

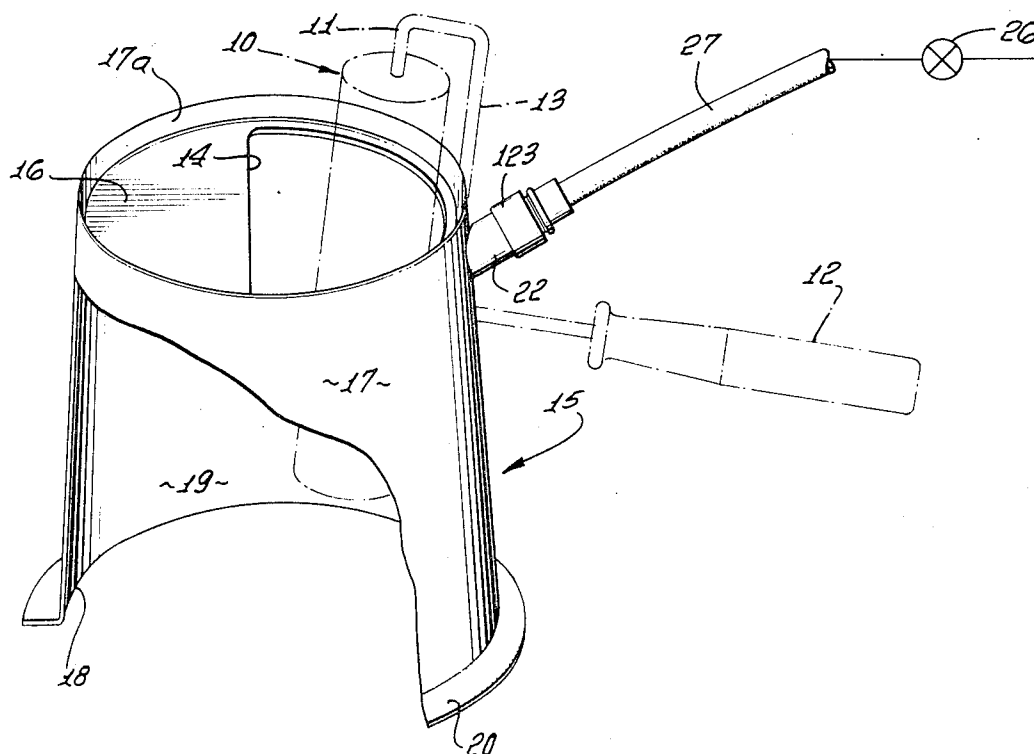
[54] **PAINT ROLLER CLEANING
APPARATUS**[76] Inventor: **Albert J. Yost**, 42326 North 55
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93534[22] Filed: **Aug. 16, 1971**[21] Appl. No.: **172,134**[52] U.S. Cl.**134/138, 134/154, 134/177**[51] Int. Cl.**B08b 3/02**[58] Field of Search.....134/138, 139, 149,
134/172, 177, 153, 154, 182, 183[56] **References Cited****UNITED STATES PATENTS**

