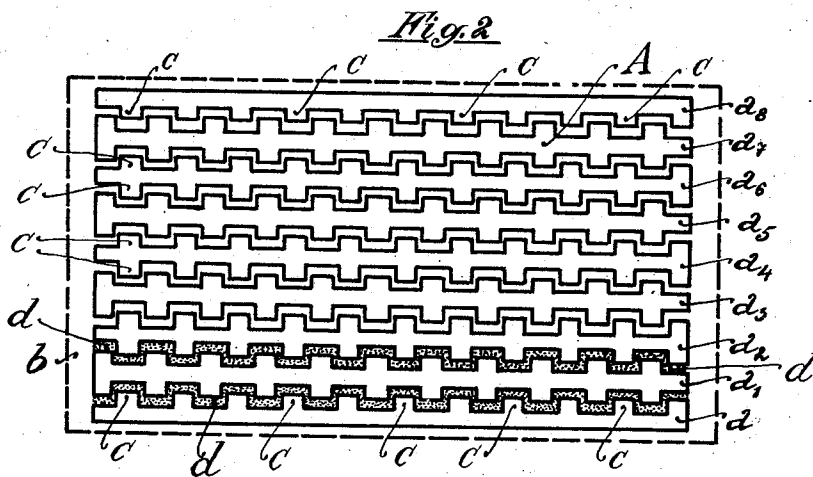
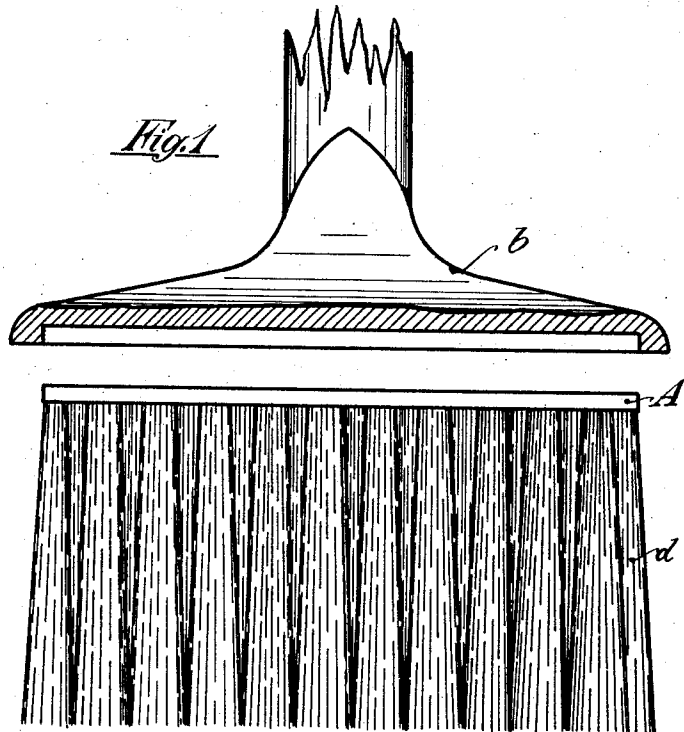


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BRUSH.

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1,061,814.

Patented May 13, 1913.



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UNITED STATES PATENT OFFICE.

CHRISTIAN BURGER, OF NUREMBERG, GERMANY.

BRUSH.

1,061,814.

Specification of Letters Patent.

Patented May 13, 1913.

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To all whom it may concern:

Be it known that I, CHRISTIAN BURGER, a citizen of the Empire of Germany, residing at Nuremberg, in the Empire of Germany, have invented a new and useful Brush, of which the following is a specification.

The known brushes, in which the ends of the bristles are clamped between parallel holders or holding strips, either smooth or longitudinally grooved and tongued on both sides, present the defect, that since the bristles are spread in layers of uniform thickness between the several holders, straight rows or long bunches of bristles are formed without spaces which leave channels or gaps between them near the holders and touch one another at their free ends, so that the brush does not possess a sufficiently large absorbent capacity and when such a brush has been used for a certain time long gaps will appear between the several bunches of the bristles.

My invention relates to an improvement in brushes, of the type described in which the said defect is removed and the brush is rendered somewhat similar in appearance to ordinary brushes with single bunches of bristles fastened in holes in the back.

