

(Model.)

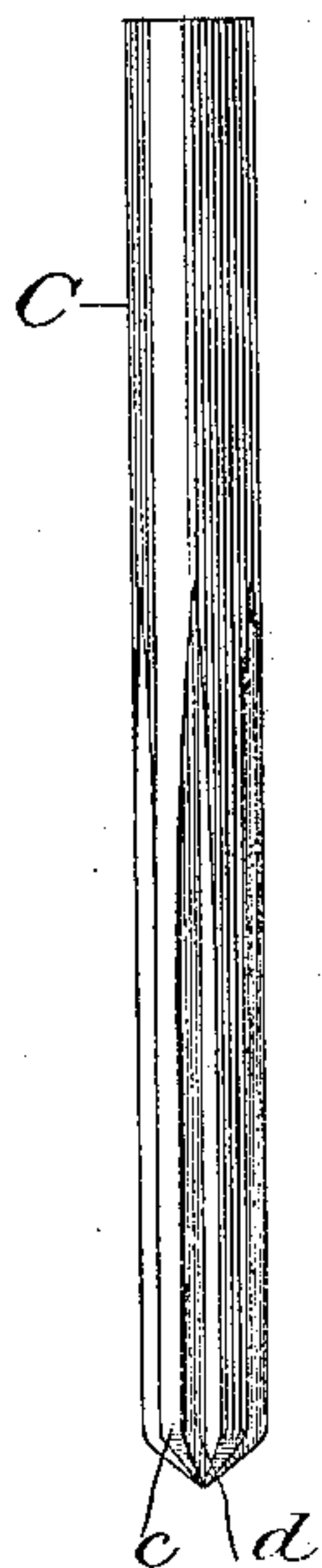
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MANUFACTURE OF BRUSHES.

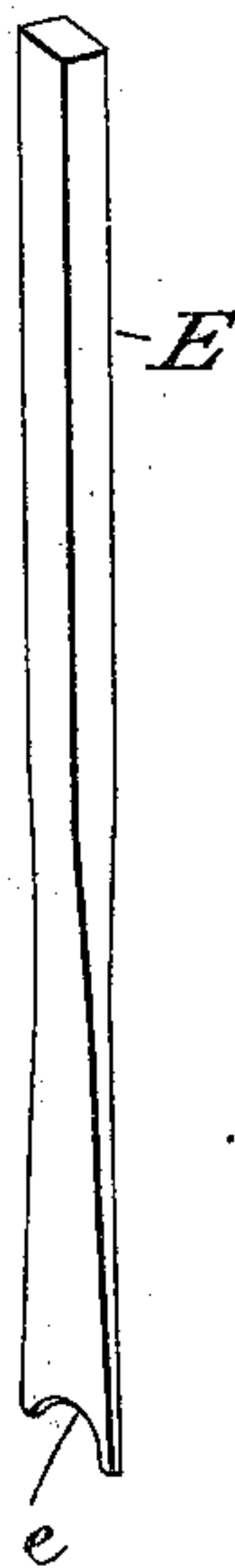
No. 302,869.

Patented July 29, 1884.

