C. A. GARVEY.

FOUNTAIN BRUSH.

APPLICATION FILED SEPT. 2, 1915.

1,166,896.

Patented Jan. 4, 1916.

Fig. V.

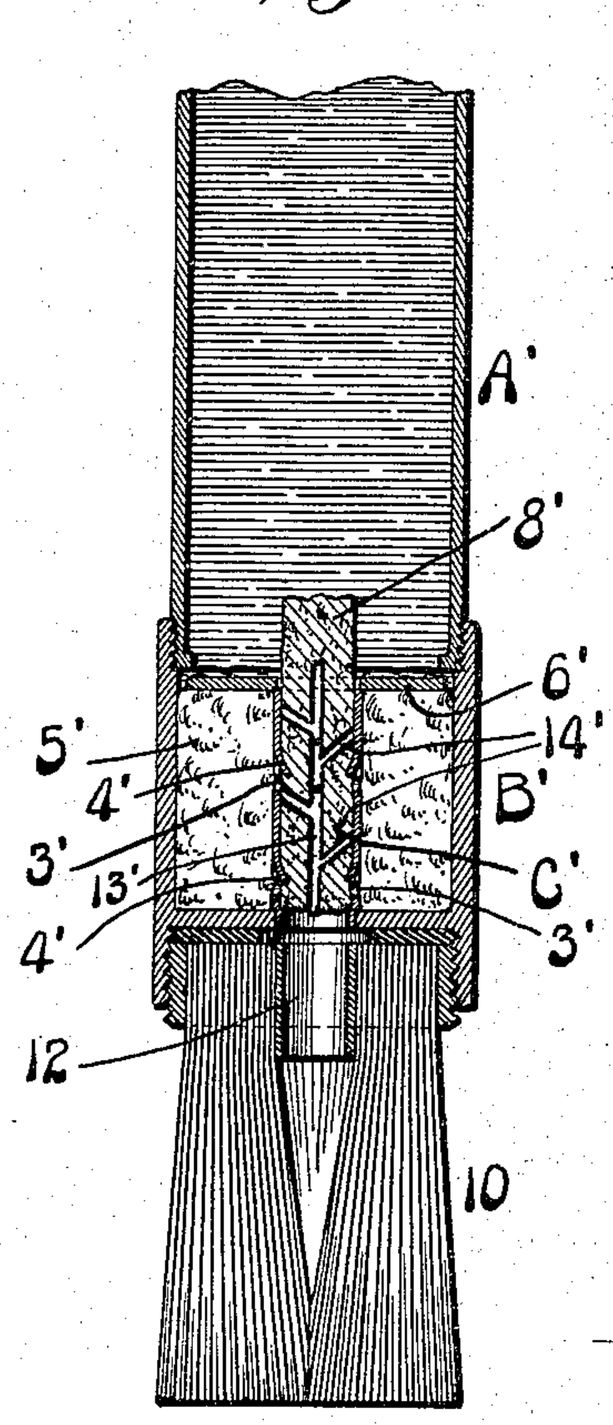


Fig. I.

