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2,605,488

HOLLOW PAINT CONTAINING AND APPLYING ROLLER

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FIG. 1.

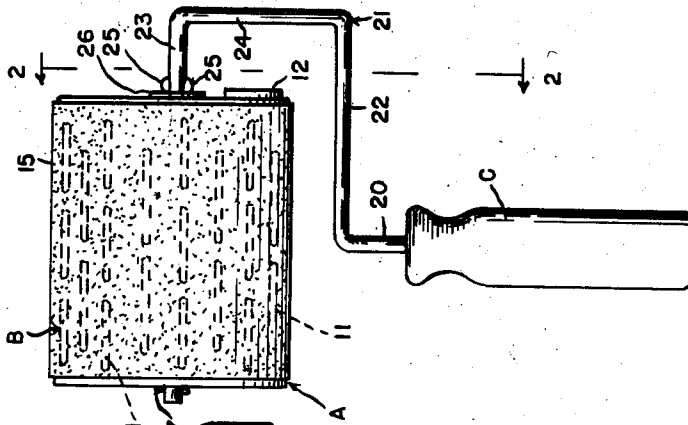


FIG. 3.

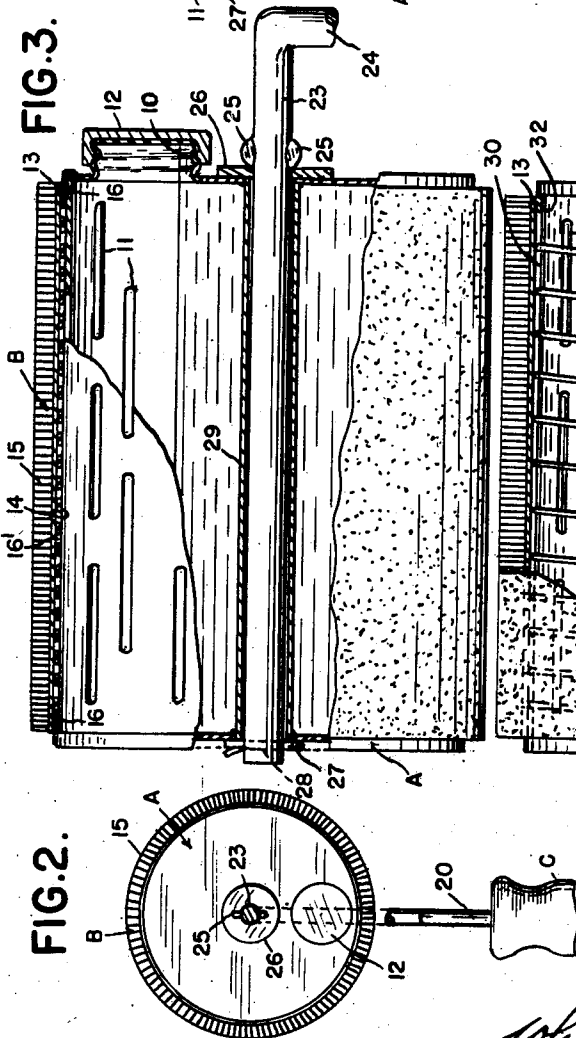


FIG. 2.

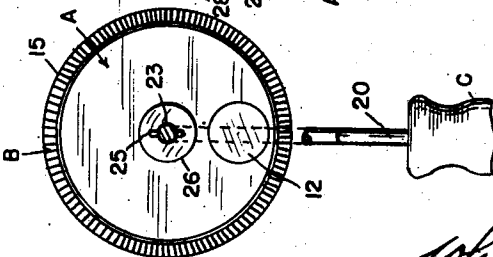


FIG. 4.

