly-tapered handle; but by means of the directing-shoe, the large end of which covers the shoulders or corners of the head, I am enabled to drive the head, or head and handle, of any oblong-shaped brush, notwithstanding such head has shoulders, such as shown in Fig. 3, or such as are common to whitewash and other similar brushes.

In the manufacture of the brush, after the directing-shoe and head are placed within the bristles, as shown in Figs. 1 and 2, the follower *l*, attached to a cross-bar, *m*, directed by guides *n*, is brought down against the head of the brush at its under side, and by the cam *o* and lever *p*, or other suitable moving devices, such follower is moved longitudinally far enough to drive the head into the proper place within the bristles and head-band, where it is securely held by rivets *r* or in other proper and usual way.

Instead of the cam *o*, I may employ any

other follower-moving devices, such as toggle-joints.

I claim—

1. In the manufacture of brushes, the herein-described method of introducing the head, it consisting in applying to such head a wedge-shaped directing-shoe to separate the bristles, and lead the head through the bristles and head-band, substantially as described.

2. The wedge-shaped directing-shoe, adapted to receive within it the head or head and handle, substantially as described.

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

CHARLES L. W. BAKER.

Witnesses:
G. W. GREGORY,
L. F. CONNOR.