

No. 822,571.

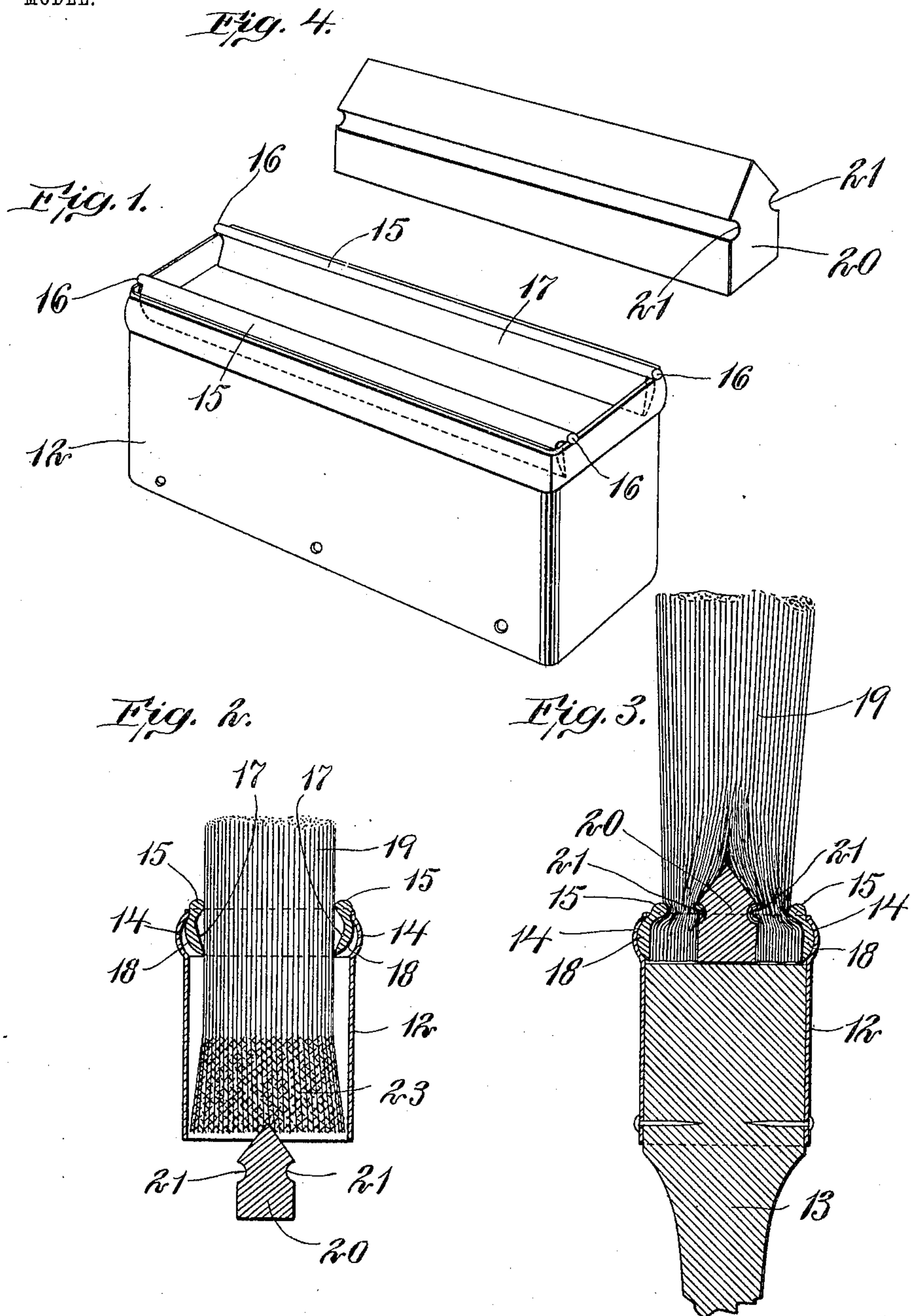
PATENTED JUNE 5, 1906.

J. F. BOWDITCH.

FLAT BRUSH.

APPLICATION FILED JULY 28, 1905.

MODEL.



Witnesses:

H. L. Robbins -
E. Batchelder

Inventor:

J. F. Bowditch
by Wright, Brown, Quinby & May
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN F. BOWDITCH, OF BOSTON, MASSACHUSETTS.

FLAT BRUSH.

No. 822,571.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed July 28, 1905. Serial No. 271,600.

To all whom it may concern:

Be it known that I, JOHN F. BOWDITCH, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Flat Brushes, of which the following is a specification.

This invention relates to brushes in which the mass of bristles is formed with relatively wide flat side portions and narrow end portions, this form of brush being used chiefly for applying paint, whitewash, &c., to extended flat surfaces, such as smooth walls and ceilings.

The invention has for its object to provide means for securely clamping together the base or butt portions of the bristles of a brush of this character to prevent the liability of the detachment of any individual bristles.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of the socket or ferrule and jaws hereinafter referred to without the mass of bristles. Fig. 2 represents a sectional view showing the mass of bristles inserted between the jaws preparatory to the operation of securing the mass. Fig. 3 represents a sectional view of the completed brush. Fig. 4 represents a perspective view of the spreading device.

The same reference characters indicate the same parts in all the figures.

In the drawings, 12 represents a sheet-metal ferrule or socket, which is preferably oblong in shape, as shown in Fig. 1, and is adapted to receive and be secured to a suitable handle 13. In the inner sides of the side portions of the socket are formed longitudinal grooves or cavities 14, these being preferably formed by indenting or embossing the outer portion of the socket.

