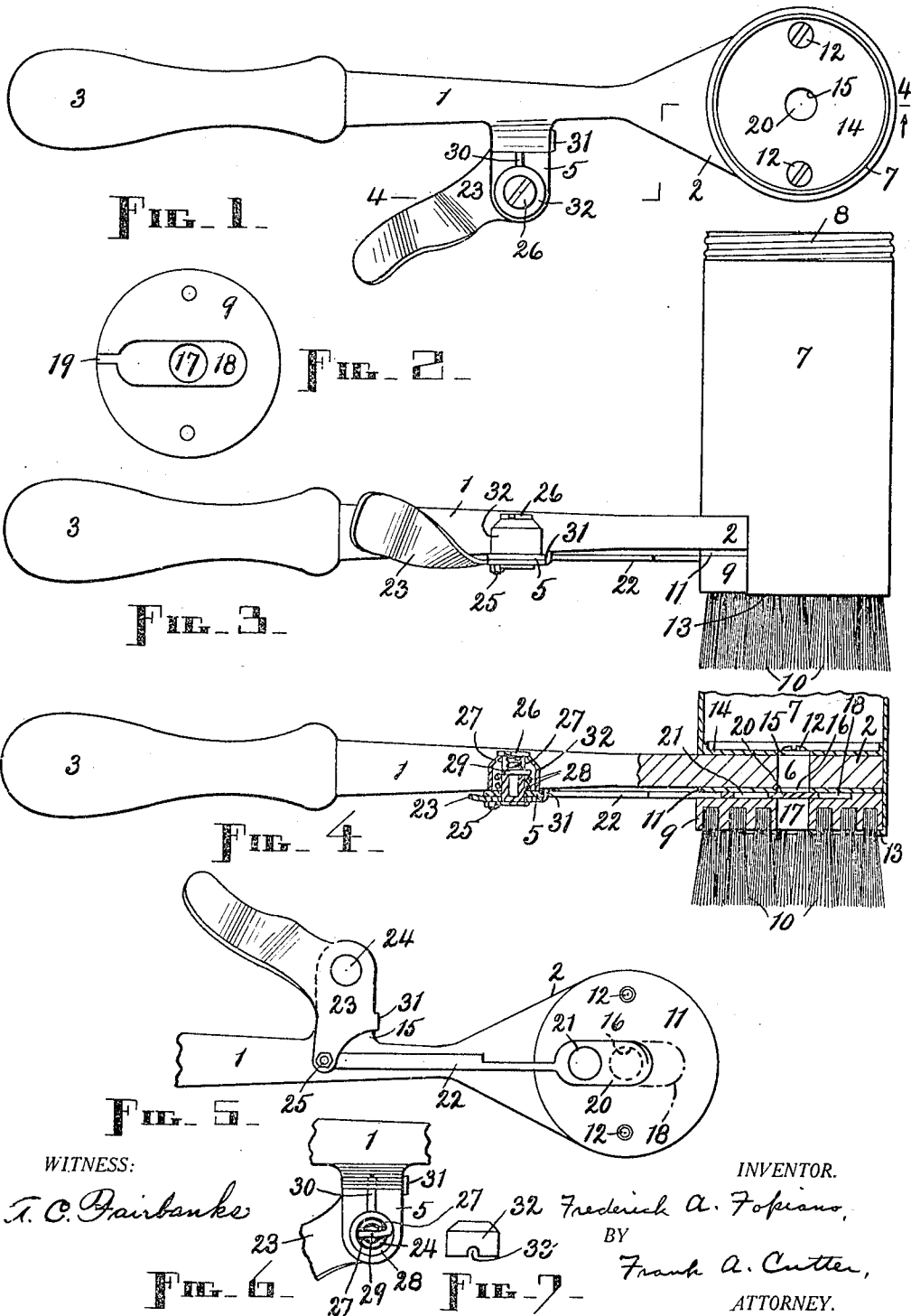


F. A. FOPIANO.
 FOUNTAIN BRUSH.
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1,293,071.

Patented Feb. 4, 1919.



WITNESS:

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FOUNTAIN-BRUSH.

1,293,071.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK A. FOPIANO, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Fountain-Brush, of which the following is a specification.