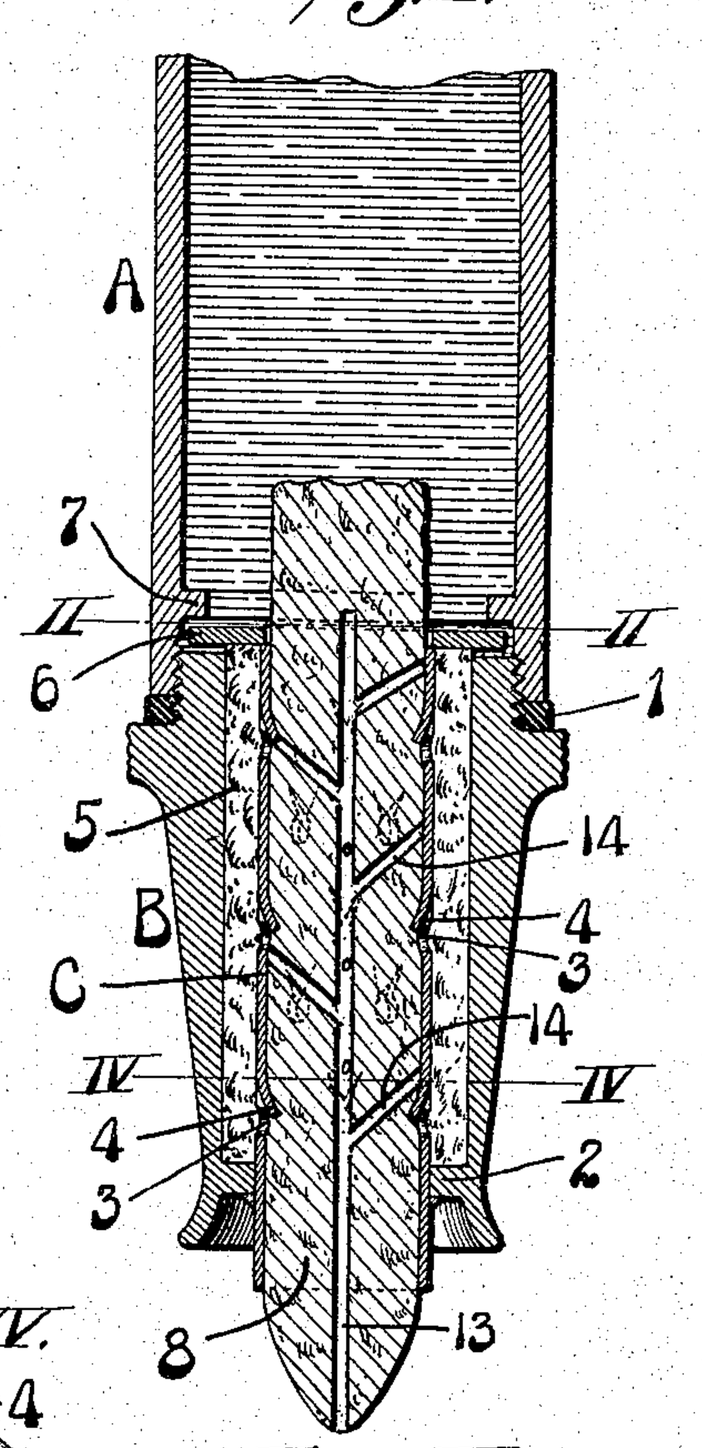


Fig. IV.

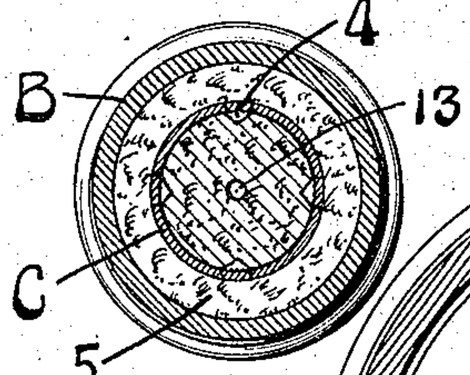


Fig. II.

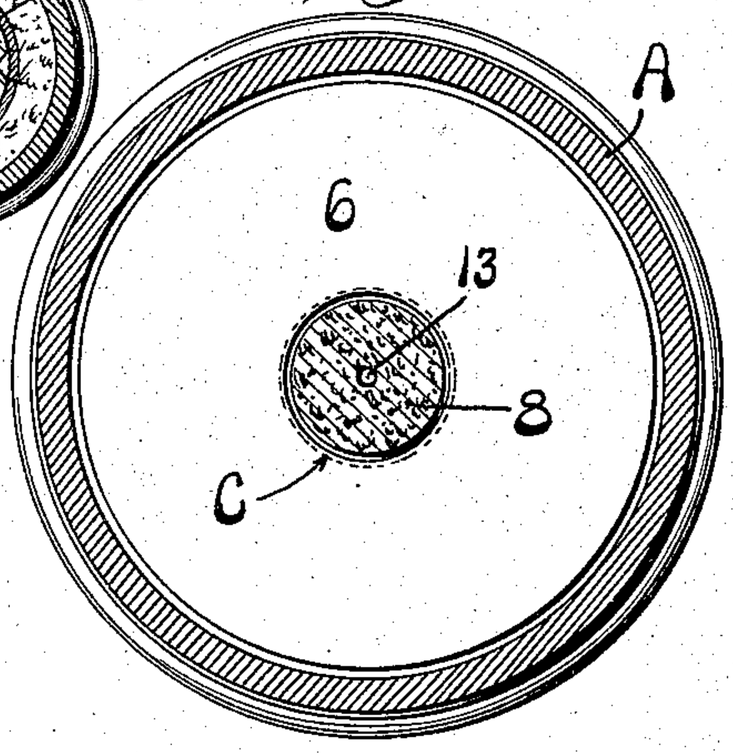
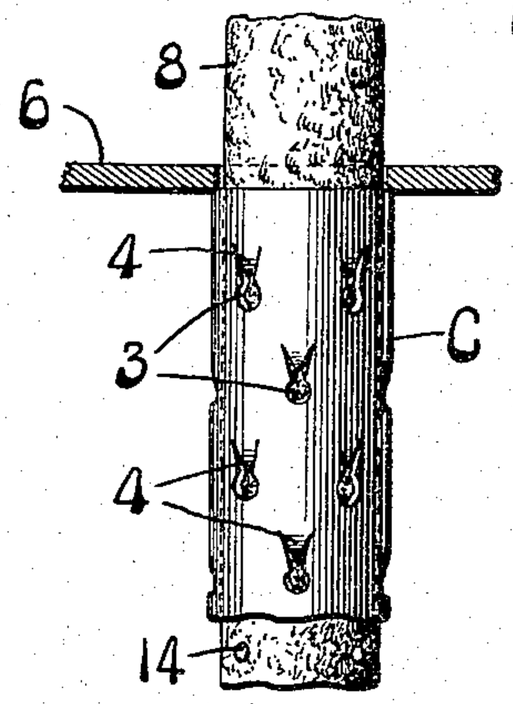