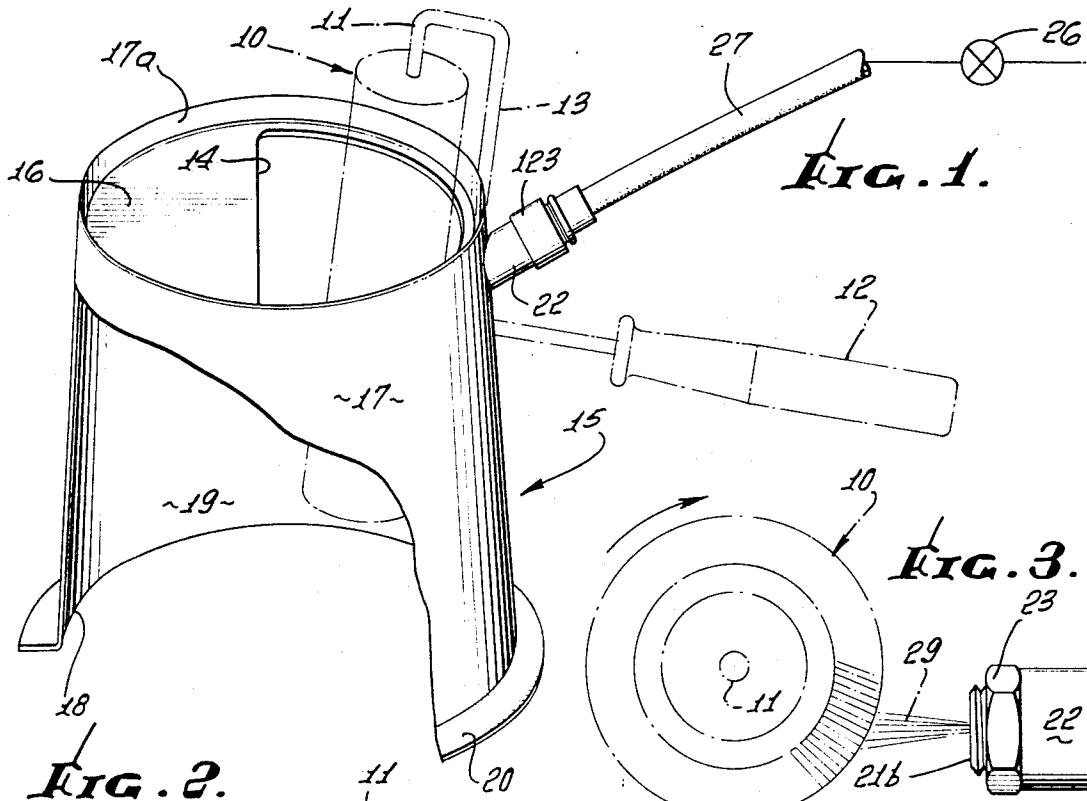
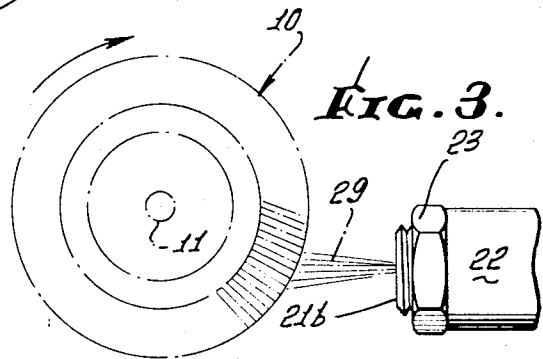
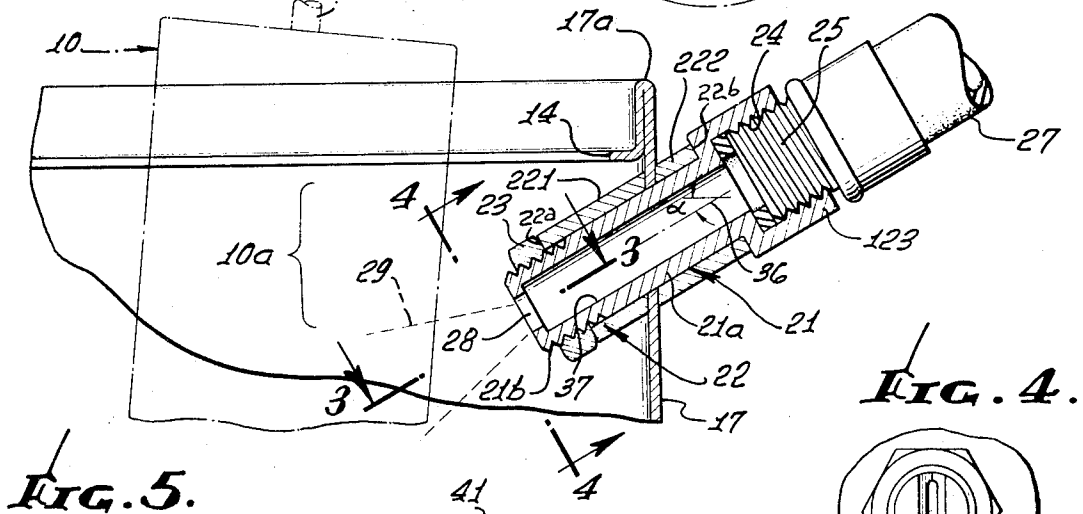
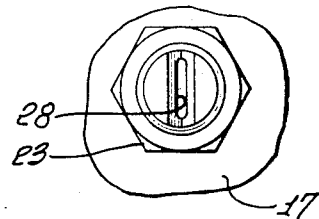
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[57] **ABSTRACT**

A paint roller cleaning apparatus for paint rollers rotatably carried on a spindle comprising (a) an upright hood having a fluid passing lower opening, and an upper through opening sized to freely pass a paint roller endwise into a cleaning zone within the hood interior, (b) a nozzle carried by the hood to receive cleaning fluid under pressure, the nozzle having an orifice outlet formed to produce a fan shaped spray of fluid directed to spin the roller to effect centrifugal throw-out of removed paint and fluid to drain down the inside of the hood and through the lower opening, and (c) the spray locus being spaced from the upper opening so that the roller extent spinning in that space may be centrifugally freed of fluid prior to withdrawal from the upper opening.