My invention relates to brushes of the type known as fountain brushes, that is to say, brushes provided with reservoirs and with means to dispense the contents of said reservoirs to the brushes proper, and consists of a brush proper and a reservoir at one end of a supporting member, valvular dispensing means of special construction, and certain, peculiar, operating means for said valvular dispensing means, all as hereinafter set forth.

Although my device might be used for other purposes, it is designed more especially to apply a washing fluid to tan shoes preparatory to applying the polish thereto. Heretofore it has been customary to pour the washing fluid on the shoe from a can and then to apply a brush. This method is wasteful and frequently results in staining the clothing. The primary object of my invention is, therefore, to provide a comparatively inexpensive and simple fountain brush, especially adapted for the purpose set forth above, which is convenient, easily handled and controlled both as to its movable parts and as a whole, and withal highly efficient, serviceable, and practicable.

The dispensing mechanism of this device is under the control of the forefinger, or it may be of the thumb, of the hand which holds the device, so that only one hand is required to dispense and apply the contents of the reservoir, which is, of course, an important advantage.

The reservoir can readily be filled and refilled when empty.

Other objects and advantages will appear in the course of the following description.

I attain the objects and secure the advantages of my invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is a top plan of a fountain brush which embodies a practical form of my invention, the cover of the reservoir being left off; Fig. 2, a top plan of the brush proper; Fig. 3, a side elevation of the complete de-

vice; Fig. 4, an elevation similar to that shown in the preceding view, except that the same is in partial section taken on lines 4—4, looking in the direction of the associated arrow, in Fig. 1; Fig. 5, a bottom plan showing the dispensing mechanism, the outline of the right-hand end portion of the recess in the body or back of the brush proper, which does not appear in this view, being represented by dot-and-dash lines; Fig. 6, a top plan detail of the pivot and spring of the dispensing mechanism, the screw and cap being omitted, and, Fig. 7, a side elevation of said cap.

Similar numerals designate similar parts throughout the several views.

The fountain brush illustrated in the drawings is described as follows:—A shank 1, widened and flattened at one terminal to form a head 2 and terminating at the other end in a handle 3, constitutes a support for the other parts and members of the device. A flat lug 5 projects from one side of the shank 1, and in the center of the head 2 is an opening 6. Mounted on the head 2 is a reservoir 7 which is provided at the top with a screw cap 8. A brush proper, comprising a body or back 9 and bristles 10, is attached to the underside of the head 2, with a rubber washer 11 between, said back and head being directly under the reservoir 7. Any suitable means may be employed for fastening the reservoir 7 and the brush back 9, with the washer 11, to the head 2, two screws 12 being here provided, and portions of the sides of said reservoir being extended down past said head, washer, and back, and bent under the latter, as shown at 13 in Figs. 3 and 4. In this case the reservoir 7 has a bottom 14 which rests on the top of the head 2, and the screws 12 pass down through said bottom and head and the washer 11 into the back 9.

In line with the opening 6 above is an opening 15 in the reservoir floor 14, and in line with said first-mentioned opening below and in the order named are openings 16 and 17 in the washer 11 and back 9, respectively. Thus it is seen that there is a continuous passage leading down from the center of the reservoir 7 into the center of the bristles 10. Normally, however, the aforesaid passage is closed by the means and in the manner presently to be explained.

In the top of the brush back 9 is an elongated opening 18, and in the center of the

gated recess 18 corresponding in direction longitudinally with the shank 1, and this recess has a narrow extension 19 at the inner end, which opens through the adjacent edge of said back. The recess 18 is around the upper end of the opening 17 and extends longitudinally beyond such end in both directions.