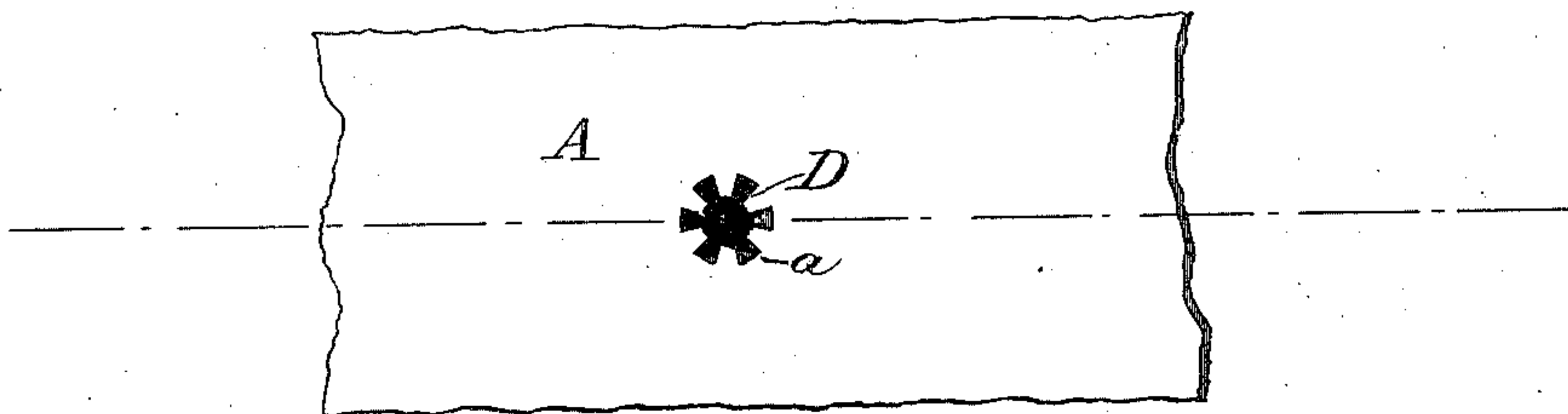
*Fig. 1.*



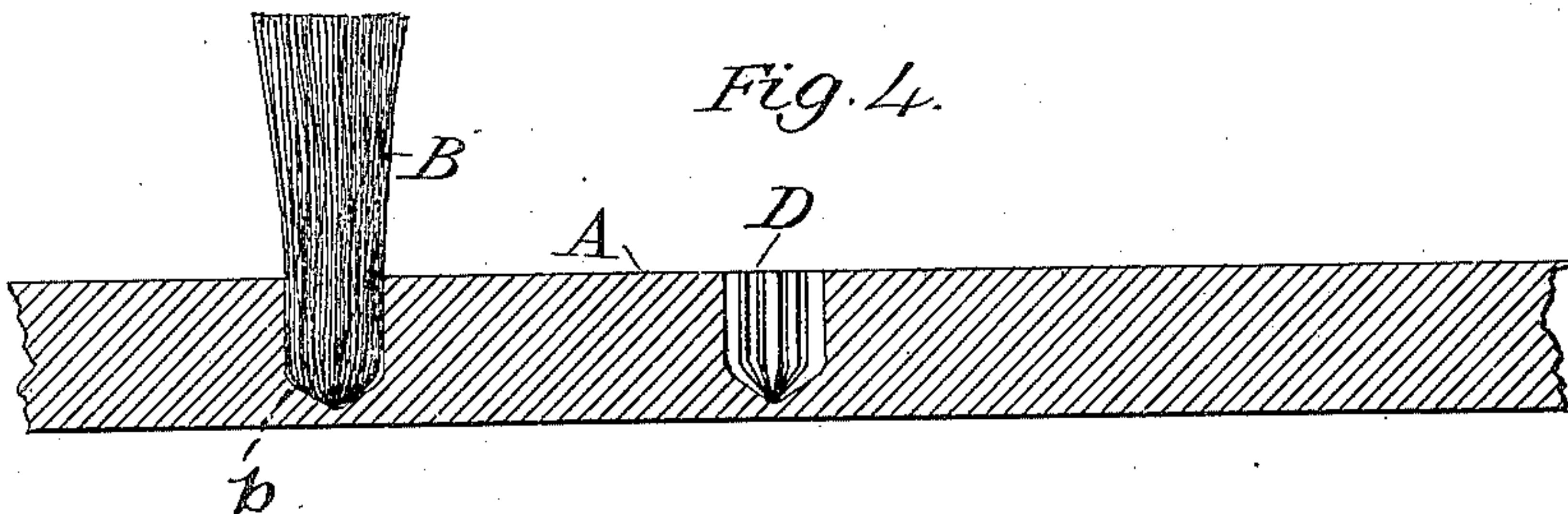
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:

*Leo Duffy.*  
*Edward C. Allen.*

Inventor:

*Henry Soggs*  
*per Duffy & Hornier*  
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# UNITED STATES PATENT OFFICE.

HENRY SOGGS, OF COLUMBUS, PENNSYLVANIA.

## MANUFACTURE OF BRUSHES.

SPECIFICATION forming part of Letters Patent No. 302,869, dated July 29, 1884.

Application filed February 16, 1884. (Model.)

*To all whom it may concern:*

Be it known that I, HENRY SOGGS, of Columbus, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Brushes; and I do hereby declare that the following is a full, clear, and exact description of the invention, 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 the letters of reference marked thereon, which form part of this specification.

