

F. H. HARDY.
DABBING BRUSH.

APPLICATION FILED JULY 7, 1908.

964,103.

Patented July 12, 1910.

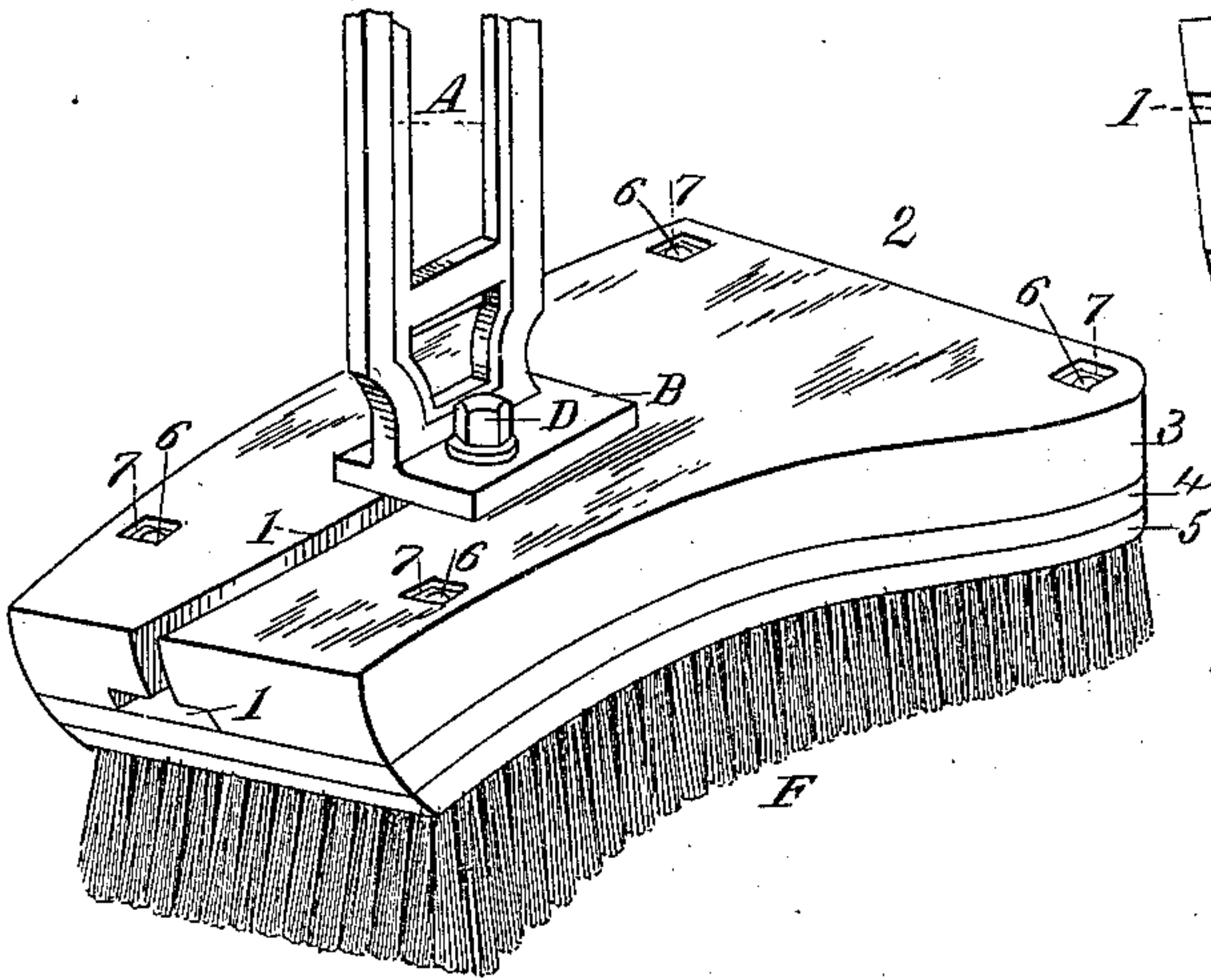


Fig. 1.

