Jan. 8, 1951 D. C. WRIGHT 2,537,872

VALVE FOR FOUNTAIN STENCIL BRUSH

Filed Jan. 30, 1947

Fig. 1.

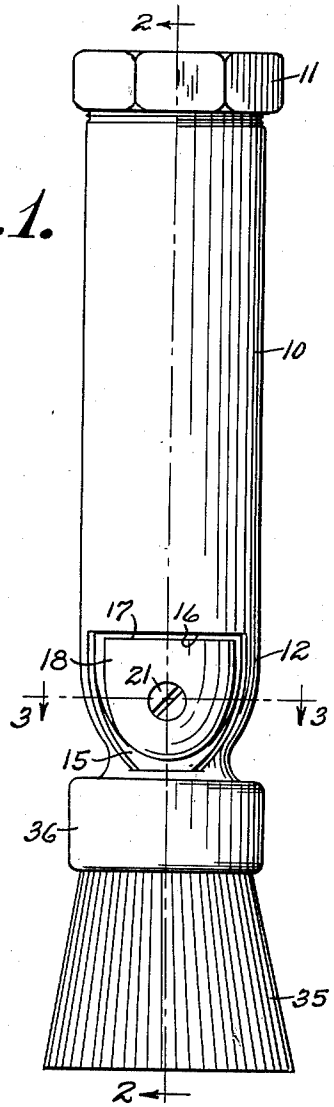


Fig. 2.

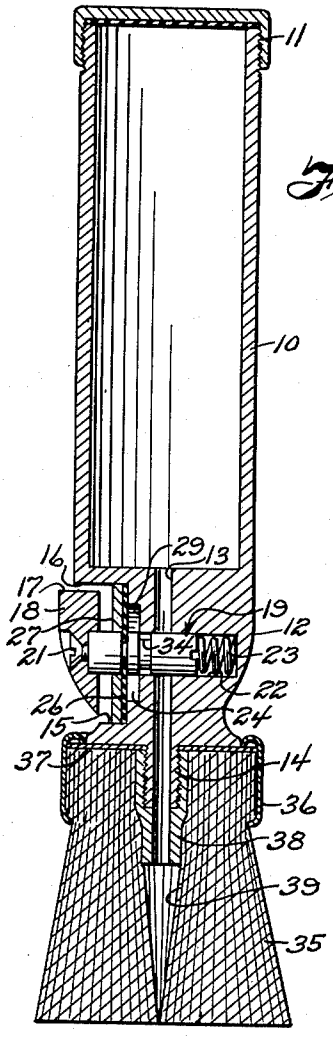
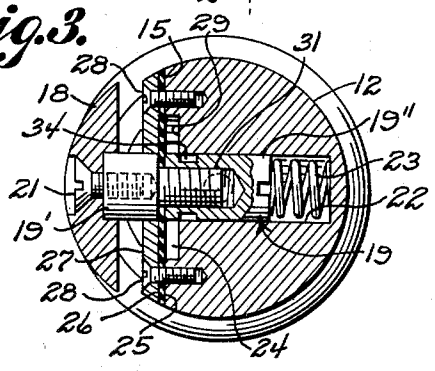


Fig. 3.



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VALVE FOR FOUNTAIN STENCIL BRUSH

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2 Claims. (Cl. 222—511)

1

This invention relates to fountain brushes used with stencil sheets for marking the names and addresses on packing cases.

It is an object of the present invention to provide a fountain brush with a flexible rubber diaphragm which is attached to the sliding valve to hold the valve in place and to positively prevent any leakage of ink beyond the diaphragm onto the operator's hand.

It is another object of the present invention to provide a fountain brush with an operating handle which has a depression in its lower extremity the upper portion of which presents a flat straight guide ledge and a valve operating push button conforming generally on its exterior to the general contour of the operating handle and having a complementary flat straight upper edge adapted for sliding engagement with the guide ledge of the depression whereby to prevent the rotation of the valve stem connected to the operating push button and also the radial distortion of the diaphragm will be prevented.

It is another object of the present invention to provide a fountain brush with a diaphragm and with a two part stem adapted to be connected with the diaphragm between the two parts so as to be assured of a good sealing connection with the inner periphery of the diaphragm.

It is another object of the present invention to provide a fountain brush which has a pleasing shape, simple in construction, inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a side elevational view of the fountain brush and looking upon the depression in the handle and upon the push button lying within the depression so that its top edge will lie parallel with the top ledge of the depression to keep the button from turning and as well as to keep the diaphragm from being distorted as a result of rotation.