6 Claims, 5 Drawing Figures



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PAINT ROLLER CLEANING APPARATUS

BACKGROUND OF THE INVENTION

This invention relates generally to cleaning of paint rollers and associated equipment. More particularly it concerns apparatus for automatically and quickly cleaning a paint roller as well as removing water therefrom.

As is well known, cleaning of vinyl base paint rollers is time consuming and difficult to complete to an extent preventing adhering of some roller fibers to one another. Nevertheless, unless such aqueous cleaning is substantially complete, the re-usable life of the roller is greatly diminished. While certain apparatus aiding such cleaning has been proposed in the past, none has, to my knowledge, embodied the unusually advantageous combinations and sub-combinations of structure, mode of operation and results characterized by the present invention.

SUMMARY OF THE INVENTION

It is a major object of the invention to provide apparatus enabling cleaning of painting equipment including rollers and components thereof, in a rapid, thorough and simple manner. Basically, the apparatus functions to jet water at a paint roller to controllably penetrate the fibers and spin the roller for centrifugal throw-out of water (or other fluid) and paint particles, the roller being hooded or shrouded so that as the spinning roller is withdrawn from the cleaning zone it is essentially freed of remanent water or fluid within the hood. The apparatus of the invention includes:

- a. an upright hood having a water releasing lower opening, and an upper opening sized to freely pass a paint roller endwise into a cleaning zone in the hood interior, and,
- b. a nozzle carried by the hood to receive cleaning fluid such as water under pressure, the nozzle having an orifice outlet formed to produce a fan spray of such fluid directed at the cleaning zone for impinging on the roller thereby to spin same for effecting centrifugal throw-out of removed paint and cleaning fluid to drain downwardly on the inside of the hood and through the lower opening, and the spray locus being spaced from the upper opening so that the roller extent spinning in that space may be centrifugally freed of fluid prior to withdrawal from said upper opening.

Other objects and advantages of the invention include the provision of an internally threaded hose fitting integral with the nozzle and exposed at the hood exterior; the provision of a nozzle defining a principal axis tilted downwardly from horizontal so that the orifice outlet directs the fan spray in a vertical plane with spacing below the upper opening; the enablement of periodic removal of the nozzle for cleaning; and the provision for cleaning additional painting apparatus such as brushes, and roller components.

These and other objects and advantages of the invention, as well as the details of an illustrative embodiment, will be more fully understood from the following description and drawings, in which:

DRAWING DESCRIPTION

FIG. 1 is a perspective view, partly broken away, to show a hood embodying the invention;

FIG. 2 is an enlarged fragmentary elevation showing, in section, one form of hood and nozzle apparatus, as seen in FIG. 1;

FIG. 3 is a view taken on lines 3—3 of FIG. 2;

FIG. 4 is a view taken on lines 4—4 of FIG. 2; and,

FIG. 5 is a view like FIG. 2, but showing modified hood and nozzle apparatus.

DETAILED DESCRIPTION

In FIGS. 1 and 2 a vinyl paint roller 10 is shown as rotatably mounted on a spindle 11 to which handle 12 is connected as by rod 13. For cleaning purposes, the roller is advanced endwise downwardly through an upper opening 14 formed by a hood 15. The latter may for example include a top wall 16 in which opening 14 is formed, an upwardly tapered, annular side wall 17, and a lower annular flange 20 engaging the ground. The bottom of the hood may be open as indicated at 18, so that cleaning fluid such as water, as well as paint removed from the roller (or other equipment such as brushes) may be released downwardly from the hood lower interior 19. Side wall 17 may be continued upwardly to form an annular flange 17a extending above the level of the top wall 16 and opening 14 so as to prevent drainage down the hood outer surface of paint and any cleaning fluid that possibly collects on the top wall 16.

