C. A. GARVEY.

FOUNTAIN BRUSH.

APPLICATION FILED NOV. 18, 1916.

1,250,842. Patented Dec. 18, 1917.

Fig. I.

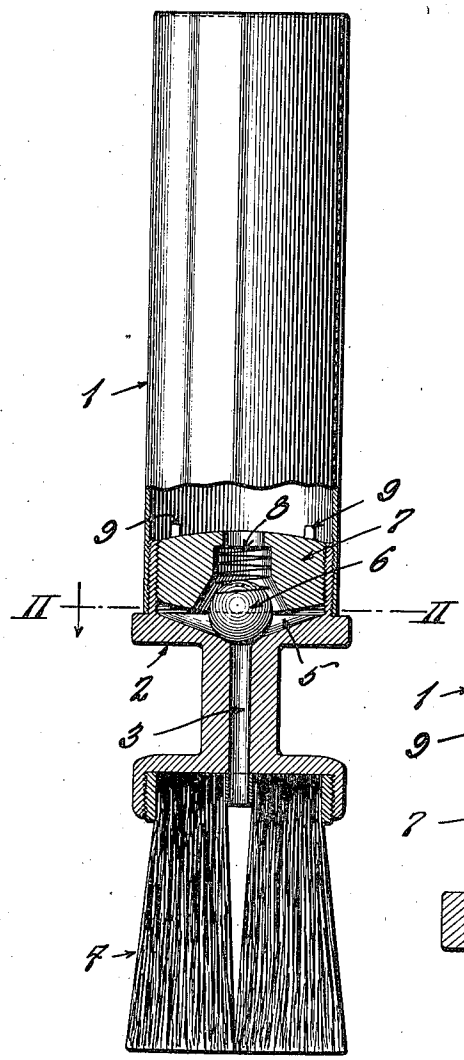



Fig. II.

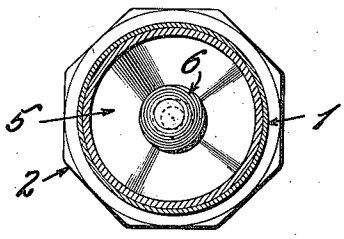
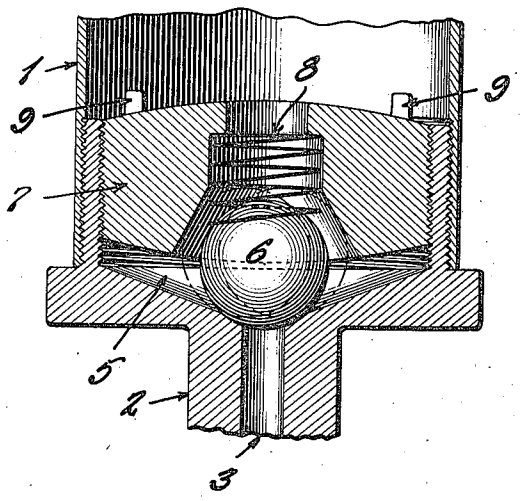



Fig. III.




INVENTOR:

C. A. GARVEY

BY Knight & Cook, Attys

# UNITED STATES PATENT OFFICE.

CHRISTOPHER A. GARVEY, OF CLAYTON, MISSOURI.

## FOUNTAIN-BRUSH.

1,250,842. Specification of Letters Patent. Patented Dec. 18, 1917.

Application filed November 18, 1916. Serial No. 132,109.

*To all whom it may concern:*

Be it known that I, CHRISTOPHER A. GARVEY, a citizen of the United States of America, a resident of Clayton, in 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 drawing, forming a part of this specification.

My invention relates to a fountain brush having an automatic regulating valve for controlling the flow of fluid to the brush. Prior to this invention fountain brushes have been provided with regulating valves under the control of the operator, the flow of ink or other fluid being regulated by actuating a valve opening device, or by imparting an unusual movement of some kind to the brush. In using these prior devices, the flow of fluid is varied or predetermined by movements requiring the judgment and attention of the user. When a brush of this kind is moved rapidly over the stencil or other article to be marked or painted, the fluid will flow rapidly from the brush tip, and in this event the fluid should flow at a correspondingly rapid rate from the reservoir to the brush. If the brush is moved slowly over the stencil, or other article, the fluid will pass from the brush tip at a relatively slow rate of speed, and the flow from the reservoir should be regulated accordingly. In other words the best results may be obtained by regulating the flow of fluid in accordance with the speed of the brush. In using the prior device, the rate of flow is under the control of the operator, but it is very difficult to predetermine just how fast or how slow the ink or other fluid should flow. In actual practice no entirely satisfactory flow can be obtained for the reason that the brush is continually in motion, some strokes being very rapid and others quite slow, so an adjustment suitable for the rapid strokes will cause an excess of fluid to flow to the brush during the slow strokes. Moreover, the valves in the prior devices are usually actuated intermittently, whenever the operator notices that the brush is too dry, and as a consequence, the brush is usually provided with either too much, or not enough, of the fluid.