Fig. 2 is an elevational cross-sectional view taken on line 2—2 of Fig. 1 and looking in the direction of the arrows thereof.

Fig. 3 is a transverse cross-sectional view taken through the valve and diaphragm assembly and on line 3—3 of Fig. 1 and looking in the direction of the arrows thereof.

Referring now to the figures, 10 represents an ink reservoir having an end cap 11 removably connected to the upper end thereof. The ink reservoir serves as a handle and has a base portion 12 from which ink from the interior of the ink reservoir decends by way of a passage 13 extending into and through a threaded projection 14 on the bottom end of the portion 12. The portion 12 has a depression 15 with a top straight flat guide ledge 16 for the straight flat upper edge 17 of a valve operating push button 18 having a two-part valve construction 19 connected to it by means of a screw 21. The valve construction 19 is contained in a transverse opening 22 extending inwardly from the depression 15. In the closed end of the opening there is a spring 23 tending at all times to return the valve 19 to its closed position. The opening is enlarged as indicated at 24 and exteriorly of this enlarged section of the opening is a shoulder space 25 to which a diaphragm 26 is fixed by means of a diaphragm retaining plate 27 and screws 28 entering the shoulder space 25 and the portion 12. The interior of the diaphragm 26 will enter the enlarged section 24 of the opening 22 as the press button 18 is pressed. The amount of movement will be limited by the engagement of the inner face of the diaphragm 26 with a rear face 29 of the enlarged section 24. The diaphragm is actually held between two parts 19' and 19'' of the valve 19. The part 19' has a threaded stem 31 extending through the center of the diaphragm 26 and forces by its shoulder 32 the diaphragm against the end face of the part 19'' as the threaded stem 13 is coupled with the threaded opening in the part 19''. The diaphragm thus has an operating connection with the valve parts and is moved with the valve parts both as the valve is moved inwardly and as the valve moves outwardly by the action of the spring 23. The diaphragm 26 is preferably of a synthetic rubber and acts only to provide a liquid seal.

The amount of movement permitted by the diaphragm 26 is such as to permit the location of an ink groove 34 within the passage to receive ink and to permit the flow of the ink through the passage. At other times the passage 13 is closed.

Bristle tip 35 is contained in a ferrule 36 which contains at its upper end a back plate 37. This back plate 37 has a central opening so that the back plate and the bristle tip can be fitted over the threaded projection 14. The assembly is thereafter fixed to the portion 12 by a threaded insert 38 lying within the bristles and providing an opening 39 therein into which the ink is dispensed for distribution over the stencil by the bristle.

Having now described my invention, I claim:

1. In a valve means for controlling the flow of ink from a fountain brush the improvement com-

prising a two-part valve construction having a groove therein adapted to be aligned with an outlet passage in the brush as the valve construction is moved inwardly, the parts of the valve construction being separable and adapted to be tightened together, a diaphragm disposed between the valve parts and fixed therebetween upon the valve parts being tightened together, a shoulder face in the brush forming an opening therein, a retaining plate and fastening elements for securing the diaphragm to the shoulder face about the opening, said retaining plate extending over the opening so as to limit through the diaphragm the outward movement of the valve construction, said opening having a shoulder face adapted to limit the forward movement of the valve construction, a spring in the opening and acting upon the valve and tending to return the valve to a closed position, and a press button on the end of the valve construction for effecting the inward movement of the valve to dispense ink downwardly through the passage of the reservoir bottom portion, said press button having a flat upper edge adapted to lie within a recess in the brush confronting the diaphragm and said recess having a flat upper edge, and a guide ledge on the bottom portion within the recess, and the flat upper edge of the recess adapted to slidably receive the flat upper edge of the press button to prevent the rotation of the valve construction.

2. In a valve structure for a fountain brush having a lower portion with a passage extending downwardly therethrough, and said portion having a transversely extending opening across the passage, the improvement comprising a valve construction extending in the opening and having a groove adapted to be extended into the passage to receive ink and to permit the flow thereof through the passage, said lower portion having a depression in one side thereof aligned with the open end of the valve opening and having a flat upper ledge, a press button connected to the valve construction and adapted to be worked in the depression within the lower portion and having a flat upper edge adapted to have sliding engagement with the guide ledge of the depression whereby the rotation of the valve construction is prevented, said valve opening having an enlarged section, a flexible diaphragm connected to the side of the enlarged opening section and to the valve construction and adapted to work within the enlarged opening section, said cooperating guide ledge of the depression and the flat edge of the button thereby also serving to prevent radial distortion of the diaphragm.

DONALD C. WRIGHT.

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