A valve, in the form of a flat plate or slide 20, having an opening 21 therein and provided with a stem 22, is furnished beneath the rubber washer 11 in the recess 18 for opening and closing the passage from the reservoir 7 to the bristles 10. The slide 20 fits and is adapted to reciprocate in the recess 18, the forward portion of the stem 22, which portion is narrower than the rear portion, being and reciprocating in the extension 19, and the lengths of said slide and recess are so proportioned and the opening 21 so located in said slide that, when the latter is at the left-hand or inner end of its travel, said opening is entirely out of alinement with the openings 16 and 17, so that the slide cuts off the escape of the contents of the reservoir 7, through the openings 15 and 6 and said opening 16 to said opening 17, and, when said slide is at the right-hand or outer end of its travel, said opening 21 is in exact alinement with the other openings, and said contents is permitted to pass down freely through the complete, unobstructed, or open passage thus formed to the bristles 10. The washer 11 affords a tight packing and prevents leakage around the valve and between the contiguous surfaces of the adjacent parts.

An angular lever 23 is pivoted at 24 beneath the lug 5. One arm of the lever 23 extends under the shank 1, and the free terminal of the stem 22 is pivoted at 25 to the inner end of said arm. The other arm of the lever 23 extends upwardly and rearwardly into position to be grasped conveniently with the forefinger of the hand holding the handle 3. The pivot 24 is hollow and passes up through an opening in the lug 5. The upper terminal of the pivot 24 is tapped to receive a screw 26, and has oppositely disposed, vertical slots 27 therein, also at the upper terminal. A spiral spring 28 encircles the pivot 24, and has one terminal 29 inserted in the bottoms of the slots 27 and the other terminal 30 inserted in the shank 1—see Figs. 4 and 6. The arrangement of the spring 28 is such that normally the slide 20 is retained at the left-hand end of the recess 18 in closed position. A stop, in the form of a lug 31 which rises from the forward edge of the short arm of the lever 23 and is adapted to contact with the contiguous edge of the lug 5 when the slide 20 is in closed position, is provided to relieve said slide and its stem 22 from undue shock and strain.

A cover or cap 32, having in one side at the base a slot 33 to accommodate the terminal 30 of the spring 28, fits over said spring and rests on the lug 5, being held in place by the screw 26 which passes down through an opening in the top of said cap into threaded engagement with the slotted part of the pivot 24. The inner end of the screw 26 seats on the terminal 29 of the spring 28 and is prevented by said terminal from binding with its head on the cap 32. When the lever 23 is operated, therefore, the pivot 24, engaging spring terminal 29, and screw 26 are partially rotated while the cap 32 remains stationary, being held against rotation by the spring terminal 30 in the slot 33.

The complete operation of the fountain brush, assuming that the device is to be used for cleaning tan shoes, and that the reservoir 7 has been supplied with the required fluid, is as follows:—The operator holds the device by the handle 3 and, with the bristles 10 poised over the shoe, actuates the slide 20 to open it and permit a quantity of the fluid from the reservoir to pass down through the bristles to said shoe. As soon as the required amount of fluid is received on the shoe, or the bristles have become sufficiently saturated, the slide 20 is closed. Now, while the operator still grasps the handle 3, the fluid just deposited on the shoe or in the bristles is spread and rubbed over said shoe until the latter is clean, more fluid being applied from time to time as and if necessary. The shoe is thus easily, quickly, and thoroughly cleaned.

The slide 20 is opened by means of pressure on the lever 23, with the forefinger of the hand that grasps the handle 3. As the long arm of the lever 23 is forced by the forefinger toward the shank 1, said lever is turned on and with its pivot 24, against the resiliency of the spring 28, in the direction to actuate the inner end of the short arm of said lever forwardly and so to actuate the stem 22 and the slide 20 in the direction to position the opening 21 in line with the openings 16 and 17. At this time the outer end of the slide 20 is in contact with the corresponding end of the recess 18, and further movement of the parts, which movement is imparted by pressure of the forefinger on the lever 23, is checked. The lever 23 is not released until the required amount of fluid has been dispensed. When this has taken place and the lever 23 is released, the spring 28 acts immediately on the pivot 24 to actuate the same in the reverse direction, with the result that the lever is swung back until the stop 31 contacts with the lug 5, and the slide 20 is closed.

The arc described by the pivot 25 in moving between the ends of its travel is so slight as to be negligible so far as the vibratory or oscillatory effect incident thereto

and produced on the stem 22 is concerned, and no special provision is needed for taking care of or absorbing such vibration or oscillation.