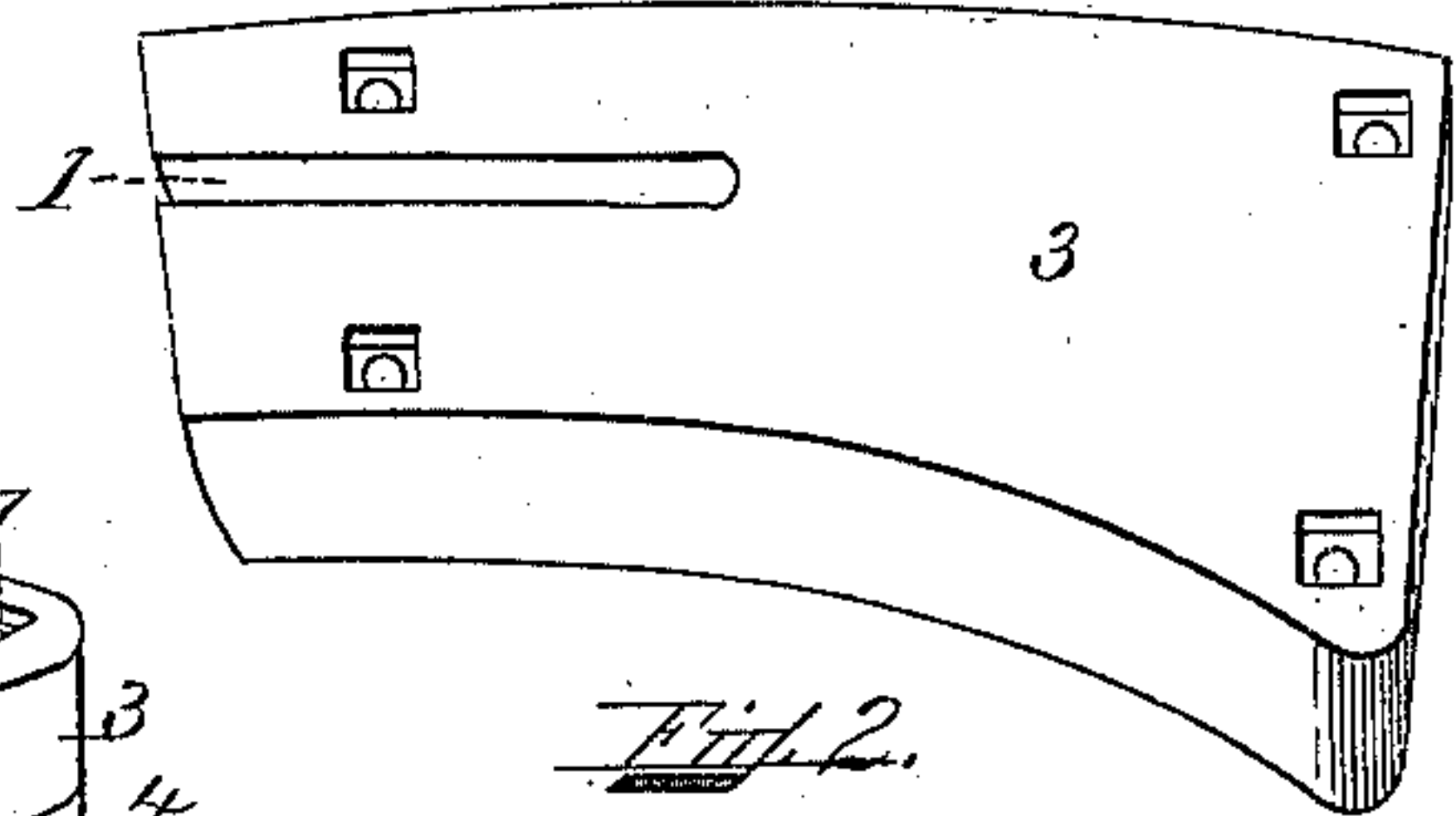


Fig. 2.

