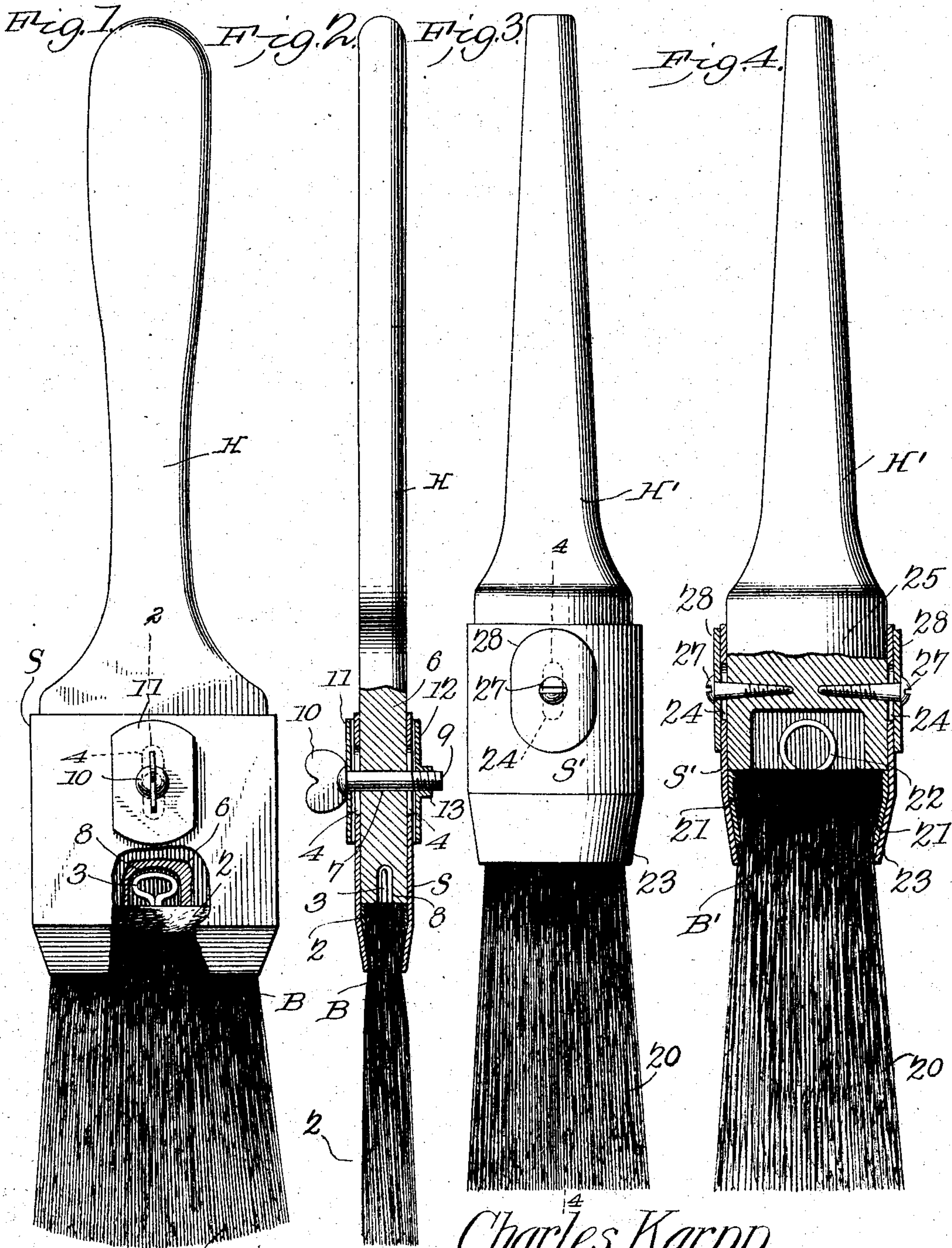


No. 773,014.

PATENTED OCT. 25, 1904.

C. KARPP.
BRUSH CONSTRUCTION.
APPLICATION FILED DEC. 12, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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BRUSH CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 773,014, dated October 25, 1904.

