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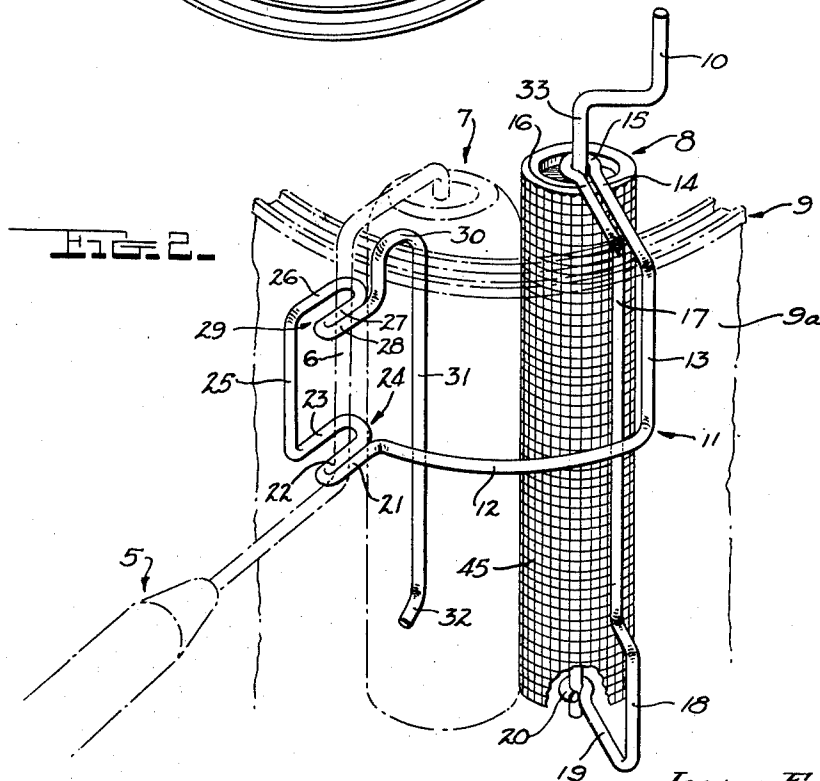
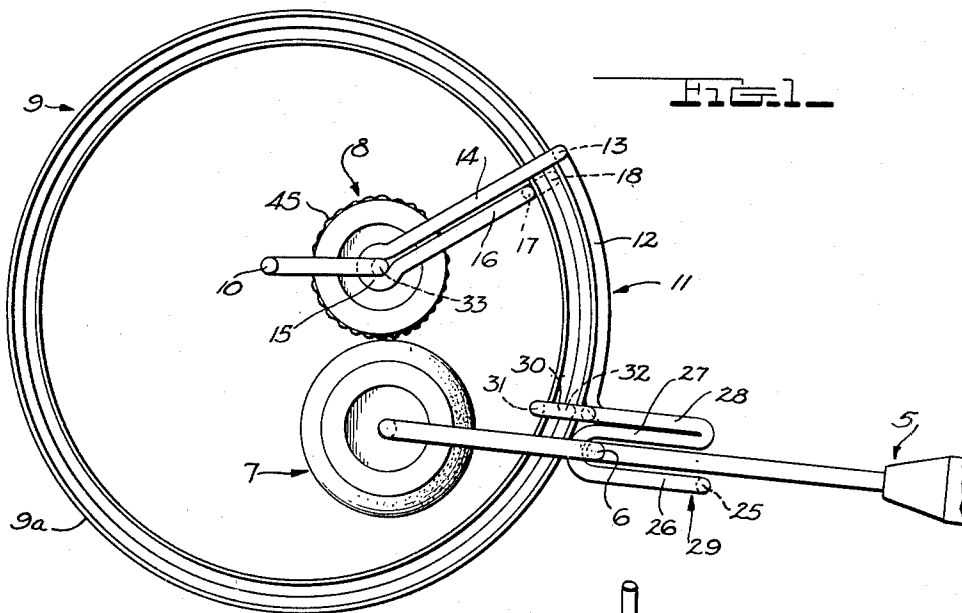
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CLEANING APPARATUS FOR PAINT APPLICATOR ROLLERS AND THE LIKE