A nozzle is carried by the hood to receive cleaning fluid under pressure, the nozzle having an orifice outlet formed to produce a fan shaped spray of fluid directed at the cleaning zone that receives the roller, for impinging on the roller to effect spinning thereof on spindle 11. As a result, not only does the cleaning fluid penetrate deeply between the roller fibers to dissolve or loosen the paint particles, but it also is subjected to automatic centrifugal throw-out along with the dissolved or loosened paint, whereby the fluid and paint are collected on the inside of the hood and drain downwardly and out the bottom opening 18.

In the example, tubular nozzle 21 penetrates through the hood side wall 17 and is carried by a coaxial sleeve 22. Sleeve 22 is cut in two in a plane lying at an angle to the sleeve longitudinal axis 36 to form two sections, inner section 221 and outer section 222 on opposite sides of side wall 17. The nozzle may include a tubular body portion 21a of reduced diameter that inserts easily through the sleeve, and terminally threaded at 21b to receive a fastening nut 23. The latter may be tightened against sleeve end 22a to bring sleeve sections 221, 222 into engagement with side wall 17, to support the sleeve at the wall and to bring the opposite sleeve end 22b into engagement with the end of hose fitting 123 which may be formed integrally with nozzle body 21a, as shown. Fitting 123 is internally threaded at 24 to receive the threaded hose nipple 25, FIG. 1 showing a valve 26 connected in series with the hose 27 to control flow of pressurized cleaning fluid to the nozzle. Such fluid may consist of water, for removing vinyl base paint from the roller, or other equipment.

FIGS. 2-4 indicate that the nozzle has an orifice outlet shaped or formed to produce a fan-shaped spray 29 of fluid directed at the roller in the cleaning zone so as to rotate the roller on spindle 11. For this purpose, the orifice may be defined by a vertically elongated slot 28 at the nozzle tip. Note in FIG. 3 that the spray is directed in offset relation to the spindle 11 so as to

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rapidly rotate the roller, the hood top opening 14 being wide enough to allow the user to move the roller laterally so as to control spinning in either direction.

An important feature of the invention concerns spacing the locus of the spray 29 sufficiently below the top opening 14 so that the roller extent (as for example is indicated at 10a in FIG. 2) spinning in that space is centrifugally freed of fluid prior to withdrawal of the roller from the opening. As a result, the withdrawn roller, while damp, does not drip. This result is further promoted by tilting the axis 36 of the nozzle downwardly from horizontal, as for example at an angle α as seen in FIG. 2. Nozzle bore 37 defines axis 36.

In the modification seen in FIG. 5, the side wall 40 of hood 41 is deformed inwardly at 42, and contains an opening 43 through which nozzle 44 extends. Nut 45 tightens on nozzle thread 46 and against wall extent 42 to directly releasably connect the nozzle to the hood wall. A threaded hose coupling 47 integral with the nozzle engages the opposite side of wall 42 and receives the threaded terminal 49 of the hose 48.

Paint brushes and other equipment, such as disassembled components of the roller, may also be passed downwardly into the cleaning zone in front of the nozzle, for efficient cleaning, the brush bristles being simultaneously straightened.

I claim:

1. In paint roller cleaning apparatus, the roller being rotatable on a spindle, the combination comprising
 - a. an upright hood having a fluid passing lower opening, and an upper through opening sized to freely pass a paint roller endwise into a cleaning zone within the hood interior,

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- b. a nozzle carried by the hood to receive cleaning fluid under pressure, the nozzle having an orifice outlet formed to produce a fan shaped spray of fluid directed at the cleaning zone for impinging on the roller thereby to spin the roller to effect centrifugal throw-out of removed paint and fluid to drain down the inside of the hood and through the lower opening, and
 - c. the spray locus being spaced from the upper opening so that the roller extent spinning in that space may be centrifugally freed of fluid prior to withdrawal from the upper opening.

2. The combination of claim 1 including an internally threaded hose fitting integral with the nozzle and exposed at the hood interior.

3. The combination of claim 1 wherein the nozzle has a bore defining a principal axis tilted downwardly from horizontal so that the orifice outlet directs the fan spray in a generally vertical plane with spacing below the upper opening.

4. The combination of claim 3 wherein the hood has a top and side wall, and a sleeve having sections extending on opposite sides of and abutting the side wall, the nozzle projecting through the sleeve and releasably attached thereto.

5. The combination of claim 3 wherein the hood side wall is inwardly deformed to provide a nozzle mounting extent generally normal to said axis, the nozzle releasably attached to said extent.

6. The combination of claim 1 wherein the hood has top and side walls, the top wall containing said upper opening and bounded by a rim flange projecting above the levels of said top wall and said upper opening.

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