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AUTOMATIC FEED FOR PAINT BRUSHES

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Fig. 1.

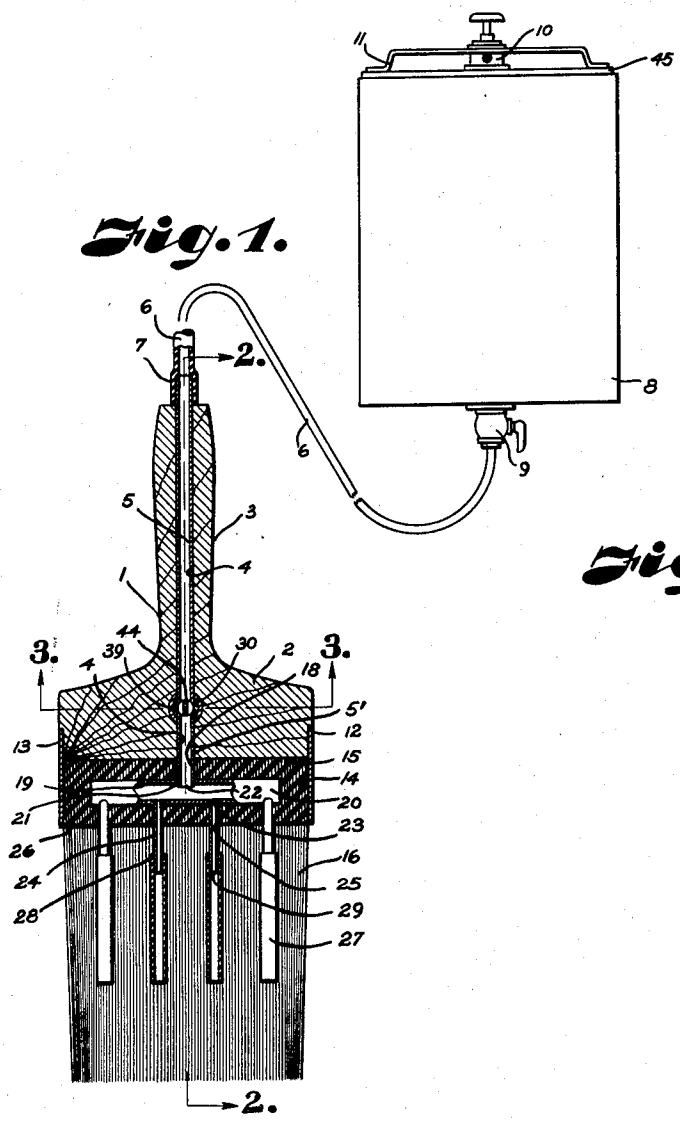


Fig. 2.

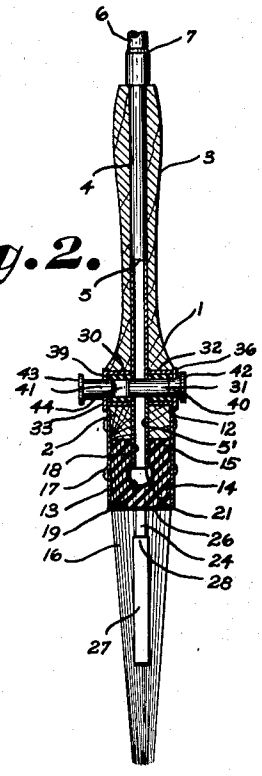
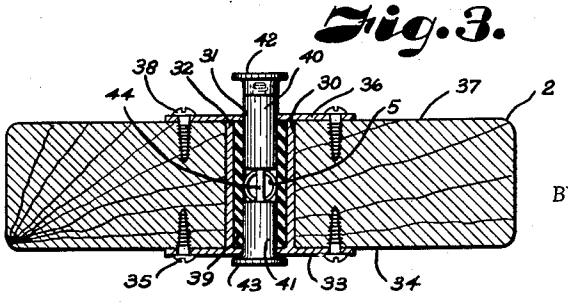


Fig. 3.