This invention relates to a new and improved mode of securing in brush-stocks the bristles or other brush material in such manner as that no adhesive compound or material is required to secure them, and whereby all wire or other fastenings are dispensed with.

The invention consists in a brush back or stock provided with perforations whose walls are of peculiar contour, and in the method of securing the tufts of hair or bristles in such perforations, all as will hereinafter be distinctly pointed out and claimed.

Referring to the annexed drawings, Figure 1 represents the tool by which the perforations are formed in the brush-stock; Fig. 2, the inserting-tool by which the tufts are inserted in such perforations; and Fig. 3 illustrates a section of a brush block or stock, in which the corrugated or channeled perforation is shown enlarged. Fig. 4 shows a longitudinal section of the brush-block, taken on the line *x x* of Fig. 3, which shows one cavity or perforation without the bristles and one with the bristles tightly secured therein.

Reference being had to the parts by letter, A is the brush block or back, which is to have the bristle-cavity provided with the tapering wedge-shaped, corrugated, or channeled walls *a*. These blocks or backs have a greater or less number of these holes or cavities, according to the fineness or coarseness of the brush to be made.

B represents one of the tufts or bunches of the series that go to make up the brush.

*b* shows the expanded condition of the bristles when in position; and D shows the cavity

before the insertion of the bristles or fiber, in which will be seen the ribbed or corrugated walls.

*c* shows the ribs on the tool, which are wedge-shaped in cross-section, and which form a hole or cavity of like formation, (clearly shown at *a*, Fig. 3;) and *d*, the channels in said tool. These channels may be made in any well-known manner, and may be of different contour, provided they be so formed as to secure the bristles or fiber firmly in position.

E shows the inserting-tool, having a lower tapering portion, and a concavity, *e*, at its end. This tool E is of such a character as to snugly fit the corrugations in the hole of the brush-block, and is used to force the fibers of the tufts of bristles into the channels in the walls of the cavity, the bristles in one channel being separated by a rib from those in the next adjacent channel, and so on, the whole of the tuft being expanded at the bottom of the cavity. Thus it will be seen that the bristles in one channel have a separate and independent bearing, and the same is true of all the others. The frictional contact with the sides of the cavity prevents their loosening, and hence they are less liable to slip. When the tufts are firmly located, the tapering form of the tool very readily permits its withdrawal.

The operation of inserting the bristles is as follows: The holes or cavities in the brush-block having, by the tool described, been made with corrugated sides or ribs, and the bristles or brush fiber cut to the required length, a tuft is laid across the cavity about the middle of its length. The concave end of tool E is then placed on top of the tuft immediately over the hole, and then driven therein. The pressure given to the tool forces the bristles or fiber into the channels and expands them, both at sides and bottom, into the portion of the corrugations formed at these points by the corrugated tool. Thus, when the tool is withdrawn, it leaves the bristles or fiber in a very tight and secure condition.

It is evident that these blocks or backs are of a single piece for ordinary purposes, such as horse-brushes, scrubbing-brushes, and the like; but when desired for toilet, hat, or other



fancy purposes, they may be backed with wood capable of high polish, or with ivory, celluloid, or other fancy and valuable material.

Any of the well-known woods may be used in the construction of the blocks or backs for brushes made after my invention. If preferable, the wood may be of such character that the single piece which holds the bristles may be capable of high polish.

Of course, round or rotary brushes may be made with the bristles inserted according to my invention.

In this application I lay no claim to the tools by which the openings are made in the block and the tufts inserted therein, as I intend to claim them in a separate application.

Having thus described my invention, what I claim is—

1. A brush stock or back provided with holes or cavities having ribbed or corrugated walls, and adapted for the reception of brush material, substantially as described.

2. A brush stock or back provided with

holes or cavities formed with corrugated or channeled walls, the corrugations being wedge-shaped in cross-section, substantially as described.

3. A brush-block provided with holes or cavities, the walls of which are formed with alternate channels and ribs or corrugations wedge-shaped in cross section, substantially as described.

4. The method of securing bristles or brush fiber in brush-blocks, which consists in first forming a cavity having a ribbed or corrugated wall in the back, then laying the bristles across the cavity, and then forcing the bristles into said cavity and expanding them therein, as herein described.

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

HENRY SOGGS.

Witnesses:

O. E. DUFFY,  
EDWARD E. ELLIS.