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2,504,487

CONTINUOUS FLOW PAINTBRUSH

Filed Nov. 3, 1947

2 Sheets-Sheet 1

Fig. 1.

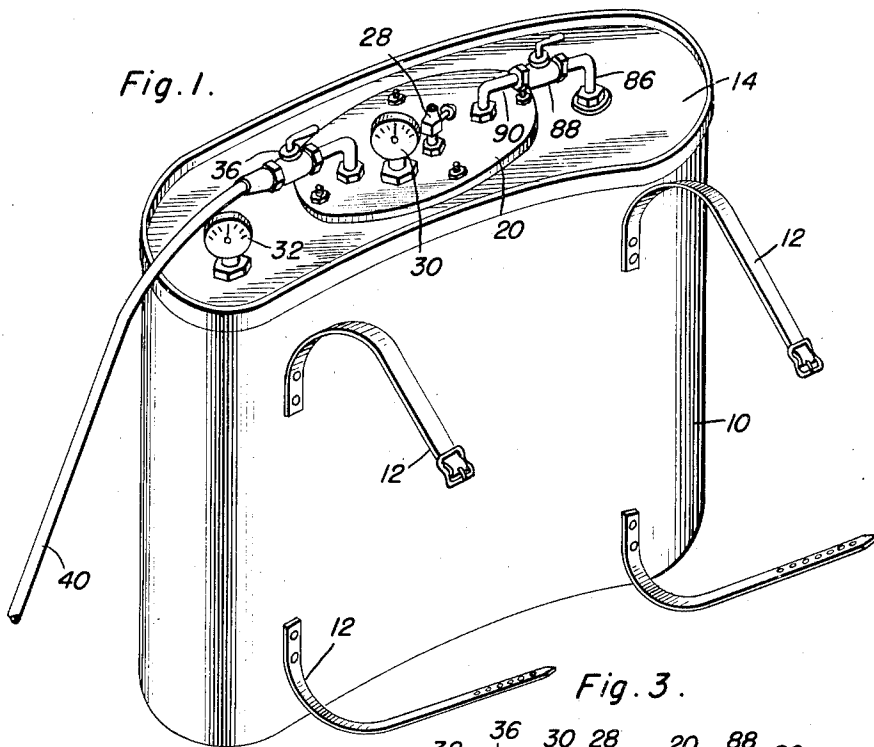


Fig. 3.

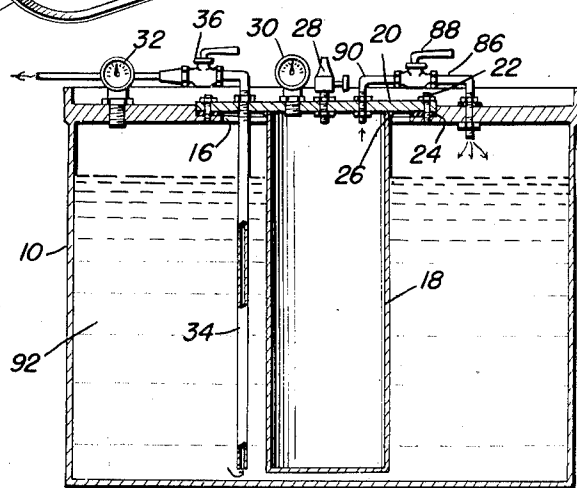
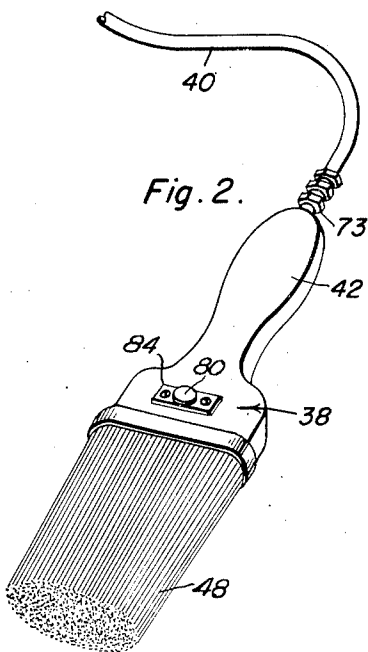


Fig. 2.



