Jan. 31, 1956 W. O. SCHAUB 2,732,946

STRAINER FOR PAINT SPRAYERS OR THE LIKE

Filed Nov. 22, 1952

Fig. 1

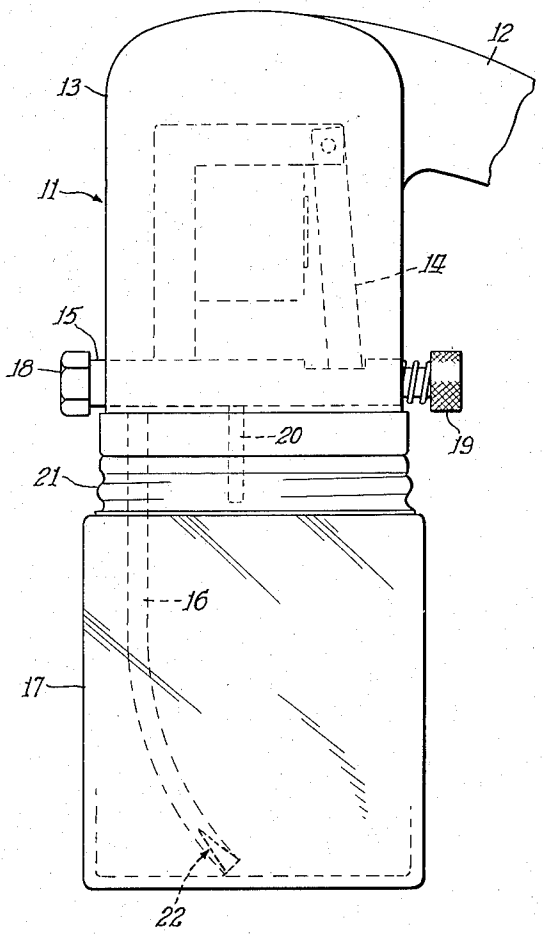


Fig. 2

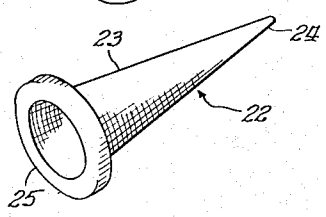


Fig. 3

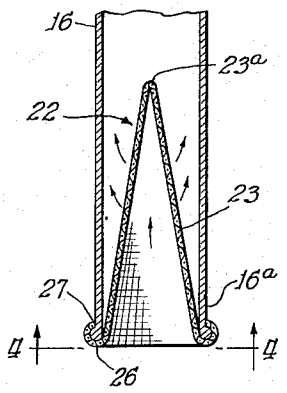
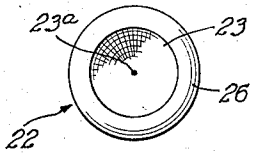


Fig. 4



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STRAINER FOR PAINT SPRAYERS OR THE LIKE

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2 Claims. (Cl. 210—94)

This invention relates to a strainer, for paint sprayer or the like, of improved form and enhanced efficiency.

In suction paint sprayers or paint guns as they are sometimes called, which function, for example, by electrically operated mechanism to aspirate and propel paint from a container in which a feed pipe depends, various forms of strainers have been employed at the outlet end of the pipe, which is generally adjacent the bottom of the paint container. Such strainers have been commonly disposed on the end of the pipe exteriorly thereof, and have had a tendency to become clogged, as well as limiting the length of the pipe to less than it might be without the strainer.

It is an object of the present invention to provide a strainer of this class which may be readily disposed inside of the delivery pipe at the inlet end thereof, while still being readily insertible or removable for replacement by the user of the sprayer device.

A further object of the invention is to provide a strainer of this class which has a reduced tendency to clog and which has properties inherent in its construction that counteract such tendency and promote automatic freeing of the screen from particles of paint solid matter which would otherwise clog the strainer and render the sprayer device inoperative.

These and other objects and advantages of the present invention will be apparent from the following description, taken together with the accompanying drawings, of an illustrative embodiment thereof, and in which drawings—

Figure 1 is a view showing a gun of the electromechanical type, with the present invention associated therewith;

Figure 2 is a perspective view of the strainer embodying the present invention, on a larger scale;

Figure 3 is a sectional view of the inlet end of the paint delivery pipe with the strainer of the present invention inserted in operative position therein; and

Figure 4 is an end view of the strainer, being a view taken on the line 4—4 of Fig. 3.