Filed Nov. 29, 1954

2 Sheets-Sheet 1



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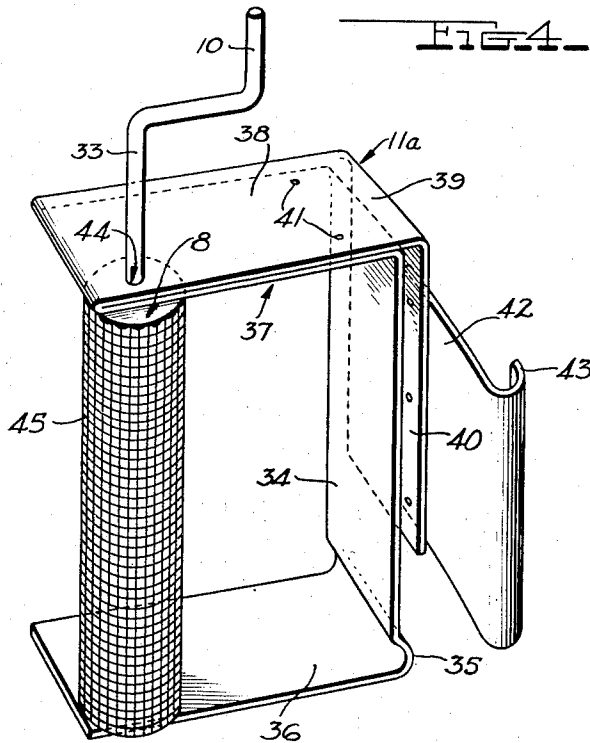
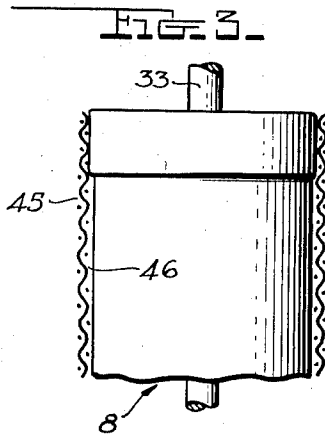
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CLEANING APPARATUS FOR PAINT APPLICATOR ROLLERS AND THE LIKE

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10 Claims. (Cl. 15—3)

The present invention relates broadly to cleaning equipment, and in its specific phases to an apparatus useable for the cleaning of roller type paint applicators.

In painting interior surfaces, and even outside surfaces, it is becoming rather common practice to use a paint applicator of the type having an applicator roller and an operating handle therefor. Quite an amount of difficulty, however, is experienced in cleaning the applicator roller after each use or when colors are to be changed and, moreover, each cleaning operation consumes considerable time which could well be spent to better advantage, particularly by the professional painter. It was a recognition of this situation and a knowledge, from long experience in the field, that there was no thoroughly satisfactory method or apparatus for cleaning paint applicator rollers which led to the conception and development of the present invention.

Accordingly among the objects of the present invention is the provision of a novel cleaning device which will quickly and easily clean the roller of a paint applicator, not only saving time and avoiding difficulty, but readily accomplishing more thorough cleaning than normally attained heretofore.

In carrying out the above end, a further object is to provide a cleaning roller for peripheral contact with the applicator roller while both rollers are immersed in a solvent, the cleaning roller being rotatable to also cause rotation of the applicator roller, the paint being thus thinned and squeezed out from between the fibers of the applicator roller to thoroughly clean the latter.

Another object is to provide a novel frame readily engageable with the side wall of a paint pail, paint can or the like (hereinafter referred to as a can) for mounting the cleaning roller and for temporarily mounting the applicator while the roller of the latter is being cleaned.