Fig. III.



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UNITED STATES PATENT OFFICE.

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FOUNTAIN-BRUSH.

1,166,896. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed September 2, 1915. Serial No. 48,621.

To all whom it may concern:

Be it known that I, CHRISTOPHER A. GARVEY, a citizen of the United States of America, and a resident of the county of St. Louis, State of Missouri, have invented certain new and useful Improvements in Fountain-Brushes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in fountain brushes, the main object being to produce a simple, inexpensive and very efficient marking brush, or stencil brush.

Prior to this invention stencil brushes and marking brushes have been provided with valves for controlling the flow of ink to the brush tips, and it has been quite difficult to prevent leakage at the valves. The ink is usually a thin fluid, very difficult to confine in the ink reservoir, so that a high degree of accuracy has been required in forming the valves and valve seats. Moreover, such valves and their seats are expensive, liable to get out of order, and the valves must be operated in accordance with the judgment of the operator to permit the ink to flow from the reservoir to the brush. Obviously, the ink will pass from the reservoir at irregular intervals and in irregular quantities, and consequently the saturation of the brush is decidedly non-uniform.

Therefore, an object of this invention is to produce a fountain brush consisting of an ink reservoir and a few simple elements associated therewith in such a manner that the ink will flow substantially continuously from the reservoir to replace the ink discharged at the brush tip while the brush is in service by the jarring to which the stencil brush is necessarily subjected when in use and a slight "throw" of the marking brush to facilitate the flow of ink to the tip; but this action does not supersaturate the brush.

A further object is to produce a brush of this kind in which the flow of ink stops automatically to prevent leakage when the brush is not in service.

Another object is to provide a marking or lettering brush having a marking device in the form of a wick extending from an ink reservoir, and means for preventing the wick from being forced backwardly, toward the reservoir, in response to pressure on the outer end of said wick.

Another object is to provide a wick having a longitudinal channel nearly its entire length extending to the lower end of the wick and transverse ports communicating with said channel, said ports and channel providing a passageway for the ink to the discharge end of the wick.

With the foregoing and other objects in view the invention comprises the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention; however, it is to be understood that the invention comprehends changes, variations and modifications which come within the scope of the claims hereunto appended.

Figure I is a vertical section of a fountain brush embodying the features of my invention. Fig. II is an enlarged transverse section taken on line II—II, Fig. I. Fig. III is a fragmentary detail view showing the discharge tube and the wick associated with said tube. Fig. IV is a transverse section taken on line IV—IV, Fig. 1. Fig. V is a view similar to Fig. I, illustrating a modification.

The fountain brush illustrated in Figs. I to IV, inclusive, comprises an ink reservoir A, and a packing chamber B screwed into the lower end of said ink reservoir, a gasket 1 being interposed between the lower end of the ink reservoir, and a flange on the packing chamber. The packing chamber is closed at its lower end by a bottom wall member 2. A discharge tube C extending from the top of the packing chamber to a point beyond the lower end thereof, is soldered or otherwise secured to the wall member 2. The discharge tube C is open at its ends and slitted and perforated between its ends to produce ports 3 and prongs 4, said prongs being bent inwardly as shown most clearly in Fig. I. Absorbent material 5, such as wool felt, is arranged in the packing chamber and around the tube C so as to retard the flow of ink from the reservoir to the ports 3. A washer 6 is arranged between a rib 7 on the reservoir and the upper end of the packing chamber to confine the absorbent material in said packing chamber. 8 designates a wick for conducting ink from the reservoir which is provided with a longitudinal channel 13 extending from near the upper

end to the lower end, and lateral bores 14 which communicate with said longitudinal channel, said bores 13 and 14 serving as channels for the flow of ink therethrough, said wick being closely fitted to the inner face of the tube C. The wick preferably is in contact with the ink in the reservoir and extends to a point beyond the lower end of the tube C, the extended lower portion of the wick constituting a marking device. The wick is preferably made of absorbent material, and the tube C is preferably extended beyond the packing chamber to reinforce the pliable lower portion of said wick.

