

H. HOLMES.
Brush-Back.

No. 162,749.

Patented May 4, 1875.

Fig. 1.

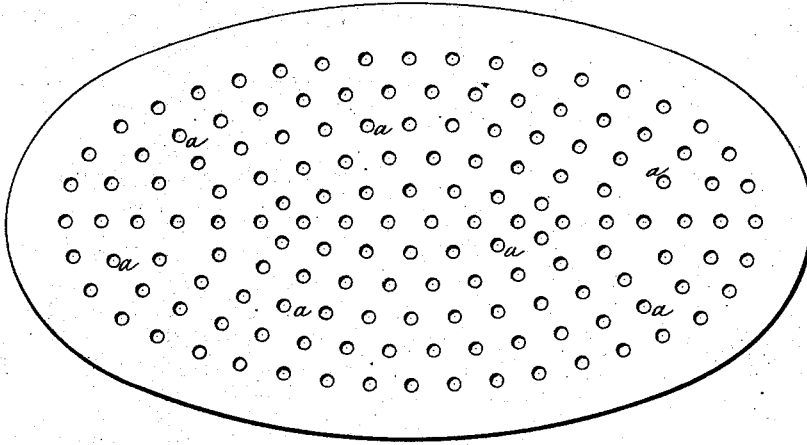


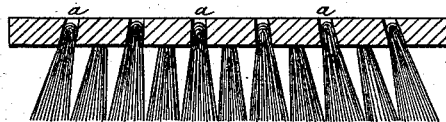
Fig. 2.



Fig. 3.



Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY HOLMES, OF TROY, NEW YORK.

IMPROVEMENT IN BRUSH-BACKS.

Specification forming part of Letters Patent No. 162,749, dated May 4, 1875; application filed April 9, 1875.

To all whom it may concern:

Be it known that I, HENRY HOLMES, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Brush Blocks or Backs as a new article of manufacture; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top view of one of the brush blocks or backs. Fig. 2 represents a longitudinal section through the same. Fig. 3 represents a transverse section thereof. Fig. 4 represents a section of a brush to illustrate the object and purpose of the new article of manufacture.

My invention relates to a brush block or back as a new article of manufacture, namely, punched by a series of reciprocating punches, so that the holes therethrough shall stand inclined in relation to the central line of holes, and be slightly tapering, so as the better to receive, spread, and fill the brush with the tufts of bristles.

To manufacture my brush blocks or backs, I proceed as follows:

The blank or material out of which the block or back is to be made is, first, by hydraulic or other powerful pressure, bent or compressed, and tightly held, in the form of a section of a hollow sphere or shell, and, while in that compressed curved or arched position, a series of rectilinear reciprocating punches are driven through it, in which, afterward, the bristles are to be inserted. While the back or block is still bent and held the series of holes will be parallel to the plane in which the punches

move; but when the back or block is removed, and pressed or flattened out into its normal shape, it will be found that the punch-holes *a a*, except the central ones, are all inclined, and all are radial, or nearly so, to the sphere or former over which it was first bent, which inclination admits of the tufts being inserted, as in Fig. 4, so as to spread the bristles and better fill the brush. It will be found, too, that the holes *a a*, beside their inclination, are slightly tapering, which very much facilitates the entrance of the tufts of bristles therein. The taper of the holes is due to the punches entering the material on its concave side where the fiber is tightly compressed, and coming out on the convex side where it is proportionately expanded; and when the block or back is flattened out the condition of the fiber is reversed, which expands the holes on what was the compacted surface, and contracts them on what was the expanded surface.

I have shown in an application for a patent of even date herewith a machine by which this invention may be carried out. Other machines may be made to accomplish the same purpose.

Having thus fully described my invention, what I claim, as a new article of manufacture, is—

A brush block or back, punched with a series of inclined and tapering holes, as and for the purpose described and represented.

HENRY HOLMES.

Witnesses:

A. B. STOUGHTON,
EDMUND MASSON.