A further object is to provide the cleaning roller with novel peripheral sleeve for alternately pressing and freeing the applicator roller fibers in a myriad of places to insure alternate inflow and outflow of the solvent between the fibers and produce thorough cleaning.

Another object is to provide a novel frame structure formed from a single length of stiff wire.

Yet another object is to provide a modified form of frame constructed from sheet metal.

A still further object is to provide a simple and inexpensive cleaning device yet one which will be durable and efficient.

Still further objects and advantages of the invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention then consists of the equipment hereinafter fully described and particularly pointed out in the claims, the annexed drawings, and the following description setting forth in detail certain means for carrying out the invention, such disclosed means illustrating, however, but several of various ways in which the principle of the invention may be used.

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In the accompanying drawings:

Figure 1 is a top plan view showing the cleaning device engaged with a can and showing a paint applicator in position for cleaning.

Figure 2 is a perspective view of the cleaning device of Figure 1, the applicator and a portion of the can being shown in broken lines.

Figure 3 is a detail section partly in elevation, showing one end of the cleaning roller.

Figure 4 is a perspective view showing a different form of construction.

In order to clearly set forth the principles of the present invention the structures shown in the drawings will be rather specifically described, but it is to be understood that variations may well be made without departing from the spirit and scope of the invention as thus set forth.

Both forms of the invention are adapted for cleaning a paint applicator of the type in which the roller handle 5 has a lateral portion 6 behind the applicator roller 7 and both of said forms include a cleaning roller 8 for peripheral contact with the roller 7 when both rollers are vertically immersed in a solvent within a can 9, the cleaning roller 8 being provided with any suitable form of rotating means such as a crank 10 by means of which it may be rotated to also rotate the applicator roller 7. Both forms of the invention also include a frame upon which the cleaning roller 8 is mounted, said frame being engageable with the side wall 9a of the can 9 and having bearings to temporarily receive the lateral portion 6 of the handle 5. The frame of Figures 1 and 2 is generally denoted at 11 and is formed from stiff wire. The frame 11a of Figure 4 is constructed from sheet metal. Both of these frames will be described in detail.

A single length of stiff wire is employed in forming the frame 11 of Figures 1 and 2. This wire has a substantially horizontal curved portion 12 between its ends to lie against the outer side of the can side wall 9a. The wire at one end of the horizontal portion 12 is bent upwardly to provide a vertical member 13 and at the upper end of this member 13 the wire is bent laterally inward to form an arm 14 to rest on the can wall 9a. At the inner end of the arm 14, the wire is bent to form an upper bearing 15 and is then extended laterally outward to provide a second and shorter arm 16 which is in side-to-side relation with the arm 14. At the outer end of the arm 16, the wire is bent downwardly to form a second vertical member 17 for disposition at the inner side of the can wall 9a. This member 17 extends downwardly below the horizontal wire portion 12 and has an outwardly bowed lower end portion 18 to abut the inner side of the can wall 9a. The wire is bent laterally inward below the bowed portion 18 to provide a third arm 19, and at the terminal of this arm the wire is bent to provide a lower bearing 20 which is vertically aligned with the upper bearing 15.

The wire at the other end of the horizontal portion 12 is bent laterally outward at 21, then inwardly at 22, and again outwardly at 23 to provide a lower U-shaped bearing 24. After forming this bearing 24, the wire is extended upwardly to provide a bearing-connecting member 25. At the upper end of this member 25, the wire is bent laterally inward at 26, then outward at 27 and again inwardly at 28 to form an upper U-shaped bearing 29. From this bearing 29, the wire is bent upwardly and inwardly at 30 to rest on the can side wall 9a. The wire is then bent downwardly to provide an additional vertical member 31 for disposition at the inner side of the can wall 9a. This member 31 has a laterally bent lower end 32 to abut the wall 9a.