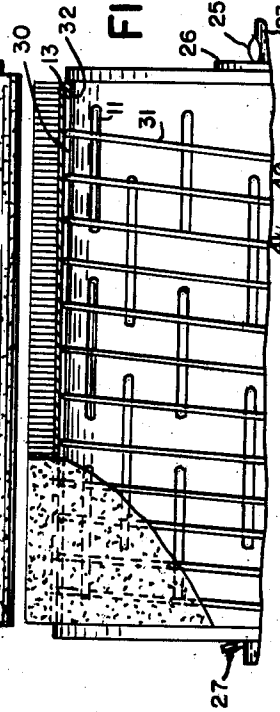
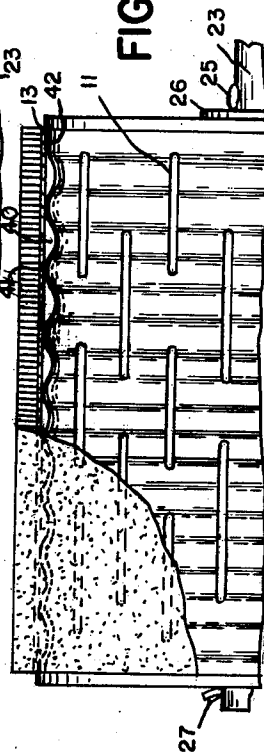


FIG. 5.



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3 Claims. (Cl. 15—132.5)

1

This invention relates generally to painting devices and refers more particularly to fountain type roller devices for applying paint, varnish and the like to walls, floors, ceilings and other surfaces.

One of the essential objects of the invention is to provide a device of the type mentioned wherein one or more passages or channels are provided between the periphery of the roller and a sleeve-like covering therefor to permit paint from one or more discharge openings in the periphery of the roller to flow to substantially the entire area of the covering and thence through the latter to the surface to be painted.

Another object is to provide a painting device wherein the distribution of paint throughout the covering for the roller is substantially uniform.

Another object is to provide opposite end portions of the sleeve-like covering with elastic bands which will hold said end portions of the covering tightly against the periphery of the roller and thereby will prevent endwise displacement of the covering relative to the roller and will prevent endwise leakage of paint from between the covering and roller.

Another object is to provide the roller with a covering that is readily removable for replacement, repair or cleaning purposes.

Another object is to provide a painting device that can be filled with paint and rolled upon the surface to be painted without paint being spilled or dropped therefrom.

Another object is to provide a painting device that is simple in construction, economical to manufacture and efficient in operation.

Other objects, advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing, wherein:

Fig. 1 is a plan view of the painting device embodying my invention;

Fig. 2 is a sectional view taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary elevational view of the roller and associated parts, with portions broken away and in section;

Fig. 4 is an enlarged fragmentary elevation of a slight modification and showing portions broken away and in section; and

Fig. 5 is a view similar to Fig. 4 but showing another modification.

Referring now to the drawing, A is a roller, B is a covering therefor, and C is an operating handle of a painting device embodying my invention.

2

As shown, the roller A is cylindrical in form and is hollow so as to serve as a reservoir or supply tank for the paint or other liquid that is to be employed.

5 Preferably this roller is provided at one end with an inlet nipple 10 and is provided in its periphery with numerous longitudinally extending elongated outlet openings 11 for the liquid. The inlet nipple 10 is exteriorly threaded and is normally closed by a suitable cap 12, while the outlet openings 11 are preferably staggeredly arranged in the periphery of said roller. The covering B for the roller is preferably in the form of a sleeve that is slipped endwise onto the periphery of the roller to cover the outlet openings 11 therein. Such covering B may be any suitable material which will permit the passage therethrough of the paint or other liquid supplied thereto from the outlet openings 11. In the present instance the covering B is a section of carpet having a foraminous base 13 provided on its underside with reinforcing cords 14 that are arranged in longitudinally spaced pairs and extend circumferentially of the roller. Said base 13 is also provided on its upper side with the usual outwardly projecting fibrous material 15 which may be anchored in any suitable manner to said base. At opposite ends of the covering B are elastic bands 16 which are secured to the underside of the base 13 and grip the periphery of the roller at opposite ends thereof. Thus, with this construction the bands 16 hold the covering B against accidental slippage relative to the roller and effectively prevent leakage of the paint or other liquid endwise from the space between the base 13 of the covering and the periphery of the roller. By referring to Fig. 3 it will be noted that the space between the base 13 of the covering and the periphery of the roller is divided by the circumferentially extending cords 14 into longitudinally spaced channels or passages 16' which cross and are adapted to be supplied with paint from the elongated outlet openings 11 in the periphery of the roller. Thus, such paint is free to flow through the channels 16' to all portions of the covering B and thence through the latter to the surface (not shown) to be painted. In this connection it should be appreciated that the construction and arrangement of openings 11 and channels 16' is such that the paint seepage or permeation through the covering is not localized at the openings 11 but is distributed by the channels 16' to substantially the entire area of the covering B. Thus,

the covering B is saturated substantially evenly and is adapted to spread the paint uniformly over the surface to be treated.