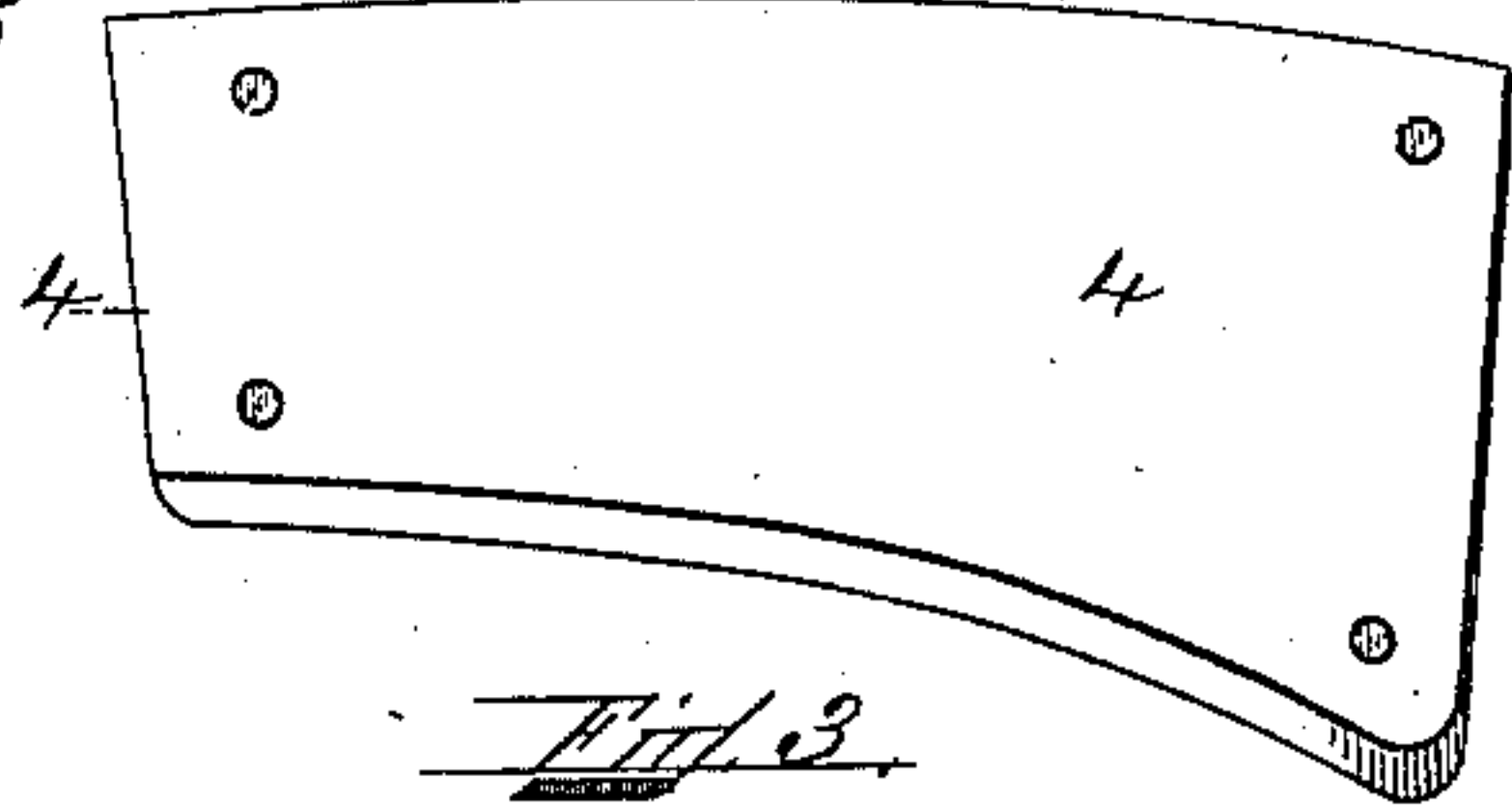


Fig. 3.

