J. L. WHITING.

BRUSH-MACHINE.

No. 192,802. Patented July 3, 1877.

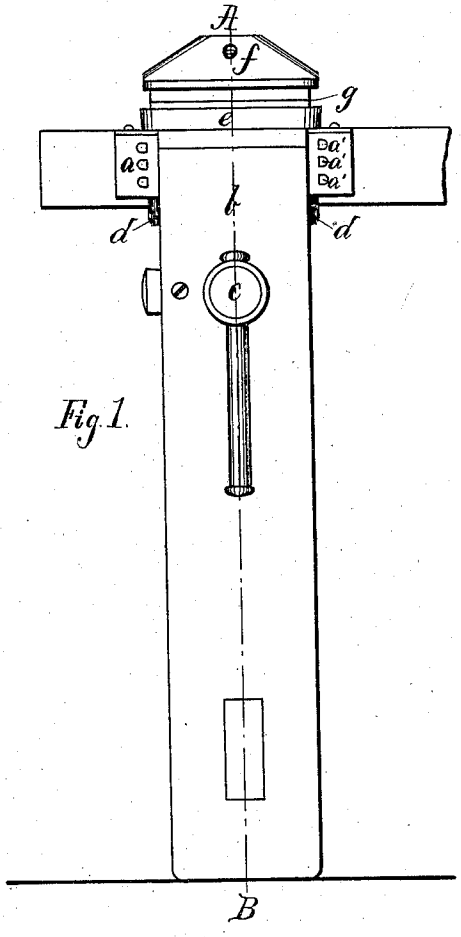



Fig. 1.

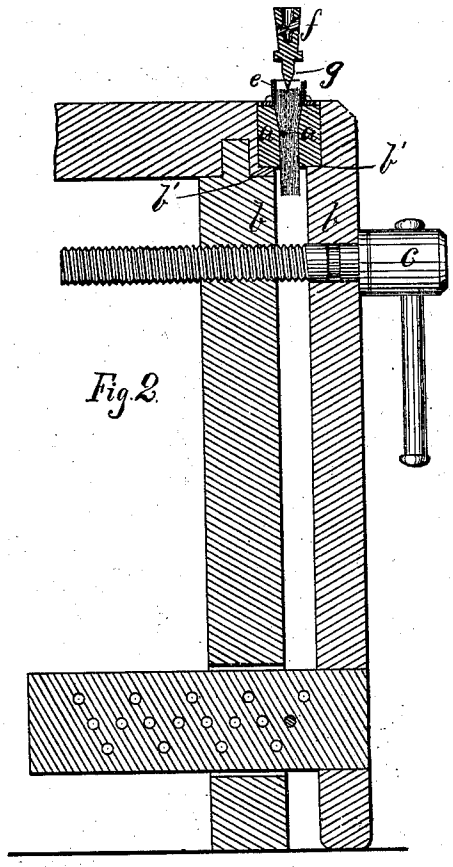
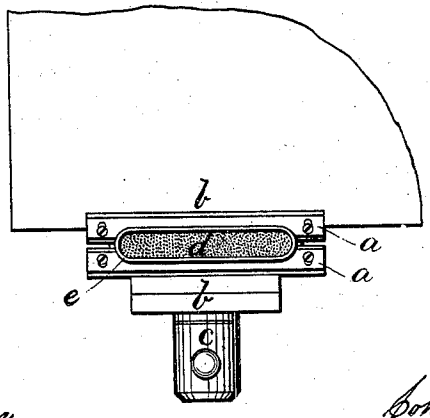



Fig. 2.

Fig. 3.




Witnesses:

Henry Chadbourn.

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# UNITED STATES PATENT OFFICE.

JOHN L. WHITING, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN BRUSH-MACHINES.

Specification forming part of Letters Patent No. **192,802**, dated July 3, 1877; application filed May 10, 1877.

*To all whom it may concern:*

Be it known that I, JOHN L. WHITING, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for the Manufacture of Brushes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in apparatus for manufacturing flat brushes, such as paste, wall, and whitewash or similar brushes; and my invention is carried out in a manner as will hereinafter be fully described and shown.

On the accompanying drawings, Figure 1 represents a front elevation of a vise in which the clamps and bristles are confined during the process of manufacture. Fig. 2 represents a longitudinal section on the line A B, shown in Fig. 1; and Fig. 3 represents a plan view of the same.

Similar letters refer to similar parts wherever they occur on the drawings.

After the bristles have been properly selected and assorted according to the desired length I place them within what I term "dummy ferrules"—that is, flat elastic ferrules a little smaller in width and length than the permanent ferrules that are used on the brushes, but about twice as high as the latter, so as to get a longer hold on the bristles in arranging the same.

After the butt end of the bristles has been inclosed in such a dummy ferrule I gather the upper ends of the bristles temporarily together, and slip over them and the dummy ferrule the regular permanent ferrule, and remove the dummy to be used again for receiving a new lot of bristles.

The butts of the bristles are confined so within the permanent ferrule that their lower ends project somewhat below the lower edge of said ferrule, so as to allow the butts being dipped in cement or suitable sticky substance without soiling the ferrule.

I may, however, dispense with said dummy ferrules, and place the bristles from the onset within the permanent ferrules, without departing from the spirit of my invention.

The bristles are then laid horizontally within the guides of one of the movable clamps, and the other corresponding clamp closed over it by hand pressure, after which the clamps are held together by the operator, who dips the projecting butts of the bristles in liquid cement or suitable sticking material.

The ferrule is then drawn even with the butts of the bristles, or a little above the same, according to the shape of the block or head that is to be driven within the mass of the bristles.

The clamps between which the bristles are held are then placed between the jaws of the vise, and confined firmly between said jaws, the lower ends of the clamps resting upon projections on the inside of the jaws of the vise.

The block or head or handle is then placed above the butt of the bristles that are held in an upright position between the clamps, and surrounded by the ferrule, and the sharp projection on the under side of the block or head is driven within the mass of the bristles by means of pressure or blows upon the upper end of the head or block or handle itself, or upon a driving-tool resting upon it.

After the handle or head or block is driven within the bristles the brush is removed from the clamps, and the bristles are further secured within the ferrule by means of one or more rows of nails or tacks driven into the projection on the head or block through holes made in the ferrule for that purpose.

The ferrule may further be secured to the head or block by means of nails or tacks.

On the drawings, *a a* represent the clamps. *b b* represent the vise, with its projections *b' b'*, and clamping device *c*. *d* represents the bristles, and *e* represents the ferrule. *f* represents the head, block, or handle, of which *g* is the lower sharp projection. *a' a'*

represent the guides in the movable clamps *a a*.

What I wish to secure by Letters Patent, and claim, is—

The laterally-adjustable upright jaws *b b*, provided with the projections *b' b'*, in combination with the clamps *a*, constructed to temporarily hold the bristles until the ferrule is applied, substantially as set forth.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

JOHN L. WHITING.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN,