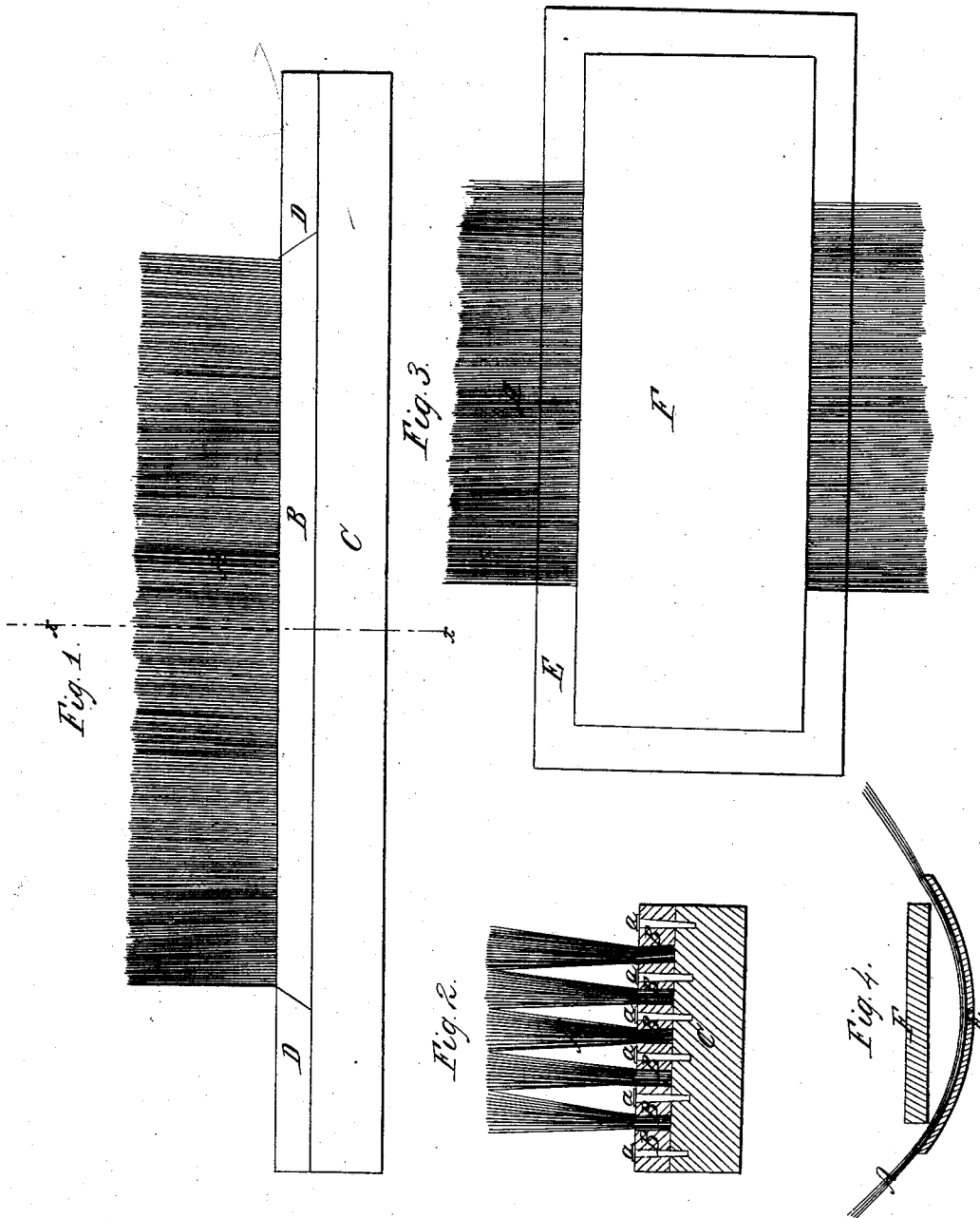


S. TAYLOR.
WARP BRUSH.



Witnesses,
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UNITED STATES PATENT OFFICE.

SAMUEL TAYLOR, OF EAST CAMBRIDGE, MASSACHUSETTS.

IMPROVED WARP-BRUSH.

Specification forming part of Letters Patent No. **38,516**, dated May 12, 1863.

To all whom it may concern:

Be it known that I, SAMUEL TAYLOR, of East Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Brushes for Dressing Warps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of a brush constructed according to my invention. Fig. 2 is a transverse vertical section of the same, taken in the plane indicated by the line *a a*, Fig. 1. Fig. 3 is a plan or top view of my device for dipping the bristles. Fig. 4 is a transverse vertical section of the same.

Similar letters of reference in the several figures indicate corresponding parts.

This invention is intended as an improvement in the manufacture of that class of brushes for which a patent has been granted to me May 28, 1842.

My present improvement relates to a simple device for holding the bristles for the purpose of dipping their butt-ends in the pitch or cement used to secure the same to the block.

To enable others skilled in the art to make and use my invention, I will proceed to describe it.

The butt-ends of the bristles *A* are secured between strips *B*, of wood or any other suitable material, which are fastened to the block *C* by means of nails *a*, as clearly shown in Fig. 2 of the drawings. The strips *B* are beveled off toward their inner surfaces, so that on laying two strips side by side a trapezoidal groove is formed to receive the bristles. The first strip, commencing on one side of the block, is firmly fastened by means of nails: A quantity of bristles requisite to form one line or layer is placed in the proper position. Their butt-ends are dipped in molten pitch or other suitable cement, and placed against the inner beveled edge of the said first strip. The second strip is then forced up against the bristles by means of a plunger or other suitable device, thereby clamping tightly the butt-ends of the bristles, and in this position,

and while still exposed to the action of the plunger, said second strip is fastened down with nails. The second line or layer of bristles is then prepared in the same manner, and secured between the second and third strips, &c., to the last. The strips *B* which I now use are not more than three-eighths of an inch high, and consequently they take up only a small portion of the length of the bristles, which is of considerable practical value. The best portion of the bristles is that nearest to the butt-ends to about the middle of their length, or as far as they appear crystallized, and if, as in my old method of manufacturing brushes by the strips of wood one inch, or nearly so, of the bristles is taken up, the brush is less durable and efficient than it is when made according to my new method. Furthermore, by securing the bristles between narrow strips that part of the same which is cut off can still be used for inferior brushes, whereas in my old method a large portion of the bristles was completely wasted. The narrow strips can be conveniently fastened with nails while being held in position by the plunger, and on withdrawing the plunger the strips are rigidly secured to the blocks, and the bristles are not liable to work loose. The ends of the strips *B* are beveled off, as clearly shown in Fig. 1 of the drawings, and flat pieces *D*, of wood or other suitable material, extending across the width of the block, and beveled off in an opposite direction to the ends of the strips, serve to hold said strips in place and to close up the ends of the trapezoidal grooves between adjoining strips.

In order to arrange the bristles for the purpose of dipping their butt-ends in pitch or other suitable cement, I use a plate, *E*, of sheet metal, or other suitable material, curved or hollowed out, as clearly shown in Fig. 4 of the drawings. This plate is set down upon a table, the concave side up, and the bristles are spread on it, and a flat plate, *F*, which is somewhat narrower than the curved plate *E*, is placed on the bristles, and forced upon the concave side of the said curved plate. A slight pressure of the hand is sufficient to retain the bristles, each bristle being prevented from dropping out by its own inhe-

rent elasticity, and the ends of the bristles can thus be dipped with perfect ease and convenience.

What I claim as new, and desire to secure by Letters Patent, is—

1. The employment or use, in the manufacture, of brushes, of a concave plate, E, in com-

bination with a flat plate or strip, F, for the purpose of holding the bristles while dipping them in pitch or other suitable cement.

SAMUEL TAYLOR.

Witnesses:

SAMUEL H. FOLSOM,
SAMUEL WALKER.