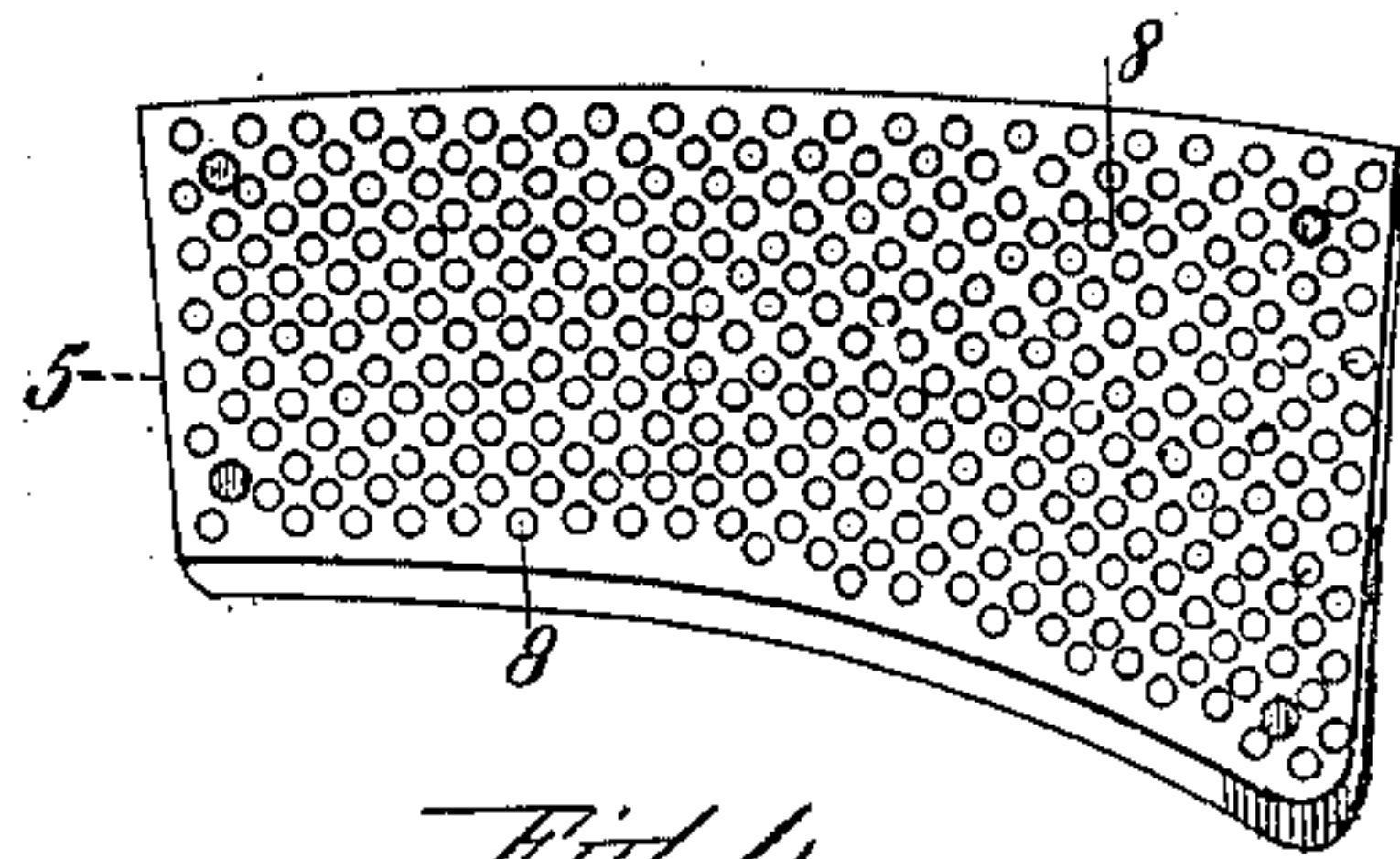


Fig. 4.

