

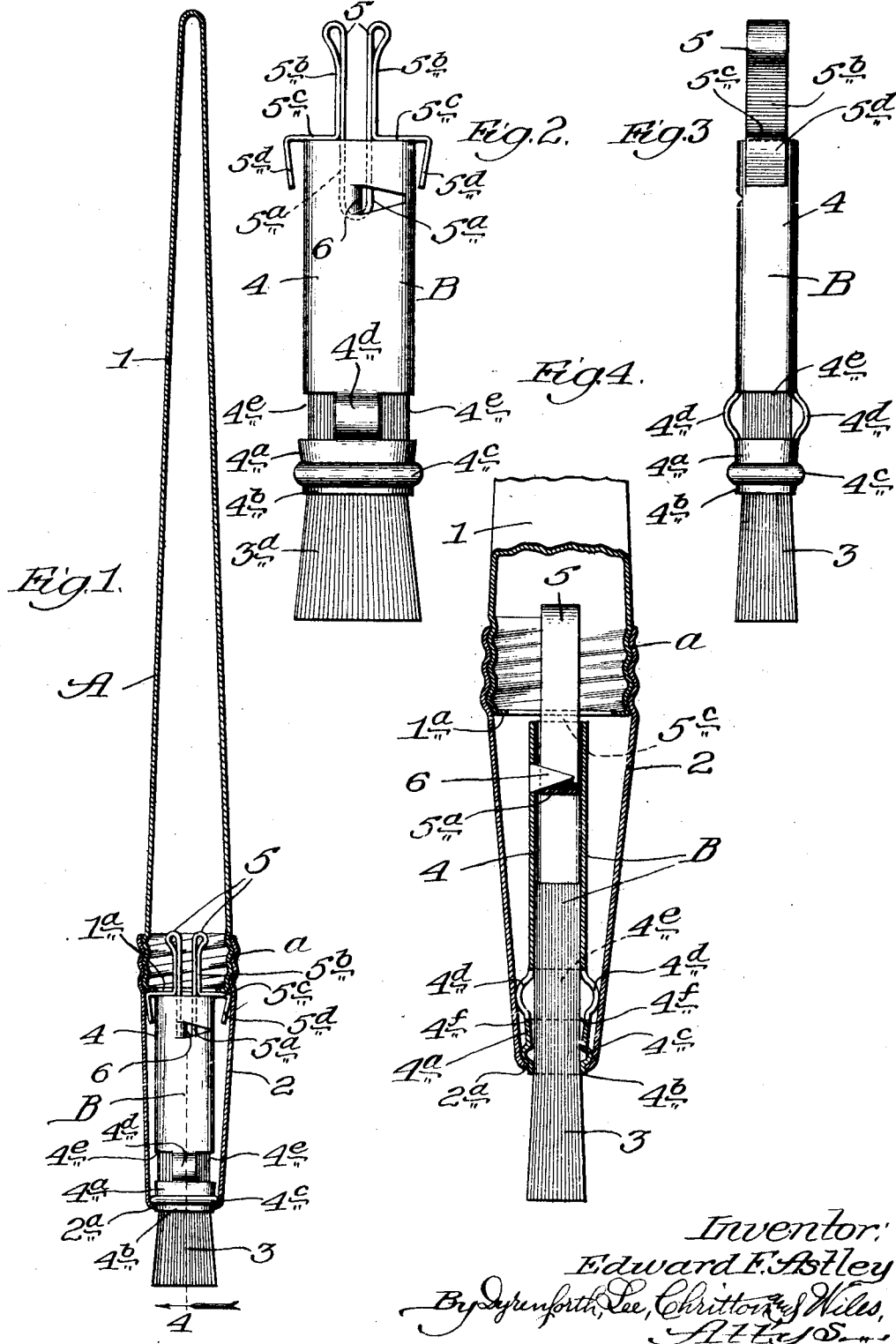
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FOUNTAIN BRUSH

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FOUNTAIN BRUSH.

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This invention relates particularly to fountain-brushes; and the primary object is to provide a fountain-brush of simple construction which is reliably automatic in the feed of the color when the brush is manipulated in the normal manner to apply the paint, or color, to a surface.

The present application constitutes a continuation in part of my application Serial No. 173,380, filed March 7, 1927.

The invention is illustrated in a preferred embodiment in the accompanying drawing, in which—

Fig. 1 is a sectional view of a fountain-brush embodying the invention; Fig. 2, a side elevational view of the detachable brush-unit; Fig. 3, an edge view of the unit shown in Fig. 2; and Fig. 4, an enlarged broken sectional view taken as indicated at line 4 of Fig. 1.

In the preferred embodiment illustrated, the device comprises a fountain-handle A and a removable brush-unit B housed in the tip-member of the handle at the operative end of said handle.

The handle preferably comprises two hollow members, the main handle-member being designated 1, and the tip-member, or cap-member, being designated 2. These members are connected at *a* by means of a screw connection. The lower extremity of the member 1 is provided with an inturned flange, or shoulder, 1^a.

The cap-member 2 which constitutes the operative end of the handle is provided with an opening at its lower end which is encircled by an inturned flange, or lip, 2^a.

The brush-unit B, in the illustration given, comprises a bunch of bristles 3; a tubular ferrule 4 within which the upper ends of the bristles are tightly compacted and secured, the ferrule being provided with a ferrule-extension 4^a having at its extremity an enshealing annulus 4^b, immediately above which is located an annular bead 4^c which provides within it an annular groove adapted to serve as a small auxiliary reservoir located immediately adjacent the annulus 4^b; and an anchor device 5 loosely connected with the upper end of the ferrule 4 and serving as a means for centering and holding the upper portion of the ferrule when the brush-unit is clamped between the lower end 1^a of the handle-member 1 and the lip 2^a of the handle-member 2.

