

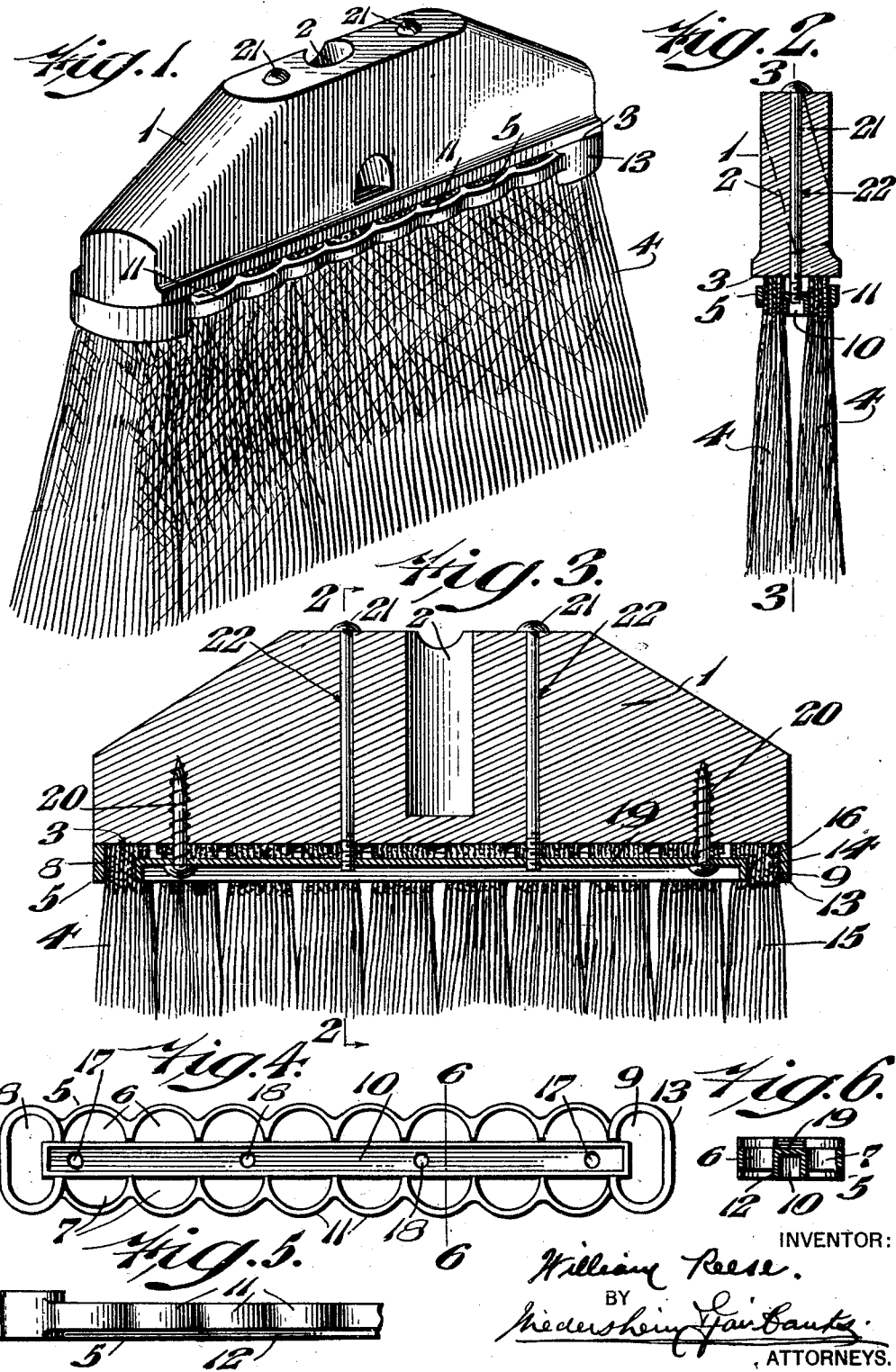
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BRUSH

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BRUSH.

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My invention relates to a new and useful construction in brushes and the like, and it relates more particularly to a novel "pre-formed" metallic tuft or head plate, having
5 suitable cavities or sockets therein for the reception of the individual tuft of hair or bristles, and upon which a series of tufts may be permanently assembled, and whereby said assembled tufts may then be attached to a
10 handle, head or stock of wood or the like.

My invention relates more particularly to the type of brushes in which a series of tufts of hair or bristles are assembled in rows, upon a suitable head or stock, and in which it has
15 been the practice heretofore, to form individual tufts of hair or bristles by wrapping wire around the roots of the bristles, and tying them thus into tufts, then encasing or dipping the roots of the tuft in a suitable plastic or
20 liquid cement, such as pitch, glue, or rubber, and then to secure the individual tuft of bristles to a wooden head or stock, by means of fastening devices extending through the tufts longitudinally, between the rows of tufts, and
25 extending upwardly into the head or stock. In this prior art construction, the wire wrapping around each individual tuft was thus exposed, and after a reasonable amount of use, one or more of the wrapping wires would
30 wear through or break, with the result that the tuft of bristles would be unbound and would fall out.

The object of my invention is to eliminate the breaking of the binders of the tufts, and thus
35 to increase the life of the brush considerably, by providing a pre-formed and integral head plate of metal having therein suitable tuft receiving sockets, into which the individual tufts may be inserted, and within which they
40 may be secured, so as to form a complete tuft assembly upon said plate, and thereafter to secure the tuft assembly upon the plate, to a suitable wooden head or stock, by one or several fastening means such as screws or the
45 like.