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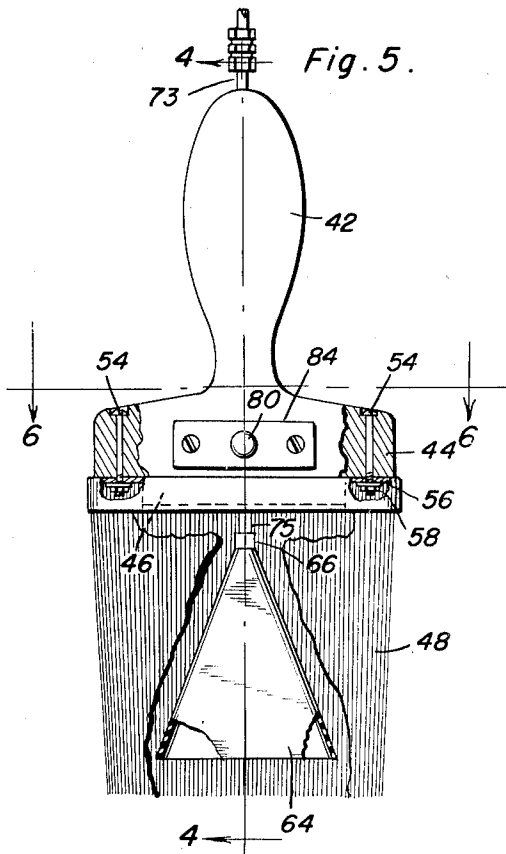
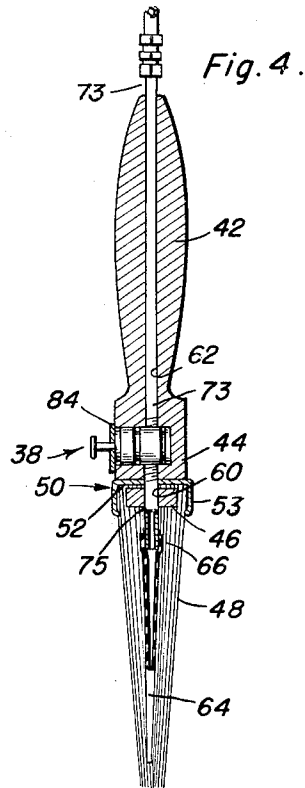
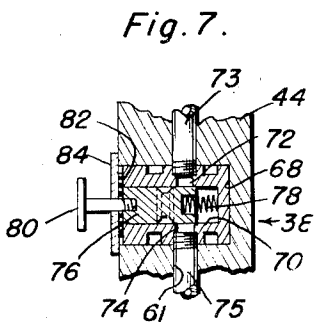
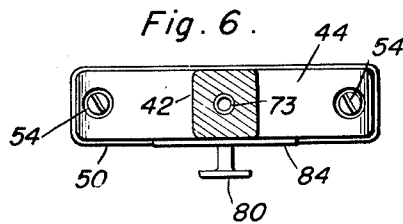
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CONTINUOUS FLOW PAINTBRUSH

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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CONTINUOUS FLOW PAINTBRUSH

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2 Claims. (Cl. 15—128)

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This invention relates generally to painting equipment, and more particularly to a fountain brush assembly comprising a portable paint supply tank having novel features incorporated therewith, and a fountain brush embodying improvements and refinements of structure.

A primary object of this invention is to provide a fountain brush assembly by the use of which the speed of brush painting may be considerably accelerated.

Another object of this invention is to provide an assembly which is completely portable, the paint supply tank having a pressure tank incorporated therewith.

Another object of this invention is to provide a paint supply tank and pressure tank so adapted that a part of the pressure tank comprises a closure for the vent in the supply tank, that is, the vent used for filling the supply tank and for cleaning the same, the said vent being, therefore, relatively large thus facilitating the said cleaning.

Still another object of this invention is to provide a brush construction in which brushes may be reconditioned by replacement of the bristle assembly, without replacement of the handle and paint spreader assembly. In this connection it may be noted that the paint spreader is constructed with a view to facilitating the cutting back of the same as the bristles are worn down, and it will, of course, be preferable to replace the spreader when the used spreader has been thus cut down.