The ferrule 4 and its extension 4^a preferably are formed integrally with each other, being connected by loops, or curved strips, 4^d, between which strips are located intervening ports, or openings, 4^e.

That portion of the ferrule-extension 4^a which is immediately above the bead 4^c loosely encircles the bristles, leaving a slight annular space 4^f through which liquid may feed from the ports 4^e to the groove which is within the hollow bead 4^c.

The anchor-member 5, in the illustration given, comprises a somewhat resilient strip of sheet-metal bent to form at its intermediate portion a loop 5^a which depends freely into the upper portion of the ferrule 4, members 5^b formed by bending the members of the strip backwardly upon themselves, outturned members 5^c formed by bending the members of the strip laterally, and convergent extremities 5^d depending at the edges of the upper portion of the ferrule and adapted to engage the walls of the tip-portion 2 of the handle and thus center the upper portion of the ferrule.

The member 5 is connected with the ferrule by striking a brad 6 inwardly from one side of the ferrule, this brad engaging the loop 5^a. The arms 5^c are adapted to rest upon the upper end of the ferrule and be engaged by the lower extremity 1^a of the handle-member 1, so that the ferrule and its extension will be clamped in position in the tip-member of the handle, as illustrated. The bead 4^c makes a liquid-tight joint with the annular lip, or seat 2^a. The bristles 3 are embraced by the annulus 4^b with sufficient closeness to provide normally sealing contact, due to the resilience of the bristles. When the brush 3 is flexed in the brushing operation, however, the bristles are pressed away from the inner surface of the annulus 4^b at one side of the annulus, thus leaving a small intervening space through which liquid may flow outwardly and air may pass inwardly.

The operation is very simple. The members of the handle may be separated, and the ink, paint, varnish, or color, may be poured into the handle-member 1. The tip-portion 2 of the handle containing the brush-unit may then be connected to the member 1, in which operation the brush-unit is clamped in position within the tip-portion of the handle with the operative end of the brush protruding. The liquid in the fountain-handle

flows inwardly through the ports 4^e of the ferrule and through the annular channel 4^f of the ferrule-extension to the annular groove of the hollow bead 4^e. Normally, the liquid will not flow outwardly through the joint between the annulus 4^b and the bristles. When brushing pressure is exerted, however, the bristles are flexed to one side, thus opening a small space between the bristles and the interior surface of the annulus 4^b at one side. This permits the liquid to flow outwardly from the annular groove of the bead 4^e, which thus serves as a small auxiliary reservoir, or feed-chamber, which is located immediately above the ensealing annulus 4^b. The supply of liquid within the bead 4^e is maintained by liquid flowing from the interior of the handle through the ports 4^e and the annular passage 4^f. These parts preferably are so designed as to permit the liquid to be fed slowly to the interior of the hollow bead 4^e, but with sufficient speed to maintain the bead in filled condition during the brushing operation.

When desired, the handle-members of the brush may be disconnected from each other and the brush-unit may be withdrawn from the tip-portion of the handle by grasping the upwardly extending arms of the anchor device 5 and pulling the brush-unit from its housing. The brush-unit may then be soaked in a solvent, if desired.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. A fountain-brush comprising a liquid-containing handle provided at its operative end with an opening, and a brush-unit secured within the operative end of said handle, comprising bristles and means holding the bristles compacted together some distance above said opening, the extremity of the operative end of the handle being equipped with an annulus which embraces and normally makes sealing contact with the bristles extending therethrough but permits the bristles to be moved away from the embracing wall at one side when brushing pressure is exerted, thus opening a space through which liquid may flow outwardly and through which air may pass inwardly.

2. A fountain-brush of the character set forth in claim 1, including a small annular reservoir encircling the bristles just above the sealing annulus, and means to feed liquid thereto from the supply within said handle.

3. A fountain-brush comprising a liquid-containing handle consisting of a main-handle portion and a tip-portion, the tip-portion having an annular seat adjacent its opening, and the brush having its bristles mounted in a ferrule provided with an extension having an annular shoulder which engages and forms a liquid-tight contact with said seat, said extension having at its outer end an annulus which normally makes sealing contact with the bristles extending therethrough but leaves resilient the bristles so that they may be moved away from the embracing wall at one side when brushing pressure is applied on the bristles, said ferrule-extension having means for admitting fluid to said ensealing annulus.

4. A fountain-brush comprising a main handle-portion, a tip-portion, and a removable brush-unit housed within said tip-portion, said brush-unit comprising a brush and a ferrule provided with an extension having an admission port and having below said port an annular shoulder seating on an annular lip at the extremity of the tip-portion of the handle.

5. A fountain-brush as specified in claim 4 in which the ferrule and ferrule-extension are clamped between the lower extremity of the main handle-member and an annular shoulder at the lower extremity of the tip-portion of the handle.

6. A fountain-brush as specified in claim 4 in which the ferrule-extension is provided with an annular groove immediately above the ensealing annulus, said extension being provided with means for admitting liquid from the interior of the handle to said annular groove.

7. For use in a fountain-brush, a brush-unit comprising a ferrule and bristles having their upper ends compacted and secured in said ferrule, said ferrule having an extension forming an annulus embracing the bristles which make sealing contact through their resilience with the inner surface of said annulus and said extension having means for feeding liquid therethrough to the annular plane of contact between the bristles and ensealing annulus.

8. A brush-unit of the character specified in claim 7, in which the ferrule-extension has an annular bead adapted to seat on an annular lip at the extremity of the tip-portion of the fountain-handle, and a centering and anchoring device engaging the upper portion of the ferrule and adapted to be engaged by the main-handle member, whereby the ferrule and its extension will be clamped between said lip and the main-handle member.

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