The operating handle C is disposed at right angles to the axis of the roller A and is mounted on a laterally extending projection 20 of a substantially U-shaped rod 21. One arm 22 of the U is outside and parallel to the axis of the roller, while the other arm 23 extends axially of and forms a shaft for the roller A. The base 24 of the U is parallel to the adjacent end of the roller and clears the cap 12 for the filler opening. Preferably portions 25 of the arm 23 are pressed outwardly at diametrically opposite sides thereof for engagement with a washer 26 at one end of the roller, while a cotter pin 27 extends through a hole 28 in said arm 23 and is engageable with the other end of said roller to maintain the roller in proper position upon the arm. A tube 29 is rotatably sleeved on said arm 23 between the washer 26 and cotter pin 27 and forms a bearing for the roller. Preferably this tube 29 extends axially of and is terminally secured to opposite ends of the roller.

In Fig. 4 I have illustrated a slight modification wherein the cords 14 have been dispensed with entirely and the circumferentially extending channels or passages 30 on the periphery of the roller are formed by one or more wires 31 wound upon the periphery of the roller. In this construction the base 13 of the covering rests upon the wiring 31 and is held against displacement by elastic bands 32 that grip the periphery of the roller and prevent endwise leakage of paint. Otherwise the construction and operation of the structure illustrated in Fig. 4 is the same as in Fig. 3.

In Fig. 5 I have illustrated another modification wherein the cords 14 and the wires 31 have been dispensed with entirely and the circumferentially extending channels or passages 40 on the periphery of the roller are provided by corrugating the periphery of the roller. In this construction the base 13 of the covering rests upon the raised portions 41 of the corrugations and is held against displacement by elastic bands 42 that grip the periphery of the roller and that prevent endwise leakage of paint. Otherwise the construction and operation of the structure in Fig. 5 is the same as in Fig. 3.

The circumferentially extending channel or channels for the flow of fluid between the periphery of the roller and the covering therefor can be in either the covering or the periphery of the roller, and one or more such channels or passages as described is sufficient to permit the paint to flow to substantially all portions of the covering for substantially uniform distribution thereby.

In use, the hollow roller A may be filled with

paint or other liquid by simply removing the cap 12 and pouring the paint through the nipple 10 into the interior of the roller. After the cap 12 is tightened the roller can then be rolled over the surface to be treated. Thus, the entire operation can be carried out without spilling or dropping paint from the roller. The elastic bands permit the covering to be readily removed for replacement, repairs and/or cleaning purposes, as desired.

What I claim as my invention is:

1. A painting device comprising a hollow roller for containing fluid material and having a cylindrical peripheral wall apertured for outward flow of said fluid, a porous sleeve surrounding said roller, axially spaced circumferentially extending spacers between said sleeve and the outer cylindrical surface of said roller forming therebetween channels in communication with said apertures permitting unobstructed fluid flow circumferentially in advance of the line of rolling contact of said roller with the surface over which it is rolled.

2. A painting device comprising a hollow roller for containing fluid material and having a cylindrical peripheral wall provided with axially elongated outlet openings for said fluid, a porous sleeve surrounding said roller, and axially spaced spacers extending circumferentially between said sleeve and outer surface of the roller in communication with said openings and forming unobstructed channels for the free flow of fluid therethrough.

3. A painting device comprising a hollow roller for containing fluid material and having a cylindrical peripheral wall apertured for outward flow of said fluid, a porous sleeve surrounding said roller, axially spaced cords extending circumferentially of the inner surface of the sleeve and secured thereto forming unobstructed channels in communication with said apertures for circumferential flow of fluid between the outer surface of said roller and the inner surface of said sleeve.

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