Yet another object of this invention is to provide a fountain brush assembly in which the bristles are held in proper relationship for efficient operation.

Still another object of this invention is to provide a paint brush assembly in which the complete apparatus is easily taken apart and cleaned, as when it is desired to place the equipment in temporary storage, or when it is desired to change the character of paint.

And a last object to be specifically mentioned is to provide a device of this character which is relatively inexpensive and practicable to manufacture, which is extremely simple and convenient to use, and which will give generally efficient and durable service.

With these and other objects definitely in view, together with other objects which will appear hereinafter as this description proceeds, this invention resides in novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in de-

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tail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

5 Figure 1 is a perspective view of the supply tank for the paint, together with the top part of the pressure tank which comprises a closure for a filling and cleaning vent in the top of the supply tank;

10 Figure 2 is a perspective view of the fountain brush, and this figure may be read in connection with Figure 1, to illustrate the combined brush assembly;

15 Figure 3 is a vertical sectional view of the paint supply tank, the pressure tank and the outlet pipe, together with the valves and gages associated therewith;

Figure 4 is a vertical transverse sectional view of the improved fountain brush, the view being taken substantially on the line 4—4 in Figure 5;

20 Figure 5 is a side elevational view of this brush, portions of the base of the handle, and other portions of the bristles and paint spreader being broken away to disclose the underlying portions in elevation and in vertical section, and in order to amplify the disclosure of this invention;

Figure 6 is a horizontal sectional view, taken on the line 6—6 in Figure 5; and

30 Figure 7 is a fragmentary enlarged vertical sectional view of the valve structure associated with the said handle of the brush.

Similar characters of reference designate similar or identical parts and portions throughout the specification and throughout the several views of the drawings.

Referring now to the drawings in detail, this invention will be seen to include a paint supply tank of arcuate shape so that the same will fit more comfortably upon the body of the operator of the device, and this tank is provided with suspension straps 12 which may be placed over the shoulders of the operator and the tank 10 is illustrated as having a top plate 14 which may be rigidly secured to the tank and this top plate is provided with a relatively large vent 16 and an air pressure tank 18, ordinarily cylindrical in shape and of a dimension making the same easily insertable into the tank 10 through the vent 16, is provided with a top plate part 20 of an area greater than the cross sectional area of the pressure tank 18, that is, the plate part 20 extends as a flange for removable securement to the edges of the vent 16, as by bolts or studs 22 insertable through the peripheral portions of the-

part 20 and into registering portions of the top plate 14, it being preferred that a gasket 24 should be provided for insertion between the registering portions of the part 20 and the top plate 14. As indicated at 26, the top plate part is rigidly secured, as by welding, to the pressure tank 18, and an inlet 28 of valve type is provided in the top part 20, to facilitate the recharging of the pressure tank 18. A pressure gage 30 is mounted on the plate part 20, and is adapted to register the pressure of the air within the pressure tank 18 in order that the operator may be advised at all times of the air pressure in this tank. Another pressure gage 32 is provided on the tank 10, to register the pressure within this tank.

The tank 10 is provided with a paint outlet pipe 34, shown as rigidly secured to the plate part 20 so as to be removable therewith, and extending adjacent to the floor portion of the tank 10. This outlet pipe 34 is provided with a check valve 36, and this check valve 36 will be seen to be auxiliary to another valve, generally indicated by the numeral 38, incorporated with the brush proper. A flexible tube 40 connects the valve 36 with the tubular handle portion 42 of the brush.

If reference be now had to Figures 4 and 5, it will be seen that the brush includes a hollow handle 42 having a base portion 44, the handle and base portion being of conventional shape and ordinarily constructed integrally. Brush bristles 48 are carried by a frame generally indicated at 50, of generally rectangular form and comprising a top plate 52 having a skirt flange 53. The plate 52 is apertured at two points to receive the inner ends of attaching bolts 54 and if reference be had to Figure 5, it will be seen that the preferred method of securing the bolts 54 to the flange plate is represented in this figure as employing reinforcing washers 56 and nuts 58, both washers and nuts being preferably welded to the top plate 52 where this plate is apertured as above mentioned, that is, near each end of the frame 50 and the bolts 54 are insertable through bores provided in the base 44.