15 15 represent metal jaws the end portions of which are preferably extended to form lugs 16 16, adapted to be seated on the ends of the socket when the latter is in the position shown in Fig. 1, the jaws being thus supported prior to the application of the bristles, so that they project outwardly from the socket.

17 17 represent arms formed on the jaws and projecting into the socket. The outer sides of the arms 17 have ridges or projections 18, which are adapted to enter the recesses 14 in the socket, as shown in Fig. 3, and thus

lock the jaws to the socket, so that they cannot move outwardly therefrom. The outer surfaces of the jaws and arms are formed to engage the outer end of the socket, the jaws being adapted to tip on the inner edges of the side portions of the socket from the positions shown in Fig. 2 to the positions shown in Fig. 3, the edges of the sockets constituting fulcrums for the jaws.

19 represents a mass of bristles the butt-ends of which are secured together by cement and inserted in the socket between the jaws, as shown in Fig. 2, the butt-ends of the bristles being the portions which are shown in said figure within the socket. The diagonal lines on said portion indicate the preferred extent to which the mass of bristles is saturated with cement. The sides of the mass of bristles now bear against the inner sides of the jaws 15 and arms 17 somewhat loosely. I next apply to the inner end of the mass of bristles a spreading device 20, consisting of a bar of wood or other suitable material, which is preferably wedge-shaped at one edge. The wedge-shaped edge of the spreading device is forced into the cement-saturated end of the mass of bristles, as shown in Fig. 2, and suitable pressure is then applied to force the spreading device into the mass of bristles and at the same time force the mass of bristles outward between the jaws until the spreading device enters the space between the jaws and arms, as shown in Fig. 3. When the spreading device reaches this position, it has divided the base of the mass of bristles and forced the divisions of the said base outwardly against the arms 18 in such manner as to force the arms outwardly and cause the jaws to rock or tip on their fulcrums. The jaws are thus pressed inwardly against the sides of the mass of bristles, securely clamping the same, and at the same time the ridges or projections 18 of the arms are forced into the recesses 14 in the socket. It will be seen, therefore, that the jaws cooperate with the spreading device in firmly securing the bristles to the socket, the projections of the arms locking the jaws to the socket. The spreading device is preferably provided with longitudinal grooves 21 21, which are opposite the jaws when the latter are pressed inwardly against the sides of the mass of bristles. The said grooves permit the jaws to form short bends in the portions of the bristles interposed between the grooves and jaws, these bends increasing the firmness of the connec-

tion of the bristles, because the bristles are to a certain extent interlocked with each other and with the jaws and grooves.

The spreading device 20 is forced into the inner end of the socket, or the end which subsequently receives the handle 13. The inward projection of the base of the mass of bristles (shown in Fig. 2) is such that the spreading device is forced entirely into the mass before entering the space between the jaws. The recesses 14 of the socket and the ridges or projections 18 of the jaw-arms constitute complementary coupling members, which are interlocked or engaged by the spreading of the base of the mass of bristles.

As before stated, the butts of the bristles are assembled to form the base of the mass, said base being inserted in the socket and receiving the spreading device. The said butts, which include the roots of the bristles, are thicker than the outer or flag portions, so that the inner end of the mass, which is subsequently penetrated by the spreading device, is correspondingly thickened, as shown at 23, Fig. 2. It will be seen that this increased thickness of the inner end of the mass is an important factor in securing the bristles, the thickened butts of the bristles preventing liability of the outward displacement of the bristles between the jaws and the spreading device.

I claim—

1. A brush comprising a ferrule or socket, a mass of bristles inserted in the ferrule, a spreading device which spreads the base of the mass of bristles, and jaws which are forced inwardly against the bristles by the spreading device.

2. A brush comprising a ferrule or socket, a mass of bristles inserted in the ferrule, a spreading device which spreads the base of the mass of bristles, jaws which are forced inwardly against the bristles by the spreading device, and means operated by the spreading device for locking the jaws to the socket.

3. A brush comprising a ferrule or socket having clutch members at opposite sides, jaws fulcrumed on the sides of the socket and provided with arms projecting into the socket, said arms having complementary clutch mem-

bers adapted to engage the clutch members of the socket, a mass of bristles inserted in the socket between the jaws, and a spreading device inserted in the base of the mass between the jaws, whereby the arms are forced outwardly to engage their clutch members with the clutch members of the socket, and the jaws are forced inwardly against the mass of bristles.

4. A brush comprising a ferrule or socket having longitudinal grooves in its inner sides, outwardly-projecting jaws fulcrumed on the sides of the socket, and provided with arms projecting into the socket, said arms having projections formed to enter said grooves, a mass of bristles inserted in the socket between the jaws, and a spreading device inserted in the base of the mass between the jaws, whereby the arms are forced outwardly to engage their projections with the socket-grooves, and the jaws are forced inwardly against the mass of bristles.

5. A brush comprising a ferrule or socket having longitudinal grooves in its inner sides, a mass of bristles inserted in the ferrule, a spreading device inserted in the base of the mass of bristles to spread the same, said device having longitudinal grooves in its sides, and jaws which are forced inwardly against the mass of bristles by the spreading device, said jaws being opposite the grooves in the spreading device.

6. A brush comprising a ferrule or socket having longitudinal grooves in its inner sides, outwardly-projecting jaws fulcrumed on the sides of the socket, and provided with end lugs seated and adapted to rock on the ends of the socket, and with arms projecting into the socket, and a spreading device inserted in the base of the mass of bristles between the jaws, said device forcing the bristles outwardly against the arms, whereby the jaws are forced inwardly against the mass of bristles.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN F. BOWDITCH.

Witnesses:

C. F. BROWN,
E. BATCHELDER.