Referring in detail to the illustrative construction shown in the drawing, the numeral **11** indicates a mechanism containing housing of a suction sprayer of the electromechanical type, having a handle **12** so that it may be used somewhat as a gun. The housing as is well known and forming no part of the present invention, may contain electrically actuated mechanism for operating the sprayer device, including a vibration motor **13** having an armature **14** which operates a cylinder-piston device **15** to draw or aspirate paint up through the delivery pipe **16** from the container **17**, and discharging it through a nozzle **18**. A knurled adjustment screw **19** may control the stroke of the armature **14** and a return pipe **20** may return excess paint, not delivered by a given stroke of the cylinder-piston device, to the container for redelivery. The housing **11** may be screw-threaded at its lower end as at **21** to be screwed onto a threaded mouth of the container **17** so that access may be obtained to the pipe **16** and paint may be placed in the container for spraying. The container or jar **17** is usually of glass.

In accordance with the present invention the strainer

device **22** of the present invention is shown in association with the pipe **16** in Fig. 1 and separated perspective in Fig. 2. It comprises a conical screen **23** of wire mesh or the like which is closed at its smaller end **24** and is open at its larger end **25**. From its larger end the screen **23** is of uniformly decreasing diameter terminating in a point **23***a*, preferably closed.

At its larger end **25** the strainer **22** is provided with means for holding the screen **23** within the inlet of a delivery pipe such as the pipe **16** as best seen in Fig. 3. In the illustrative construction, such means is exemplified by a rolled edge **26** of the screen itself, and such rolled edge **26** has an annular groove as at **27** so that it may receive the pipe end as shown with the conical screen extending into the pipe **16**.

So constructed and arranged, when the screen **23** of the strainer device **22** is inserted into the inlet end of the pipe **16**, the terminal end **16***a* of the pipe **16** may be pushed into the groove **27** of the roll **26** of the strainer larger end. The wire mesh of the strainer being somewhat resilient will yield sufficiently to let the pipe end be inserted into this groove, and the rolled end of the strainer will then clamp the strainer to the pipe against accidental displacement.

The conical shape of the screen causes such particles of paint as pass therethrough to pass through at an acute angle to the axis of the pipe **16**, as indicated by the small arrows in Fig. 3, and this tends to create a suction effect about the conical screen which draws therethrough such particles as are capable of entering the interstices of the screen thus keeping the screen free of lodged particles. Conversely, particles too large to enter the interstices of the screen are unable to find lodgment in the conical interior thereof and are thereby prevented from clogging the strainer.

Furthermore, the strainer of the present invention, being insertable inside the delivery pipe, is free of interference with the length of the pipe and the latter may desirably extend to the bottom wall of the container **17** and rest thereon as shown in Fig. 1.

When it is desired to clean or replace the strainer, the housing **11** may be unscrewed from the container and the strainer **22** readily removed for cleaning or replacement.

The invention having been described, what is here claimed is:

1. A strainer for an electro-mechanical paint sprayer provided with a downwardly extending aspirating paint intake pipe adapted to have its lower end immersed in the paint supply, comprising, a single conical screen member open at its larger end and adapted to be inserted into the open lower end of the intake pipe with the member open end substantially flush with the open end of the pipe and the apex of the conical member pointed upwardly in the direction of the flow of the paint, whereby the paint initially enters the open end of the screen member and passes through the screen within the pipe, the screen member being of uniformly decreasing diameter and being relatively long in relation to its greatest diameter, and an integral rolled open edge encircling the open end of the member and axially abutting the end of the pipe for resiliently receiving and gripping the end of the pipe to hold the member and pipe in engagement, one annular wall of the rolled edge being outside the pipe and the other annular wall of the rolled edge being inside the pipe whereby said rolled edge provides a stream-line orifice for entry of the paint into the screen-member.

2. A strainer for an electro-mechanical paint sprayer, comprising a conical screen member open at one end and adapted to be inserted into a pipe end with the member open end substantially flush with the end of the pipe and the apex of the conical member within the pipe, said

screen member having an integral open rolled edge encircling the open end of the member and arranged for resiliently receiving and gripping the end of the pipe to hold the member and pipe in engagement, one annular wall of the rolled edge being outside the pipe and the other annular wall of the rolled edge being inside the pipe, whereby said rolled edge also provides a streamline orifice about the pipe end.

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