A wedge or head 46 seated within said frame 50, rigidly secured both to said bristles and to said frame, is provided with a bore 60 and this bore communicates with a similar bore 61 in the base 44 leading to the said valve 38 and the bore 62 in the handle 42. The wedge or head 46 decreases the number of bristles required, thereby lowering the cost of the brush, and this wedge also facilitates the proper orientation of the bristles. A paint spreader 64 of a length slightly less than the length of the bristles 48, and comprising a hollow cuneiform member open at both ends and having an attaching nipple 66 at the smaller end for insertion over an end of a pipe 75 hereinafter described. The paint spreader 64 is constructed of material which may be easily cut so that the length of the spreader may be shortened as the bristles are worn down.

The valve 38 will preferably include a valve casing 68 with a cylindrical bore 70 and a notched exterior surface, as at 72, the said casing being driven into the handle 42 in a recess provided therefore, so that threaded apertures 74 on each side of the casing will receive threaded ends of pipes 73 and 75 tightly inserted in the bore 62, the pipe 75 being of a length to extend through a central aperture in the top plate 52, through the bore 60 in the wedge 46, and this pipe 75 is removably received in the nipple 66. A valve

plunger 76, spring biased, as at 78, is mounted within the casing 68 and is operated by a button 80. It is preferred that a gasket 82 will be mounted on the outside end of the casing 68, so as to surround the bore 70, and a plate 84 is secured to the base 44 to clamp tightly against the gasket 82 and prevents any possible leakage of paint from the valve.

The supply tank 10 carries on the top plate 14 thereof a nipple 86 which is swivelly secured thereon and which carries a valve 88. A coacting nipple 90 is rigidly secured to the pressure tank 19, that is, to the plate part 20 and is removably securable to the valve 88.

The operation of this invention will be clearly understood from the foregoing description of the mechanical details thereof, taken in connection with the above recitation of the objects sought to be achieved by this invention. In recapitulation it will be noted that the paint is inserted into the supply tank 10, and indicated at 92, the vent 16 being used for this purpose. The pressure tank 18, fully charged, is then inserted into the tank 10 and the plate part 20 acts as a closure for the vent 16. The nipples 19 and 86 are then connected through the valve 88 and this valve is opened to the desired degree to allow pressure of the air escaping from the pressure tank 18 to force the paint 92 out of the tank 10 through the outlet pipe 34 and into the fountain brush. The regulation of the valves will be understood by anyone skilled in the art to which this invention appertains and it will now be obvious that all of the objects recited above have been amply attained. Further description is, therefore, deemed unnecessary.

Obviously many minor variations may be made in the exact structural details and the proportionment of the various parts of this invention, and without departure from the spirit and scope thereof, and this invention should be limited only in accordance with a proper interpretation of the terms used in the appended claims.

Having described the invention, what is claimed as new is:

1. In a device of the character described, a brush having a tubular handle, said handle having a base with a bore therein, a pipe extending through said tubular handle into one end of said bore, a valve in said bore controlling flow through said pipe, a frame removably secured to said base, said frame comprising a plate having a skirt flange, a wedge disposed centrally within and secured to said frame, bristles terminally secured within said frame and secured to and between said flange and said wedge, a pipe extending from said valve through and beyond said plate and wedge, and a paint spreader having a neck portion removably securable to the last-mentioned pipe, said spreader being surrounded by said bristles.

2. In a device of the character described, a brush having a tubular handle, said handle having a base with a bore therein, a pipe extending through said tubular handle into one end of said bore, a valve in said bore controlling flow through said pipe, a frame removably secured to said base, said frame comprising a plate having a skirt flange, a wedge disposed centrally within and secured to said frame, bristles terminally secured within said frame and secured to and between said flange and said wedge, a pipe extending from said valve through and beyond said plate and wedge, a paint spreader within said bristles and having a neck portion removably securable to said pipe, said

pipes being each terminally threaded into said valve, said spreader having a neck portion terminating in a socket removably and frictionally securable on the end of the second-mentioned pipe remote from said valve, said spreader being comprised of material which is easily cut to shorten the spreader as the brush bristles are worn to shorter lengths.

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