Another object of my invention is to eliminate the labor and time consumed in wrapping the tufts of bristles with the usual wire binder, at the roots thereof and thus greatly
50 to reduce the cost of manufacture of brushes of this character.

For the purpose of illustrating my invention I have shown in the accompanying drawings preferred embodiments thereof which
55 are at present preferred by me since they will

give in practice, satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not
60 limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

In the accompanying drawings,

Figure 1 represents a perspective view of
65 a brush embodying my invention.

Figure 2 represents a vertical transverse cross section on line 2—2 of Figure 3.

Figure 3 represents a longitudinal vertical section on line 3—3 of Figure 2.
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Figure 4 represents a top plan view of the pre-formed, integral metallic head plate, having therein the series of tuft receiving sockets.

Figure 5 represents a fragmentary side elevation of the metallic head plate of my invention.
75

Figure 6 represents a section on line 6—6 of Figure 4.

Referring to the drawings, in which like reference characters indicate like parts, 1 designates the wooden head or stock of the brush, having provided therein, a slightly inclined handle socket 2, of the usual construction, and to the lower surface 3 of which, the brush
80 or tuft assembly 4 is adapted to be secured, as shown particularly in Figures 1, 2 and 3.

The pre-formed integral metallic head plate or tuft plate 5, is shown particularly in Figures 4, 5 and 6, and comprises an integrally cast, die-cast, stamped or otherwise formed
85 metallic member of the same general shape as the lower surface 3 of the wooden brush head 1, and is provided with a series of upwardly extending tuft receiving sockets 6 on one longitudinal side of the plate, and a similar series
90 of tuft receiving sockets 7, along the opposed longitudinal side of the plate, as well as the two transverse terminal sockets 8 and 9. A rib 10 is provided intermediate the two opposed rows of sockets 6 and 7, extending longitudinally of the plate and formed integrally
95 therewith along a median line between the two terminal sockets 8 and 9. The rib 10 may be of any suitable cross section, such as a channel cross section illustrated particularly in
100 Figures 4 and 6. Thus each of the longitudinal sockets 6 and 7 is formed by one of the semi-circular outer or scallop shaped walls 11, which join with the upright longitudinal walls 12, of the channel 10. The vertical
105 110

walls 13 of the terminal sockets 8 and 9, are of a slightly greater height than the walls 11 of the intermediate sockets 6 and 7, so as to project slightly above the same, as shown particularly in Figures 5 and 6, thereby to space the rib 10, as well as the sockets 6 and 7, from the lower surface 3 of the brush head 1 a suitable amount.

In carrying out my invention, I take suitable tufts of hair, bristles or the like, of any desired size or length, with their ends aligned with each other, and insert the roots thereof snugly into the sockets 6 and 7, as well as the terminal sockets 8 and 9, in the manner shown particularly in Figures 2 and 3, completely filling said sockets with bristles. With the sockets thus filled with bristles, in the manner shown particularly in Figures 2 and 3, the socket plate 5 is then dipped into a suitable cement, preferably a rubber cement or latex rubber, so as to impregnate the bases of the bristles and to fill the interstices between the roots of the bristles and the walls of the tuft sockets, with such binder or cement 16, in a manner shown in Figures 2 and 3, in which figures it will be seen that the bases or roots of the bristles 14 are encased and enclosed within a rubber filler or binder 16, which completely surrounds the roots and fills the spaces between the successive roots of the bristles as well as the spaces between the bristles and the metallic walls 11 and 13 of the tuft sockets 6, 7, 8 and 9.

After thus impregnating the roots of the tufts of bristles, with a rubber binding cement, the binder of rubber is then vulcanized in the usual manner by the application of heat thereto and with the use of appropriate accelerator. By this means a tuft assembly is produced upon the metallic plate 5, which is complete and which may then be applied to any suitable head or handle, as may be desired.

For the purpose of securing the tuft assembly or brush assembly 4 to a suitable handle or head 1, a series of suitable apertures 17 and 18 are provided in the upper wall 19 of the longitudinal rib 10 of the tuft plate 5. The brush assembly 4 is then positioned against the lower surface 3 of any suitable wooden head or stock 1, and a pair of wood screws 20 are passed through the apertures 17, into the stock 1 and secured tightly. If desired, a series of machine screws 21 may be passed through suitable apertures 22 in the wooden stock or rod, and

threaded into the apertures 18, which have previously been provided with proper internal threads. By this means the entire brush assembly is drawn up tightly against the lower surface 3 of the wooden head stock 1, thus completing the brush.

It will now be apparent that I have devised a novel and useful construction of brush and method of making same which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the character stated, the combination of an integral socket plate having a longitudinal central channel therein, a plurality of rows of intermediate tuft receiving sockets extending longitudinally of said plate on either side of said channel, transverse end sockets of greater width and having walls of greater height than those of said intermediate sockets, tufts of bristles seated in all of said sockets and adhesively secured therein, and a cement filling the interstices between the roots of said bristles, said longitudinal channel of said socket plate being adapted for the reception of fastening devices to secure said plate to a handle.

2. In a device of the character stated, a brush handle, an integral socket plate having a longitudinal channel therein, detachably secured thereto and having a plurality of rows of intermediate tuft receiving sockets open at their tops and bottoms and extending longitudinally thereof on each side of said channel, end sockets of greater width than said intermediate sockets, tufts of bristles seated in all of said sockets and adhesively secured therein, a cement filling the interstices between the roots of said bristles and fastening devices having their ends anchored in said longitudinal channel of said socket plate for securing the latter to said brush handle.

WILLIAM REESE.