When the device is in service the lower end of the wick engages the article to be marked or lettered, and the pressure on the wick tends to force it backwardly, toward the reservoir. However, a movement of this kind is positively prevented by the prongs 4 which extend into the wick, said prongs being so formed that they will permit the wick from being forced backwardly after it has been adjusted to the desired position. As the lower end of the wick wears away it may be readily adjusted by pulling on its extended lower portion, or by removing the packing chamber from the reservoir and pushing downwardly on the upper end of the wick.

When the device is not in service the ink is confined in the reservoir and prevented from flowing through the ports 3 by the absorbent material in the packing chamber. The saturated wick also tends to prevent liquid from flowing through the tube C. However, when the brush is in service the ink is wiped from the lower end of the wick, and the ink is constantly flowing to compensate for the displacement at this point. Since the flow is retarded by the absorbent material surrounding the ports in tube C, and also to a considerable extent by the wick itself, the flow of ink is not rapid, just sufficient to keep the wick saturated at the point where it engages the article to be marked. I have found in practice that the tip of the wick is at all times more or less saturated, and when the brush is not in service it is laid horizontally on its side and the ink will not drip or flow from the lower portion of the wick. A slight jerk or "throw" of the brush immediately furnishes an ample supply of ink to the marking tip, which may be repeated as often as may be necessary to retain an equal degree of saturation.

The stencil brush illustrated in Fig. V comprises an ink reservoir A′, a packing chamber B′ screwed onto the lower end of the reservoir, and a brush 10 detachably secured to the packing chamber. A discharge tube C′ is secured to the bottom wall of the packing chamber, and a washer 6′ is placed on the upper end of the discharge tube to confine the absorbent material 5′ in the packing chamber. This absorbent material 5′ is packed around the tube to retard the flow of ink at the ports 3′. An absorbent wick 8′ is closely fitted to the inner face of the tube C′ and secured by the prongs 4′ which extend inwardly from the tube. A longitudinal channel 13′ extends from near the inner end of the wick 8′ to the end of said wick. 14′ are transverse bores communicating with said longitudinal channel.

The ink passing from the reservoir to the brush 10, flows onto the upper end of the wick, or around the washer 6 into the absorbent material 5′ and then through ports 3′ to the wick, and through the bores 14′ to the channel 13′ which furnish channels for conducting the ink to the lower end of the wick. The ink passing from the lower end of the wick flows through a tube 12, forming part of the brush structure, and then along the bristles of the brush 10.

I claim:

1. In a fountain brush, a reservoir, a discharge tube for conducting liquid from said reservoir, a wick arranged within and closely fitted to said discharge tube, said discharge tube being ported for the admission of liquid to the wick, and absorbent material fitted to the outer face of said discharge tube so as to retard the flow of liquid through the ported portion of said tube.

2. In a fountain brush, a reservoir, a wick for conducting liquid from said reservoir, and a body of absorbent material whereby the flow of liquid from the reservoir to the wick is retarded.

3. In a fountain brush, a reservoir provided with a packing chamber at its lower end, a tube in said packing chamber, a wick arranged in and closely fitted to said tube, absorbent material arranged in the packing chamber and around the tube, said tube being ported for the admission of liquid to the wick and the absorbent material being arranged to receive the liquid flowing to the ported portion of the tube.

4. In a fountain brush, a reservoir, a packing chamber detachably secured to the lower end of said reservoir, a ported tube in said packing chamber, a wick for conducting liquid from said packing chamber, said wick being closely fitted to the inner face of said ported tube and extended therefrom to serve as a marking device, the upper end of said wick being exposed to the liquid in said reservoir, and absorbent material arranged in said packing chamber around the ported portion of the tube so as to retard the flow of liquid from said reservoir to said wick.

5. In a fountain brush, a reservoir, a wick for conducting liquid from said reservoir, said wick being extended from the reservoir to serve as a marking device, and a

wick holding tube surrounding and closely fitted to said wick, said wick holding tube being provided with ports for the admission of liquid to the wick and also with prongs formed at said ports and bent inwardly to engage the wick so as to prevent the latter from being forced backwardly in the wick holder.

6. A wick for fountain brushes provided with a longitudinal channel extending from a point immediate one end thereof through said wick.

7. A wick for fountain brushes provided with a longitudinal channel extending from a point immediate one end thereof through said wick, and a transverse bore communicating with said longitudinal channel.

CHRISTOPHER A. GARVEY.