No. 878,343. PATENTED FEB. 4, 1908.

P. CHAZAL.

# MANUFACTURE OF BRUSHES AND BROOMS.

APPLICATION FILED JUNE 18, 1906.

FIG-1

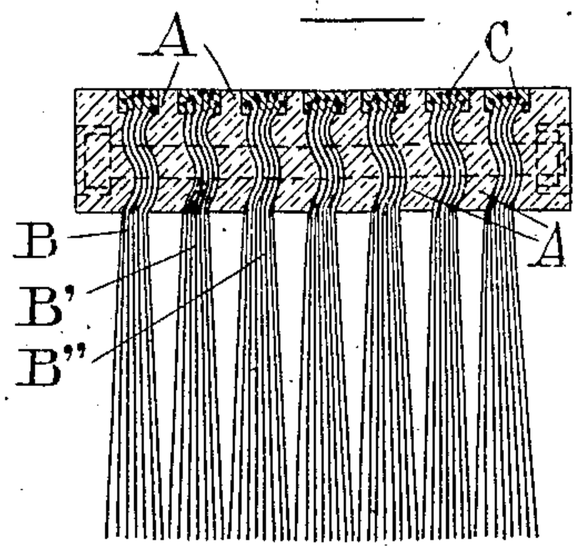



FIG-3

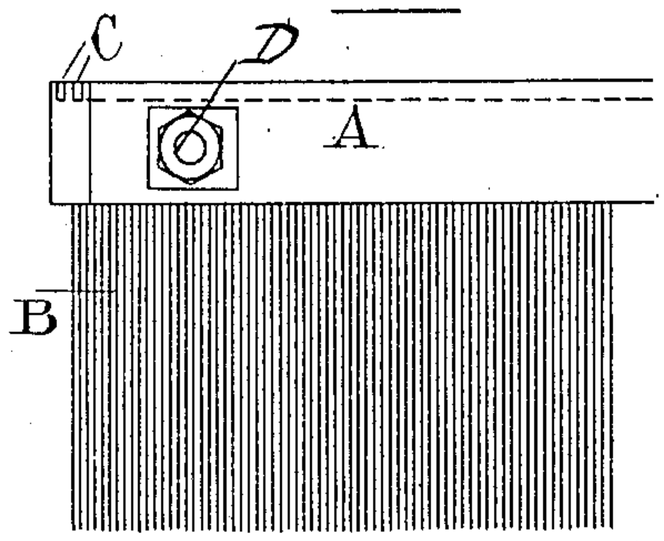
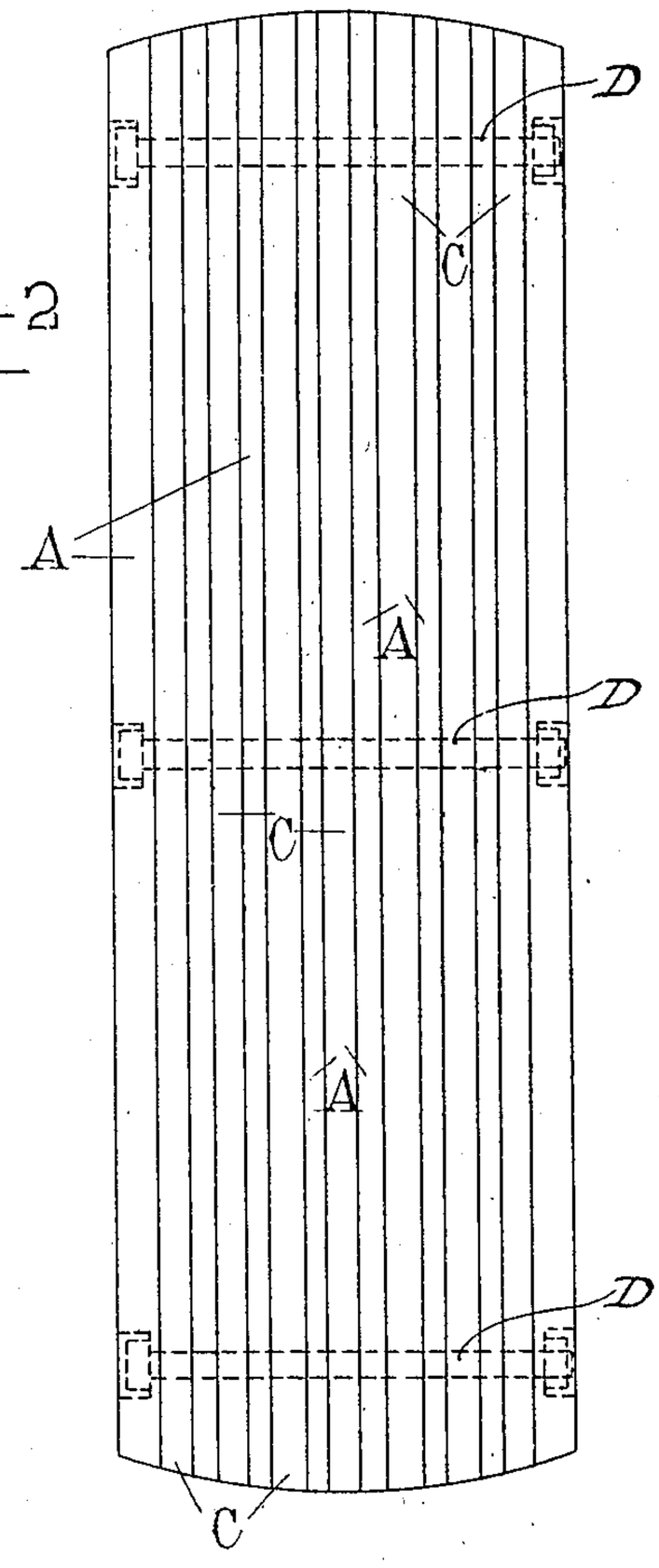



