(No Model.)

T. F. GAYNOR & W. J. FITZGERALD.

SELF FEEDING BRUSH.

No. 257,312. Patented May 2, 1882.

Fig. 1.



Fig. 3.

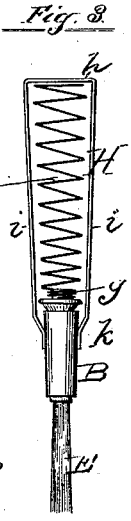


Fig. 4.

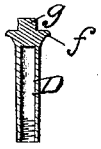


Fig. 5.

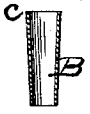


Fig. 6.

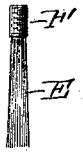
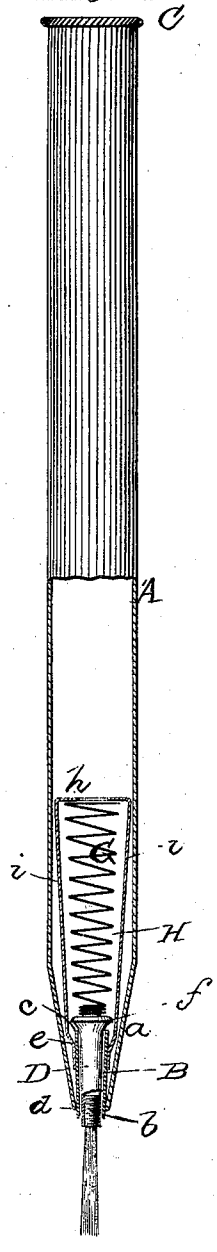


Fig. 2.



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UNITED STATES PATENT OFFICE.

THOMAS F. GAYNOR AND WILLIAM J. FITZGERALD, OF NEW HAVEN, CONN.

SELF-FEEDING BRUSH.

SPECIFICATION forming part of Letters Patent No. 257,312, dated May 2, 1882.

Application filed March 9, 1882. (No model.)

To all whom it may concern:

Be it known that we, THOMAS F. GAYNOR and WILLIAM J. FITZGERALD, citizens of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Self-Feeding Marking-Brushes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention consists in certain improvements, as hereinafter described and claimed, in fountain-brushes for marking boxes, barrels, and packages, and also for painting, staining, oiling, and other purposes.

In the drawings, Figure 1 represents a vertical elevation, and Fig. 2 a similar view, partly in section, of our improved brush. Figs. 3, 4, 5, and 6 are detail views of some of the parts separately.

A is the handle, which is made hollow to receive the ink, paint, or other marking-fluid. This handle or fountain is constructed of any suitable or desired material, and is formed conical at its lower end, *a*, as shown. A sleeve, B, is secured within the conical end, within which the brush works.

C represents a screw-cap, cork, or other suitable stopper, which is removable to admit of the fountain being readily filled with paint or ink.

E is the brush, which, as shown in Fig. 6, is formed on a cylinder or thimble, F, having a screw-thread cut thereon to admit of its attachment to a holder, to be presently described. The hair or bristles are drawn through the thimble, and may readily be removed and replaced by new bristles when desired; or the thimble and brush may be removed and others of different character substituted, as desired.

In Fig. 5 we have shown the sleeve separately. This consists of a tapering shell, its smaller end being fitted and securely fastened into the small or conical end of the fountain at *b*, its larger end being within the fountain, and its inner edge, *c*, forming the seat for the valve D. This edge *c*, by reason of being comparatively sharp, tends to cut or grind the grit, lamp-black, or other solids contained in the paint or ink, and thereby keeps the opening through which the paint flows when the brush is used tightly closed when not in use. The inner end of this sleeve B is a sufficient distance from the end *d* of the fountain to leave a space, *e*, between the outside of that part of the sleeve within the fountain and the inside of the cone, into which space any grit or foreign substance which may be in the paint or ink will fall or settle, whereby the choking of the valve and its seat is avoided. The valve shown in Fig. 4 is made in one solid piece of metal or other suitable material, and is screw-threaded in the smaller or outer end to adapt it to receive the thimble and brush, which are usually screwed into it from the outside. This valve is tapering on the outside, so that when pressed upward into the tube the space between it and the inside of the sleeve B is increased and a quantity of ink, more or less great, depending upon the degree of pressure exerted upon the brush, is allowed to flow out upon the brush through the opening caused thereby. Upon the brush being removed from the surface being painted upon the spring G will force the valve down, thereby closing the valve, by pressing the flange *f* against the edge *c* of the sleeve B and stopping the supply of ink or paint to the brush. Extending outwardly from the center of the flanged portion is a knob, *g*, to which the small end of the conically-shaped spiral spring G is attached. The pressure of the spring is thus exerted centrally upon the valve and brush-holder, and also forces the valve squarely upon the valve-seat. The spring G is conical in form and is made of ordinary spring-wire, the larger end having for its seat the inner side of the large end of a yoke, H, as shown in Figs. 2 and 3, and the small end being fitted upon the knob *g* and securely fastened thereto. By pressing down upon the brush and against the surface to be marked upon the valve is forced off its seat, which allows the paint to flow out upon

the brush. The spring has such a degree of tension as to prevent the valve rising off its seat when the brush is being drawn upon the surface being painted with the same pressure used upon an ordinary brush. This enables the operator to use up one brushful before again saturating the brush, thereby using the paint or ink economically. This spring is yet so elastic that by the exertion of a slightly greater pressure a continuous flow of ink or paint will be conveyed to the brush every time the valve rises off its seat. This is especially desirable when extra heavy marking has to be done. The larger end of the yoke H is for the purpose of taking the back-pressure of the spring G, while the sides *i* form a guard to keep the spring in proper position. The small ends *k* are securely attached to the sleeve B, which permits of the whole inside parts being made in perfect working order before insertion in the fountain.

J represents in dotted lines a cap of metal or other suitable material, which fits snugly upon the fountain for the purpose of protecting the brush when not in use.

The brush is entirely automatic. When in use no vent-hole is necessary, as the air enters the fountain through the same passage through which the ink or paint flows out, filling the vacuum thus produced when operated. Increased vent may be given, if desired, by partly withdrawing the stopper, the amount of air entering the fountain being regulated according to the flow of ink or paint desired. The brush can be readily removed and another of different character or length or degree of stiffness substituted whenever desired. Moreover, springs of different degrees of tension can be readily applied, as the spring, with its attached valve and brush, can be readily removed from the yoke when desired. By attaching the spring to the valve said spring will have a constant tendency to close the valve, thereby entirely preventing the outward flow of the ink or paint when the brush is not in use. By arranging the spring within the yoke said spring is effectually guarded against the effect of any concussion to which the handle may be subjected, which would not be the case were the spring in immediate contact with the handle.

Having thus described our invention, what we claim is—

1. In a fountain-brush, the combination, with the handle or fountain, of the hollow bristle-receiving thimble F, screw-threaded on its exterior, interiorly screw-threaded brush-holder and valve D, having flange *f*, and the sleeve B, substantially as and for the purpose set forth.

2. A marking-brush consisting of the fountain A, sleeve B, rigidly attached thereto at its lower end, screw-threaded thimble F, brush E, valve D *f*, yoke H, attached at its lower end to the sleeve B, and the spiral spring G, attached at one end to the valve D *f*, said spring, valve, and brush-holder being adapted to operate within said yoke, substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS F. GAYNOR.
WM. J. FITZGERALD.

Witnesses:
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