The invention consists essentially in providing bristle holders or holding strips which are cut out to form recesses at both sides and at equal distance from each other. The remaining broad portions of the strips accordingly form projections which are at a right angle to the remaining thin portions of the strip and located opposite each other. These bristle holding strips are so arranged and assembled that the projections of one strip reach into the recesses of the adjoining strip and vice versa. By virtue of this arrangement peculiarly shaped channels are formed one between each pair of adjoining strips. These channels are purposed to receive the bristles which are clamped by the holding strips and forced thereby chiefly into the recesses. The clamped end portions of the bristles thus form an almost serpentine or waved continuous layer between the strips that adjoin each other with most of the bristles within the recesses. This arrangement of the bristles between the recessed holding strips imparts great absorbing capacity to these brushes.

I will now proceed to describe my inven-

tion with reference to the accompanying drawing, in which—

Figure 1 is an elevation of the new brush, the back securing plate being detached and partly shown in section, and Fig. 2 is a plan view of the same, the back securing plate being indicated by dotted lines.

The back A is made from several juxtaposed holders or holding strips $a, a^1, a^2, a^3, a^4 \dots a^s$, of which the extreme holders a and a^s are smooth on one side and provided with parallel transverse projections or teeth $c c$ on the other side leaving thus recesses between the adjoining projections. All the remaining holders $a^1, a^2 \dots a^r$ are shown to be provided on both sides with opposite projections $c c$. The projections $c c$ of any holder are located in the corresponding recesses of the adjoining holders forming thus a peculiarly shaped channel between each pair of holders.

The brush may be composed in the following manner: One extreme holder a is placed with its smooth side on some support, then a layer of bristles d is laid on it, care being taken that the ends of the bristles d are flush with the side of the holder a . It will then be found, that the bristles d mostly collect in the recesses between the projections $c c$. Now the following holder a^1 is put on and by pressing it downward its projections $c c$ will push some of the bristles upward into the recesses between them. A fresh layer of bristles d is put on and the following holder a^2 applied. In this manner the work is continued until a sufficient height for the required width of the brush is attained and the last holder a^s is put on. The several holders $a, a^1 \dots a^s$ with the layers of bristles d between them are now pressed together and the resulting brush is turned with the bristles upward, after which the back A so formed is dipped into warm pitch or glue or the like. The brush so formed is then connected with a back securing plate b of any approved construction.

As is clearly shown in Fig. 2 the clamped inner ends of the bristles d within the wave channels between each pair of adjoining strips or holders form a like waved continuous layer with most of the bristles in the recesses while the opposite ends of the bristles are spread out as shown in Fig. 1 so that the brush, when looked at from a side, is somewhat similar to an ordinary brush, in which single bunches of bristles are fastened

in holes of the back. The new arrangement of the bristles between the holders has the advantage of imparting to the brush so formed great absorbent capacity, since between any four opposite bunches of bristles there are intermediate spaces which are largest near the clamped inner ends of the bristles formed in contradistinction to the continuous gaps in the old brushes.

10 The holders or holding strips $a, a^1 \dots a^s$ may be made from any suitable material and the arrangement described of the bristles between the holding strips may also be applied to other brush-wares.

15 I claim:

1. A brush of great absorbent capacity, comprising a brush back composed of a multiple of bristle holding strips, each of the strips, except the two outside strips, being made
20 with alternating wide and narrow portions the wide portions being formed by opposite projections from the body of the strip and the said projections from one strip extending into the depressions of an adjacent strip
25 forming thus a wave like channel between each pair of adjoining strips, and a continuous layer of bristles clamped with their inner

ends in each channel leaving spaces near said clamped portion of the peculiar shape of the bristle holders which gradually decreases as the bristles spread out. 30

2. A brush of great absorbent capacity, comprising a brush back composed of two outer holding strips each smooth on the outside and made with alternating wide and narrow portions on the inside, and a multiple of inner strips, each of the inner strips being made with alternating wide and narrow portions the wide portions being formed by opposite projections from the body of the strip and the said projections from one strip extending into the depressions of an adjacent strip forming thus a wave like channel between each pair of adjoining strips, and a continuous layer of bristles clamped
45 with their inner ends in each channel leaving spaces near said clamped portion of the peculiar shape of the bristle holders which gradually decreases as the bristles spread out.

CHRISTIAN BURGER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."