The bearings 15 and 20 receive the shaft 33 of the cleaning roller 8 and rotatably mount this roller. The U-shaped bearings 24 and 29 are adapted to receive the

lateral portion 6 of the applicator handle 5 to mount the applicator in such position that its roller 7 may be held with variable pressure against the cleaning roller 8 while the latter is being rotated. These bearings 24 and 29 pivotally mount the applicator so that pressure in one direction against the handle 5 will pivotally move the roller 7 in the other direction either against the cleaning roller 8, or away from it, the two rollers being at that time immersed in the solvent (not shown) in the can 9. This construction thus facilitates cleaning the applicator roller when it is held against cleaning roller 8 and the latter is rotated and also the insertion or removal of the applicator roller with its handle when it is free for endwise movement.

In the form of construction shown in Figure 4, a flat strip of metal is used in constructing the frame 11a. This metal strip has a vertical portion 34 between its ends for disposition at the inner side of the can wall, said strip having an outwardly bowed portion at the lower end of said vertical portion 34, providing a rib 35 for contact with said can wall. The strip is bent laterally inward from the rib 35 to form a lower horizontal arm 36. At the upper end of the vertical portion 34, the strip is bent laterally inward and folded upon itself to form an upper two-ply arm 37. The metal of the upper ply 38 of this two-ply arm is extended beyond the vertical portion 34 as seen at 39 to rest on the can wall. The strip is then bent downwardly to provide a second vertical portion 40 to lie against the outer side of the can wall. The two plies of the upper arm 37 may be spot-welded or riveted together as indicated at 41.

A metal plate 42 is suitably secured to the vertical portion 40 and projects beyond one edge thereof, said plate having a return-bend 43 at its outer end. This return bend forms the socket for the lateral portion 6 of roller handle 5 and takes the place of bearings 24 and 29 of Figure 2.

The arms 36 and 37, Figure 4, are apertured to form bearings, similar to 15 and 20 of Figure 2 to receive the shaft 33 of the cleaning roller 8 in order to rotatably mount this roller between said arms, one of the apertures being shown at 44. With the return-bend 43 in the position shown, it is adapted to receive the lateral portion 6 of the applicator so as to position the applicator roller 7 in proper cleaning relation with the cleaning roller 8 when the frame 11a is engaged with the side wall of a can containing a suitable solvent.

The cleaning roller is provided with a peripheral sleeve 45, Figure 3, of reticular and foraminous form, said sleeve being preferably formed from fly-screen wire. There is a space 46 under the sleeve 45 into and from which the solvent may flow to keep the sleeve clean.

As the cleaning roller 8 is rotated and the applicator roller 7 is held against it in the solvent, said cleaning rollers drives said applicator roller to clean the latter. During the rotation of the two rollers, the reticular and foraminous sleeve 45 alternately presses and frees the fibers of the applicator roller 7 in a myriad of places, thus insuring inflow and outflow of solvent, which should be relatively clean, between the fibers to perform a thorough cleaning operation and leaving substantially no paint to harden on the roller surface and interfere with later use.

From the foregoing it will be seen that a novel and advantageous device has been disclosed for the intended purposes of cleaning paint applicator rollers and while there are herein shown and described two preferred embodiments of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as set forth.

Other modes of applying the principle of my invention may be employed instead of those explained, change being made as regards the apparatus herein disclosed, provided

the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In a cleaning device for a paint applicator of the type comprising an applicator roller, and a handle for said roller having a lateral portion behind and spaced a short distance from the latter; a frame to engage the side wall of a can containing a solvent, a cleaning roller for vertical disposition in the can, said cleaning roller having an operating member at its upper end by means of which it may be rotated, bearing means mounting said cleaning roller on said frame, and additional bearing means on said frame positioned for disposition at the exterior of the can side wall to receive the lateral portion of the applicator handle when this lateral handle portion is positioned vertically; whereby when said frame is mounted on the can and the lateral handle portion is engaged with said additional bearing means and the applicator roller is positioned vertically against said cleaning roller, the applicator handle may be pivotally moved to press the applicator roller against said cleaning roller and the latter may be rotated, thereby rotating and cleaning the applicator roller.