Therefore, one of the objects of the present invention is to provide a fountain brush having a reservoir for the ink or other fluid, and an automatic regulating valve for controlling the flow of fluid from the reservoir to the brush. In the preferred form of the invention, the regulating valve opens automatically in response to the movements which the user naturally gives the brush. The flow of ink is varied to compensate for variations in the speed of the brush. If rapid strokes are made, a correspondingly rapid flow of ink will be required, and the regulating valve will be actuated automatically to obtain this result. When the brush is operated slowly, the flow of ink will be decreased by the automatic movements of the valve. The structure I have shown also includes means for retaining the automatic valve in its closed position when the brush is not in service.

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 side elevation, partly in section, illustrating a fountain brush constructed in accordance with the invention.

Fig. II is a section on line II—II, Fig. 1.

Fig. III is an enlarged fragmentary section showing the automatic valve.

To illustrate the preferred form of the invention I have shown a fountain brush comprising a reservoir 1 adapted to receive ink or other fluid, a discharge member 2 having a passageway 3, and a brush tip 4 secured to said discharge member. The brush tip may be made of bristles, felt, metal, or any other suitable material.

A valve chamber 5 is provided with a concave seat for a valve 6. 7 designates a stop member screwed into the upper portion of the discharge member 2, and adapted to limit the movements of the valve 6. This stop member has a central opening which is in constant communication with the valve chamber 5 and reservoir 1, the lower portion of said opening being flared to constitute an abutment face for the valve 6. A

helical compression spring 8, seated on the upper face of the valve 6 extends into the central opening in the stop member 7, and if desired, this spring may be secured at its ends to said valve and stop member.

Lugs 9, extending upwardly from the stop member 7, may be grasped to facilitate the adjustment of the stop member. It will be apparent that this stop member may be adjusted in the threaded upper end of the discharge member 2, for the purpose of regulating the movements of the valve 6, at the same time varying the compression of spring 8.

The valve 6 is preferably a large, heavy, metal ball, and the restoring spring 8 is preferably made of fine wire. When the brush is at rest, the spring 8 holds the ball valve in a slightly depressed seat at the upper end of passageway 3, thus closing said passageway to prevent leakage of fluid from the reservoir. It will be observed that the heavy ball valve 6 is loosely supported on the concave face of the valve chamber, and that said valve is free to move in various directions in response to movements of the fountain brush.

When the brush is in service, the valve moves continually, the degree of movement imparted to the valve depending upon the speed of the brush. If rapid strokes are made, the ink should be permitted to flow rapidly, and the valve will move automatically to positions wherein it will not materially obstruct the flow of ink. If the brush is operated slowly, the valve will move only slight distances, and the ink will then flow slowly to the brush. From the foregoing it will be understood that the ball 6 operates automatically in response to the movements which the operator naturally gives the brush; and it regulates the flow of ink so as to compensate for variations in the speed of the brush.

I claim:—

1. A fountain brush comprising a reservoir provided with a discharge passageway, a brush member adapted to receive the fluid discharged through said passageway, an automatic regulating valve for regulating the flow of fluid through said discharge passageway, said automatic regulating valve being loosely supported and free to open automatically in response to the movements to which the article is subjected in service, and an adjustable stop device for limiting the movements of said automatic regulating valve.

2. A fountain brush comprising a reservoir provided with a discharge passageway, a brush member adapted to receive the fluid discharged through said passageway, said passageway including a valve chamber having a concave valve seat, an automatic regulating valve in the form of a ball mounted on said concave valve seat and movable transversely of said discharge passageway to regulate the flow of fluid therethrough, an adjustable stop device screwed into said valve chamber, said adjustable stop device being recessed to receive a portion of said automatic regulating valve, and a spring interposed between and seated against said valve and the adjustable stop device, said valve being loosely supported and free to move in various directions on said concave seat in response to movements to which the article is subjected in service, thereby automatically regulating the flow of fluid to the brush member, the side wall of the recess in said stop device being located adjacent to said valve to constitute a stop for limiting the movements of the valve, and said stop device being adjustable to move said wall toward and away from the valve.

CHRISTOPHER A. GARVEY.