Application filed December 12, 1903. Serial No. 184,959. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KARPP, a citizen of the United States, residing at Wallingford, in the county of New Haven and State of Connecticut, have invented a new and useful Brush Construction, of which the following is a specification.

This invention relates to the construction of brushes, and more particularly to the construction of paint-brushes.

The principal object of the invention is to provide a brush in which the bristles are so secured that they cannot become accidentally detached from the brush and in which the brush-head and the handle are so connected that the brush-head may be quickly detached from the handle and replaced by another brush-head when desired.

A further object of the invention is to provide an improved form of brush in which the brush-head is adjustably secured within a socket on the handle, so that its position in the socket may be varied to alter the effective length of the bristles, and so vary the stiffness of the brush.

A further object of the invention is to provide an improved form of brush in which the brush-head is detachably connected with a socket on the handle and is provided with a device for suspending the brush-head in a cleaning or softening fluid.

In attaining the objects above stated I make use of the novel forms of brush hereinafter fully described, illustrated in two preferred forms of embodiment in the accompanying drawings, and having the novel features thereof particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in side elevation of a brush of the flat type, part being broken away to show interior construction. Fig. 2 is a view in section on the line 2 2 of Fig. 1. Fig. 3 is a view in side elevation of the round form of brush. Fig. 4 is a view in section on the line 4 4 of Fig. 3.

Referring to the drawings, in which corresponding parts are designated by similar characters of reference throughout, B designates a brush-head of the flat type, which consists of a sufficient quantity of bristles 1, held

together at the top by glue and bound around with a band 2, of cloth or metal, as preferred. The band 2 is tightly secured around the glued ends of the bristles and is securely united therewith by the glue, which holds the bristles together. In the top of the brush-head B there is secured a loop or eye 3, which affords convenient means for suspending the brush-head in benzine or other suitable liquid for cleaning and softening the brush after use in painting. The loop or eye 3 is preferably formed of wire, as shown, and may be fastened in position in any preferred manner.

The brush-head B is adapted to fit within a socket S, formed, preferably, of metal in one piece. The socket in this instance is shown as rectangular in cross-section and at the bottom is formed with a slight taper on all sides, forming a seat within which the top of the brush-head is securely held when forced down through the open bottom of the socket S to the fullest extent. The socket S is provided with vertically-disposed slots 4, exactly opposite each other in the front and back thereof, and the opening in the upper end of the socket is of just the right size to receive the lower end 6 of a handle H. The handle is made of wood, as usual, and is of any ordinary or preferred form, being easily made by any one having any skill in the use of wood-working tools. The lower end 6 of the handle is provided with an opening 7, extending from front to back, as shown, and adapted to receive a screw, and at the bottom a recess 8 is provided for the reception of the loop or eye 3 on the top of the brush-head.

In order to assemble the parts of the brush and hold them in association, the brush-head must first be introduced into the socket. This is accomplished by wrapping a piece of paper or thin cloth around the loose ends of the bristles and passing the wrapped bristles through the socket from above downward. The wrapping around the bristles is then removed and the brush-head forced down until its further movement is stopped by contact of the band 2 with the seat formed by tapering the lower end of the socket or until the bristles protrude from the lower end of the socket to the extent desired. The lower end

6 of the handle is then introduced into the socket until the bottom thereof contacts with the top of the brush-head. A clamp-screw 9, with a winged head 10 and provided with a spring-washer 11, is then introduced through the slots in the socket and through the opening 7 in the lower end of the handle, and a nut 12, consisting of a dished plate of the same size as the spring-washer 11 and provided with a central threaded sleeve 13, is secured upon the end thereof, as shown in Fig. 2.

As the slots 4 in the socket S are of considerable length, the position of the handle may be varied sufficiently to make an appreciable difference in the length of the bristles projecting below the bottom of the socket and the stiffness of the brush correspondingly varied. When the brush-head is seated in the bottom of the socket and the handle is forced down into firm contact with the top of the brush-head, the brush-head will be very tightly held and any movement of the head in the socket absolutely prevented. When the handle is not pressed down firmly upon the top of the brush-head, the brush-head will be pressed upward against the handle and will remain in that position in use, as the band 2 around the top of the bristles is adapted to fit closely within the socket S, and the slight lateral play of the top of the brush-head in the socket will not interfere with the satisfactory action of the brush in painting.