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AUTOMATIC FEED FOR PAINT BRUSHES

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1 Claim. (Cl. 15—128)

This invention relates to an automatic feed for a paint brush, and more particularly to a paint brush having means therein connected to a source of paint supply for feeding the paint to the bristles of the brush in a continuous flow.

Heretofore, in paint brushes of this character valves or the like have been utilized in the handles or head of the brush for manual manipulation for supplying paint to the bristles of the brush. Such devices are unsatisfactory because they require the operator of the brush to use a portion of his hand for operation of the valve and he must also determine when to operate the valve to feed additional paint to the bristles of the brush. Such operation resulted in uneven flow of paint to the brush and necessarily to the wall or other object being painted, which required additional brushing to smooth the paint thereon.

It is the principal object of the present invention to provide a brush having an automatic feed of paint thereto which may be set at a determined point to cause continuous flow of paint to the bristles of the brush.

Other objects of the present invention are to provide a handle on the brush having a longitudinal bored opening therethrough for receiving a tube for supplying paint from a source of supply to the brush; to provide the handle with a head having an opening therethrough transversely of and intersecting the longitudinal bore through the handle and head; to provide a rubber stock on the head of the handle of the brush in which the bristles are embedded and a ferrule for holding the stock with the bristles therein on the head; to provide the stock with a chamber having an opening leading to the longitudinal opening through the head and handle so that the tube through the handle will extend into said chamber; to provide a plurality of tubes connecting said chamber and leading therefrom through openings in the stock and extending into the bristles of the brush longitudinally thereof; to provide the opening transversely of the head with a friction valve member for opening and closing the tube for supplying paint to the bristles of the brush; to provide tubular extensions on the tubes extending longitudinally into the bristles of the brush which are adjustable with respect to the tip of the brush; and to provide a device of this character simple and economical to manufacture.

In accomplishing these and other objects of this invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a cross-sectional view longitudinally of the brush and partly fragmentary showing the connection of the tube to the source of paint supply.

Fig. 2 is a cross-sectional view through the brush and handle taken on a line 2—2 (Fig. 1).

Fig. 3 is a cross-sectional view taken on a line 3—3 (Fig. 1) illustrating the valve mechanism.

Referring more in detail to the drawings:

1 designates a brush embodying the features of my

invention which includes a head 2 having a handle 3 integral therewith. The handle and head are provided with a longitudinal bore 4 therethrough for receiving tubes 5 and 5'. Tube 5 extends outwardly from the outer end of the handle and connects with a tube 6 as indicated at 7, which tube leads to a container 8. The tube 6 connects to the container by a valve 9. The container is provided on the top thereof with an air pump 10 and secured thereto by a fastening device as indicated at 11.

The head 2 of the brush is reduced as indicated at 12 (Fig. 1) for receiving a ferrule 13, preferably of metal for securing a stock or the like 14 to the head 2 in which the ends 15 of the bristles 16 are embedded. The ferrule 13 is secured to the head and to the stock by means of screws or the like 17 (Fig. 2).

The stock 14 is provided with a bore 18 which intersects with a chamber 19 extending longitudinally of the stock and transversely of the bore 18. The chamber 19 is provided with a metal liner 20 which has an opening 21 aligning with the bore 18 in the stock into which is secured the end 22 of the tube 5'. One side of the liner 20 is provided with spaced openings 23 for receiving tubes 24 which extend through openings 25 in the edge 26 of the stock 14. These tubes extend a short distance into the bristles 16 of the brush.

A plurality of tubes 27 have one end as indicated at 28 engaging over the free ends 29 of the tubes 24. I have found that neoprene rubber material is suitable for the tubular members 27 and these tubular members are adjustable lengthwise on the tubes 24. The tubes 5, 5' and 24 and liner 20 may be of brass or other suitable material. The flexible tube 6 may be of rubber or like material.