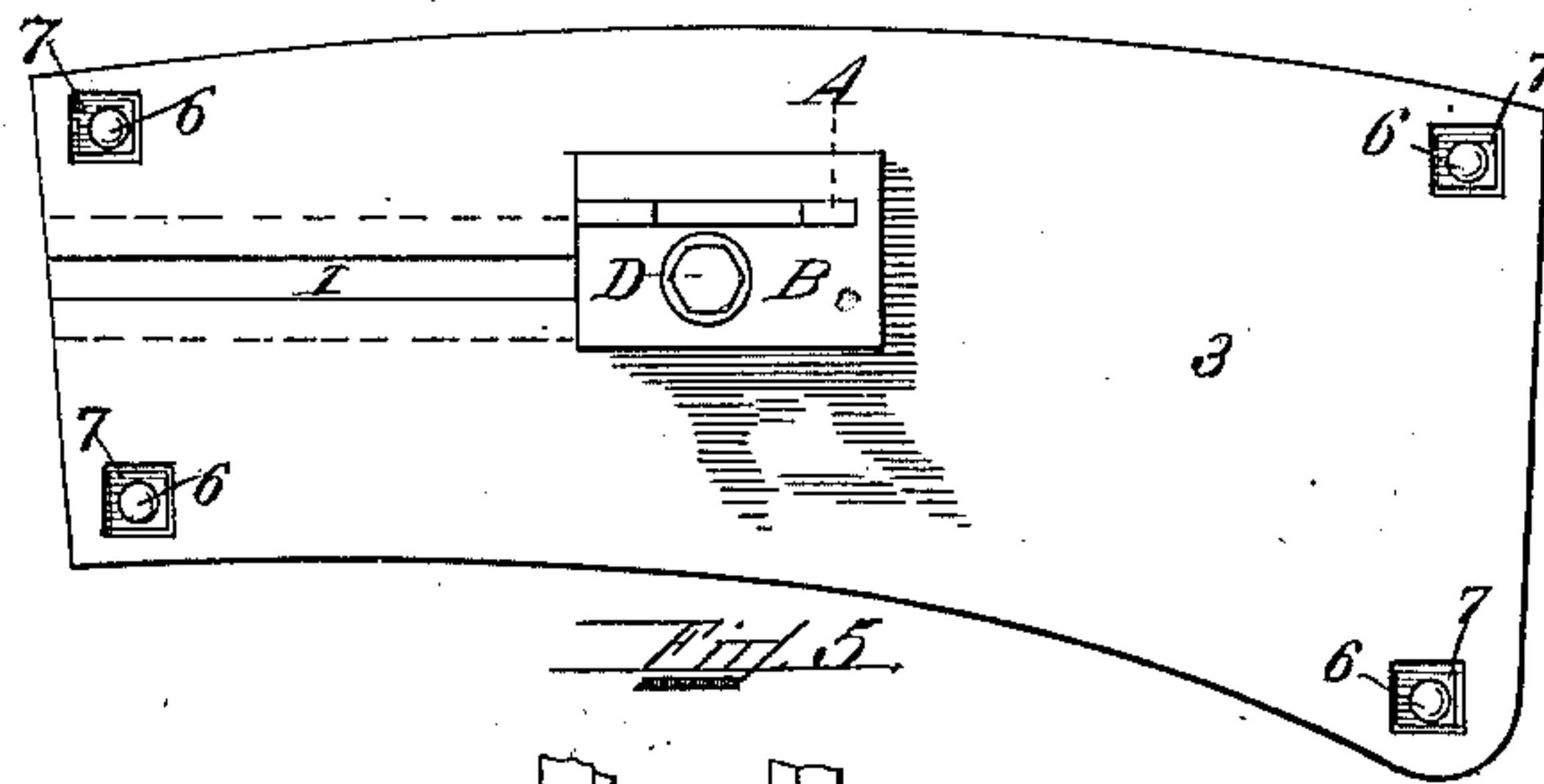


Fig. 5.