2. A structure as specified in claim 1; said frame being constructed to straddle the can side wall.

3. A structure as specified in claim 1; said cleaning roller having a foraminous peripheral sleeve for contact with the applicator roller.

4. A structure as specified in claim 1; said cleaning roller having a foraminous peripheral sleeve for contact with the applicator roller, said cleaning roller having a space under said foraminous sleeve into and from which the cleaning liquid may pass.

5. A structure as specified in claim 1; said cleaning roller having upper and lower journals fitting said frame bearings, and a reticular and foraminous peripheral sleeve for contact with the applicator roller.

6. A structure as specified in claim 1; said cleaning roller having a reticular and foraminous peripheral sleeve for contact with the applicator roller, said cleaning roller having a space under said reticular and foraminous sleeve into and from which the cleaning liquid may pass, and said operating member for said cleaning roller being in the form of a crank at the upper end of same.

7. A structure as specified in claim 1; wherein said frame is formed from relatively heavy and stiff wire.

8. A structure as specified in claim 1; wherein said frame is formed from relatively heavy and stiff strip metal.

9. In a cleaning device for a paint applicator of the type comprising an applicator roller, and a handle for said roller having a lateral portion behind and spaced a short distance from the latter; said cleaning device comprising a frame formed from a single length of wire, said wire having a substantially horizontal portion between its ends to lie against the outer side of a can side wall, the wire at one end of said substantially horizontal portion being bent upwardly to provide a vertical member, the wire being bent laterally inward at the upper end of said vertical member to form an arm to rest on the can side wall, the wire at the inner end of said arm being bent to form a bearing and being then extended outwardly to form a second and shorter arm adjacent the first mentioned arm, the wire being bent downwardly from the outer end of said second and shorter arm to form a second vertical member for disposition at the inner side of the can wall, said second vertical member having an outwardly bowed lower end portion to abut the can wall, the wire being bent laterally inward below said bowed portion to form a third arm, the terminal of said third arm being bent to form a second bearing vertically aligned with the aforesaid bearing; the wire at the other end of the aforesaid substantially horizontal portion being bent laterally outward then inward and again out-

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ward to form a lower U-shaped bearing, the wire being bent upwardly from this lower U-shaped bearing to provide a vertical bearing connecting member, the wire at the upper end of this bearing-connecting member being bent laterally inward then outward and then again inward to provide an upper U-shaped bearing, the wire being bent upwardly and inwardly from this upper U-shaped bearing to rest on the can wall, the wire being then bent downwardly to provide an additional vertical member for disposition at the inner side of the can wall, said additional vertical member having an outwardly bent portion to abut the can wall; the first and second mentioned bearings being adapted for mounting a cleaning roller, said upper and lower U-shaped bearings being adapted to receive the lateral handle portion of the paint applicator when the applicator roller is positioned vertically against the cleaning roller.

10. In a cleaning device for a paint applicator of the type comprising an applicator roller, and a handle for said roller having a lateral portion behind and spaced a short distance from the latter; a strip of metal having a vertical portion between its ends for a disposition at

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the inner side of a can wall, the metal at the lower end of said vertical portion being bowed outwardly to provide a rib for contact with the can wall, the metal being bent laterally inward from said rib to form a lower horizontal arm, the metal at the upper end of said vertical portion being bent laterally inward and folded upon itself to form an upper two-ply arm, the metal of the upper ply of said two-ply upper arm being extended outwardly beyond said vertical portion to rest on the can wall, the metal being then bent downward to provide a second vertical portion to lie against the outer side of the can wall; an extending plate member secured to said second vertical portion and projecting beyond one edge thereof, the outer end of said plate having a substantially vertical axis return-bend to receive the lateral portion of the applicator handle, said upper and lower arms having bearing openings; a cleaning roller having a shaft adapted to fit said bearing openings for rotatably mounting said cleaning roller; and means for rotating said cleaning roller while said applicator roller is pressed against same.

No references cited.