The head 2 of the brush is provided with a bore 30 transversely of and intersecting the bore 4 at about the center of the head for receiving a valve 31 therein. The valve consists of a metal tube 32 extending through the bore 30 and having a head plate 33 integral with one end thereof and secured to the side face 34 of the head by screws or the like 35. A plate 36 engages on the face 37 of the head and covers the end of the tube 32 and is secured to the face of the head by screws 38. A rubber liner or sleeve member 39 is provided within the tube 32 and slidable within the sleeve 39 are oppositely facing valve members or pistons 40 and 41 having heads 42 and 43 which engage against the plates 36 and head 33 respectively when the valves are moved as will later be shown. The valve member 40 is of slightly longer length than the valve 41 and the shanks thereon are slightly larger in diameter than the bore of the sleeve 39 so that the valve members 40 and 41 will be held by friction at any desired position when moved therein. The valve members 40 and 41 are connected by a reduced portion or stem 44 providing a passage from tube 5 to tube 5' when said stem is in adjustment with bore 4 as shown in Figs. 1 and 3. If desired, the pistons may be rotated to regulate flow of paint through the valve.

Operation of a device constructed and assembled as described as follows:

When the container 8 is supplied with paint the lid 45 with the air pump 10 secured thereto is placed thereon and has sufficient pressure applied to the paint in the container. The valve 9 is opened and the valve 31 adjusted by movement of the valve members 40 and 41 to the position desired to allow a certain amount of flow of paint through the tubes 5 and 5' to the chamber 19 and then through the tubes 24 to the bristles of the brush. Movement of the valve member 40 inward until the head 42 engages the side plate 36 will close the tube 5 and

stop flow of paint to the brush. Movement of the valve member **41** inwardly will move the valve **40** outwardly to open the tube **5** to the desired position. The shanks of the valve members **40** and **41** being slightly larger than the rubber sleeve **39**, the valves will be held in the position to which they are moved without further manipulation or manual movement of any kind.

The adjustment of the neoprene tubes **27** on the tubes **24** forms an important part of my invention for the reason that movement of the tubes **27** outwardly on the tubes **24** will deliver the paint to the tips of the bristles of the brush for fine painting, whereas movement of the tubes **27** inwardly on the tubes **24** will supply the paint to nearer the base of the bristles to maintain the bristles with a heavy supply of paint. This adjustment and also the adjustment of the valve **31** is made according to the amount of paint desired on the surface being painted.

It will be obvious from the foregoing that I have provided an improved brush for supplying paint automatically to the bristles thereof and which may be adjustable to supply the desired amount of paint to the bristles.

It will further be obvious that the stock **14** is removable from the head **2** so that a stock with new bristles may be connected to the head. This is economical because only the stock and bristles need be replaced in order to have a substantially new brush.

What I claim and desire to secure by Letters Patent is:

A paint brush including a one-piece head and handle, said handle being of elongated shape and having a longitudinal bore opening therethrough extending through said head, means for supplying paint to said longitudinal bore opening in said handle, a rubber stock on said head spaced from said handle having bristles therein and having a chamber extending therein transversely of said longitudinal bore opening in said head and handle, said stock having a supply opening connecting said chamber with said longitudinal bore opening and said stock having a plurality of spaced openings in its side spaced from said supply opening, tubes in said spaced openings extending and opening into said bristles, said tubes being parallel to said bristles, flexible rubber tube members slidable over said tubes, said tube members being in stretched condition over the outside of said tubes and frictionally held but axially adjustable thereon with respect to the ends of said bristles, said head having a bore opening extending transversely therethrough and communicating with said longitudinal bore opening, a metal tube constituting a valve body extending through said transverse opening in said head, plates having an opening therein secured to the head with said plates' opening aligning with said transverse opening in said head, one of said plates being integral with one end of said transverse tube and the other end of said transverse tube being pressed against another of said plates, said transverse tube having aligned openings in the sides thereof aligning with said longitudinal bore opening, metal liners in said longitudinal bore opening, each liner having an inner end, said inner ends abutting the openings in said transverse metal tube, an elongated rubber sleeve fitting tightly without axial pressure in said transverse tube, said sleeve having openings aligning with said transverse tube side openings, an elongated valve member in said rubber sleeve and extending outwardly from the sides of said head and having a reduced portion consisting of parallel slots perpendicular to the longitudinal axis of said valve member and on opposed sides thereof, said valve member slidable in said sleeve but being frictionally held therein whereby said valve member and flexible tube members are held by friction in adjusted positions to produce optimum paint flow for particular conditions.

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