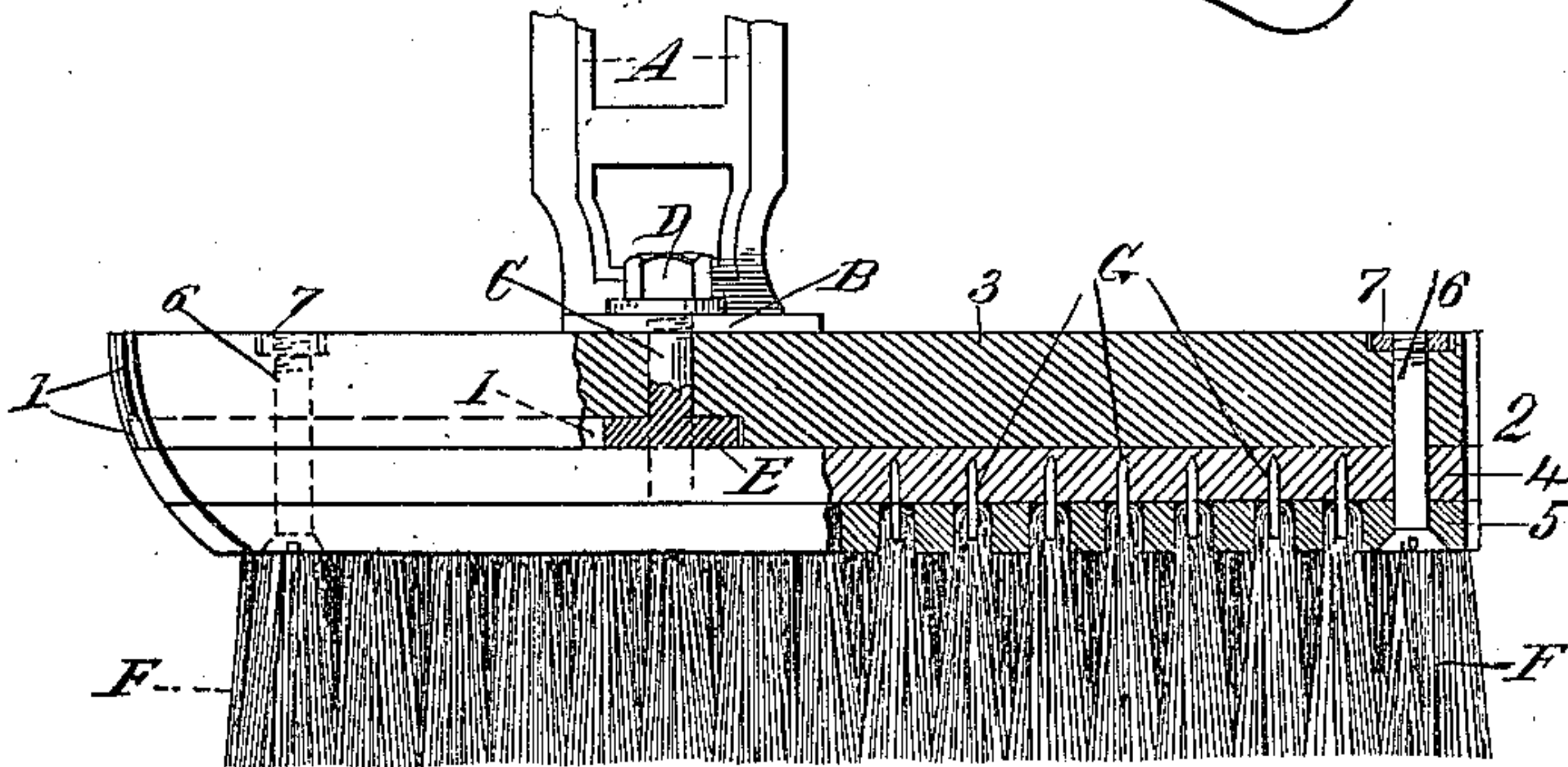


Fig. 6.

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UNITED STATES PATENT OFFICE.

FRANK H. HARDY, OF ANDOVER, MASSACHUSETTS.

DABBING-BRUSH.

964,103.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed July 7, 1908. Serial No. 442,350.

To all whom it may concern:

Be it known that I, FRANK H. HARDY, a citizen of the United States, residing at Andover, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Dabbing-Brushes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to dabbing brushes, sometimes called comb brushes, used with combing-machines. Its general objects are to increase the life of the brush; to reduce the cost and the time required in refilling the brushes; and to provide means quickly to remove and secure the brush to its combing machine.

Heretofore the bristles of dabbing-brushes have been secured in the brush block by being drawn or sewn in by hand, with wire. To do so involves a waste of time, provided there can be used a special machine which is adapted to drive a tuft of bristles into each hole and to secure the same therein, with a staple. I found, in using such a machine, that after several refillings, the wood between the holes was often broken away to such an extent that they could not continue to be refilled; further, that after a number of renewals the wood at the bottom of each hole became so punctured, that it would not hold the staples, and hence the bristles, in place. To overcome this objection, I substitute for a single wooden brush block, a block made up of two pieces, detachably secured together; one of tough, hard material which will not crack when the machine drives the bristles home; and the other, of wood into which the machine may drive the staples many times, and which, when worn out, may be quickly removed and replaced by a new one. Furthermore, before drawing in the bristles with wire, according to common practice, the back of the brush has to be removed, every time the brush is to be repaired. In consequence, as the screws by which the back is secured to the brush block, wear the holes larger and larger, new screw holes have to be made, and, in a short time, the back and the block become so weakened by the resulting destruction of the material that the brush becomes useless. This destruction I overcome by means of another feature of my combined bristle block, whereby the bristles may be set, withdrawn, and removed,

without separating the component parts of the brush, and one set of screws and holes is enough for the life of the brush.