FIG-2




Witnesses:

Jean Germain

Guillaume Pioche.

Inventor:

Philippe Chazal.

# UNITED STATES PATENT OFFICE.

PHILIPPE CHAZAL, OF LYON, FRANCE.

## MANUFACTURE OF BRUSHES AND BROOMS.

No. 878,343. Specification of Letters Patent. Patented Feb. 4, 1908.

Application filed June 18, 1906. Serial No. 322,199.

*To all whom it may concern:*

Be it known that I, PHILIPPE CHAZAL, manufacturer, and a citizen of the French Republic, residing at Lyon, France, have invented certain new and useful Improvements in the Manufacture of Brushes and Brooms, of which the following is a specification.

This invention relates to improvements in the manufacture of brushes and brooms for cleansing, painting, pasting and other purposes.

The invention is illustrated in the annexed drawing as applied to an ordinary clothes brush, Figure 1 being a cross-section of the said brush, Fig. 2 a plan view, and Fig. 3 a partial side view.

The stock of the brush is laminated, that is to say, it is built up of parallel strips A, the adjacent surfaces of the said strips being for the greater part of their height from the lower edge of undulating or corrugated shape.

The remainder of the said surfaces extending to upper edges of the strips A are cut away, as shown in Figure, 1 so that they will form for a certain depth inwardly from the back surface of the stock longitudinal recesses C which are wider than the spaces between the adjacent surfaces of the strips in which the brush fiber is to be gripped so that the brush fiber ends which project above the gripping portions and have a tendency to spread from one another have sufficient space to do so. The fibers are placed in uniform layers B $B^1$ $B^{11}$ between the gripping surfaces of the strips A which are then firmly fixed together by means of clamps or of screws, bolts, pins or the like which traverse the stock from one side to the other. The recesses at the back are then filled with a suitable plastic composition adapted to harden and to become unsusceptible to the action of moisture.

Sealing wax, pitch and the like are suitable for this purpose.

The upper ends of the brush fibers being embedded in this plastic composition are thus firmly attached to the stock. The said strips may be of wood, metal or any other suitable material. Metal strips have the advantage that they can be reused when the bristles are worn out. The upper surface and sides of the stock may if desired be provided with any suitable cover adapted to improve the appearance of the brush or to facilitate the holding thereof.

I am aware that laminated stocks have been used with cavities within them and that undulated laminated stocks have also been so made, and that recesses have been made in the backs of solid stocks to receive cement, but I am not aware that a laminated stock has been made with the major part of its surfaces undulated but so cut away adjacent to the back edges as to form grooves open to the back wider than the spaces between the undulated parts of the strips, into which grooves the back ends of the brush fiber may expand in the manner illustrated in the drawing, which greatly enhances the individual security of the fibers by facilitating the passage of the cement between them.

What I claim as my invention and desire to secure by Letters Patent of the Untied States is:—

A brush or broom comprising a laminated stock consisting of a plurality of strips having the greater part of their surfaces from the lower edge upwards undulated and cut back for the remainder of their height up to their back edges so as to form grooves in the back of the stock wider than the space between adjacent strips, brush fiber located between the adjacent undulated surfaces of said strips with the rear ends in said grooves means for holding the strips firmly together and cementitious matter in said grooves substantially as described.

In witness whereof I have signed this specification in the presence of two witnesses.

PHILIPPE CHAZAL.

Witnesses:

JEAN GERMAIN,

GUILLAUME PIOCHE.