5 Owing to the presence of the opening 17 in the center of the brush 9 there are no bristles 10 in the center, consequently, when the slide 20 is open, the flow of fluid is more or less direct to the shoe, but some of it ordinarily will saturate the innermost bristles at least. If the bristles be considerably spread out at their lower ends, there may not be a clear passage through the center or all the way through the center of the bristles. In any event, however, the fluid can be discharged onto or applied to the shoe in ample quantity whenever the slide 20 is opened, provided the reservoir be not empty.

20 The fountain brush herein shown and described is designed to be held in the right hand and to have the lever 23 manipulated with the forefinger of that hand, but the device might be held in the left hand, in which event said lever would be manipulated with the thumb of the left hand.

More or less change in the shape, size, construction, and arrangement of some or all of the parts of this device may be made without departing from the spirit of the invention or exceeding the scope of what is claimed.

What I claim as my invention, and desire to secure by Letters Patent, is—

35 1. A fountain brush comprising a shank having a perforated head at one end and a handle at the other end, a reservoir mounted directly on said head and opening into the perforation therein, a brush back and bristles, said back being attached to the underside of said head and perforated to correspond with the perforation therein, a movable valve member interposed between said head and said back, and having an opening therein which may be brought into registry with the perforations in said head and back, an operating lever pivotally connected with said shank, and a connecting member between said valve member and said lever.

2. A fountain brush comprising a shank having a perforated head at one end and a handle at the other end, a reservoir mounted directly on said head and opening into the perforation therein, a brush back and bristles, said back being attached to the underside of said head and perforated to correspond to the perforation therein, the sides of said reservoir being extended down to cover partially the sides of said head and back and to engage and be attached to the latter, a movable valve member between said head and said back, and having an opening therein which may be brought into registry with the perforations in said head and back,

an operating lever connected with said shank, and a connecting member between said valve member and said lever

3. The combination, in a fountain brush, with a shank having a head at one end and a handle at the other end and provided with a laterally-extending lug, a reservoir mounted directly on said head, a recessed brush back and bristles, said back being attached to the underside of said head, and a packing member interposed between said head and back, said head and the members above and below the same being perforated to form a passage from said reservoir to said bristles, the recess in said back constituting part of such passage and being in the top of the back, of a perforated slide in said recess and provided with a stem, said slide according to its position being adapted to open and close said passage, an operating lever having a pivot journaled in said lug, said lever having a part that extends under said lug and a part that extends rearwardly, and said stem being pivotally connected with said first named part of said lever, and a spring encircling said pivot and having one terminal attached thereto and the other terminal attached to said shank.

4. The combination, in a fountain brush, with a shank having a head at one end and a handle at the other end and provided with a laterally-extending lug, a reservoir mounted directly on said head, a recessed brush back and bristles, said back being attached to the underside of said head, and a packing member interposed between said head and back, said head and the members above and below the same being perforated to form a passage from said reservoir to said bristles, the recess in said back constituting part of such passage and being in the top of the back, of a perforated slide in said recess and provided with a stem, said slide according to its position being adapted to open and close said passage, an operating lever having a pivot journaled in said lug, and a stop adapted to engage said lug to limit the movement of said lever in one direction, said lever having a part that extends under said lug, from which part said stop projects, and a part that extends rearwardly, and said stem being pivotally connected with said first-named part of said lever, and a spring encircling said pivot and having one terminal attached thereto and the other terminal attached to said shank.

5. The combination, in a fountain brush, with a shank having a head at one end and a handle at the other end and provided with a laterally-extending lug, a reservoir mounted directly on said head, a recessed brush back and bristles, said back being attached to the underside of said head, and a packing member interposed between said head and back, said head and the members

above and below the same being perforated to form a passage from said reservoir to said bristles, to recess in said back constituting part of such passage and being in the top of the back, of a perforated slide in said recess and provided with a stem, said slide according to its position being adapted to open and close said passage, an operating lever having a hollow slotted pivot journaled in said lug, said lever having a part that extends under said lug and a part that extends rearwardly, and said stem being pivotally connected with said first-named part of said lever, a spring encircling said pivot and having one terminal in the slots therein and the other terminal attached to said shank, a cap over said pivot and spring, and a screw extending through said cap and into said pivot. 15

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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."