To removably secure my brush to its combing machine, I provide what I will call a lock-block. It is the same as that of the ordinary dabbing brush, except that it has a slot which enters from the end of the block, and into which the head and shank of the locking bolt ordinarily used, may be slid. By this arrangement, the bolt may always remain in the combing machine, and, by moving the lock-block into proper position, the head and shank of the bolt will engage the slot, to movably secure the brush to the machine; and by screwing a nut down onto the bolt, the brush becomes rigidly fixed to the machine. By this feature of my invention, the brush may be quickly mounted or removed from its machine.

In the drawings illustrating the principles of my invention and the best known way of embodying those principles, Figure 1 is a perspective view showing my improved dabbing brush secured to a slide of a combing machine; Figs. 2 and 3 and 4 are perspective views of the parts of my invention, vertically separated from each other to show their exterior structure; Fig. 5 is a plan of the bristle block and slide; while Fig. 6 is an elevation showing my improved brush, broken away to disclose the relation of the parts to the bristles and staples, and to the slide.

A slide A, Figs. 1, 5 and 6, of the combing machine, has mounted in a hole through its base B, its customary bolt C, Fig. 6, retained therein by its nut D. By the engagement of a depending head E of the bolt, with a corresponding slot 1, in a brush frame 2, the latter may be supported by the slide A. The brush frame 2 may be said to consist of a lock-block 3, a staple block 4, and a bristle block 5, all of which, in plan, conform to each other in shape, as shown in Figs. 2, 3 and 4, and are secured together by tie screws 6 and concealed nuts 7, located near the corners of the frame. Before these blocks 3, 4, and 5, are assembled, the slot 1 is formed in the lock-block 3, and in cross section is similar to, but slightly larger than, that of the shank C and head E of the slide bolt, Figs. 1, 5 and 6, so that by causing the slot 1 to engage the head E of the bolt, and, when the slide and the brush are in proper relation to each other, by screwing down the

nut D on the slide bolt, the brush becomes rigidly fixed to the slide, which may give to the brush the reciprocating motion desired. Obviously, to remove the brush, the slide bolt nut D is loosened, and the lock-block 3 becomes loosely mounted, and may be moved away and freed; the bolt C remaining in the base B of the slide A.

To fill, or refill in whole or in part, the brush with bristles, the frame is properly mounted in a filling-machine, such, for example, as that known as the Liebig filling-machine, and tufts of bristles F, with their respective staples G, are driven through the bristle holes 8, in the bristle block 5, Figs. 4 and 6, the staples become buried and fixed in the staple block 4. The bristle block 5 being of particularly indestructible material, such as hard fiber, aluminum, or the like, it does not split between the holes 8, 8, either during or after the bristles have been driven and wedged into the bristle block. The staple block 4, made say of maple wood, does, after many renewals, wear out, but it may be readily replaced by a new one, by removing the tie screws 6, 6, and inserting it between the lock block 3, and the bristle block 5, and tying the three together in the way as described, and as shown in the drawings. Further, as the brush can be refilled without the removal of the lock-block, and the latter never has to be removed except, as above stated, when a new staple block is substituted, the lock-block can be used in-

definitely, which fact is not true of the lock-block heretofore used, and, of necessity, required to be removed each time the brush was refilled with bristles drawn or sewn in with wire.

In conclusion, by means of my invention I am enabled to use a filling machine to fill or refill my brush; the only destructible part of the brush, viz. the staple block, may be replaced when necessary; and the brush may be removed from the slide of the combing machine, without removing the lock-block from the slide, all of which results in a great saving of time and expense.

Having described the construction and the operation of my invention, and desiring to protect the same in the broadest manner legally possible, what I claim is:—

In a dabbing-brush for combing machines, a hard fiber bristle block, having bristle holes therethrough, each of which is adapted to receive and tightly bind and hold erect therein, a tuft of bristles; and a staple block secured to the back of the bristle-block and adapted to have driven therein, staples to retain the tufts of bristles in their holes in the bristle-block.

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

FRANK H. HARDY.

Witnesses:

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