In Figs. 3 and 4 the same principles of construction are shown as embodied in a brush of the round form. In the round brush the head B' is constructed of a mass of bristles 20, securely glued together at their upper ends and bound around with a band 21 of cloth or metal, cloth being preferred. In the top of the brush-head a loop or eye 22 is provided, as in the flat brush-head already described. The round brush-head is fitted in a round socket S', the lower end of which is tapered, as shown at 23, to form a seat, within which the band around the top of the brush-head fits tightly when the brush-head is forced down to the extreme length of its downward movement through the socket. The socket S' is provided at diametrically opposite points with vertically - arranged slots 24 and is adapted to receive a round handle H', whose lower end is of suitable diameter to fit exactly within the socket. The lower end 25 of the handle H' is provided in the bottom with a cavity 26 to receive the loop or eye 22, and screw-holes are provided at diametrically opposite points in the lower end of the handle to receive screws 27, which serve to hold the handle in rigid association with the socket. The screws 27 are ordinary wood-screws, and each is provided with a curved plate 28, forming a spring-washer to cover one of the slots in socket S'.

The mode of assembling the elements of the round form of brush is similar to the mode

of assembling the elements of the flat brush, and detailed description of the operation of assembling the parts is regarded as unnecessary.

Brushes of the forms above described are adapted for use in precisely the same manner that brushes of the ordinary types of construction are used; but as the brush-heads are detachably connected with the handles it is unnecessary to throw away the entire brush when the bristles become so worn as to be no longer useful. When the bristles are worn out, the brush-head may be quickly detached from the handle and replaced by a new one. For this reason it will be desirable to sell the brushes in sets, each set consisting of one handle and socket, together with a suitable number of brush-heads, say three or six. The brush-heads may all be provided with bristles of the same or of different lengths, as desired, and after one brush-head has been used upon one kind of work it may be quickly replaced by a fresh brush-head for another kind of work. The brush-heads removed from the handles may be suspended, by means of the loops or eyes provided for that purpose, in benzine or other suitable softening and cleaning fluid. The suspension of the brush-heads by means of the loops or eyes is preferable to the ordinary method of cleaning by simply setting the brushes in a vessel containing the cleaning fluid and allowing them to rest upon the ends of the bristles, so acquiring a permanent set or bend.

By making the brush-heads separate from the handles and sockets and securing the bristles of each brush-head, by means of glue, with an encircling band to protect the ends of the outer bristles it is possible to produce a brush-head in which the bristles are so held that it is practically impossible for the bristles to become accidentally detached, and so to do away with one of the principal defects in paint-brushes as generally constructed.

While I have described and shown two preferred forms of embodiment of my invention, it will be obvious that the same principles of construction may be embodied in brushes varying considerably as to the minor structural details and presenting elements of different forms and proportions. I do not limit myself, therefore, to the exact structures shown and described, but reserve the right to make such variations therein as lie within the scope of the appended claims.

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

1. In a brush construction, a socket having oppositely-disposed slots, a brush-head fitted in the lower end of said socket, a handle fitted in the upper end of said socket and handle-securing devices extending through the slots in said socket.

2. A brush comprising an open-ended

socket, a brush-head projected through one end of the socket and capable of being inserted and removed through the opposite end thereof, a suspension-loop carried by the top
5 of the head, a handle removably fitted in said opposite end of the socket and provided in its inner end with a recess to receive the suspension-loop, and means to detachably connect the handle with the socket.

10 3. In a brush construction, a socket tapered at its lower end and provided with opposite slots disposed lengthwise in the sides thereof, a brush-head seated in the lower end of said socket and slidable therein, a handle fitted in
15 the upper part of said socket, and means for

adjustably securing the handle in position, said securing means consisting of spring-washers arranged over said slots and transverse means carried by said handle extending through said washers and said slots for
20 clamping said washers in engagement with said socket.

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

CHARLES KARPP.

Witnesses:

JOHN A. MARTIN,
D. L. BARBER.