

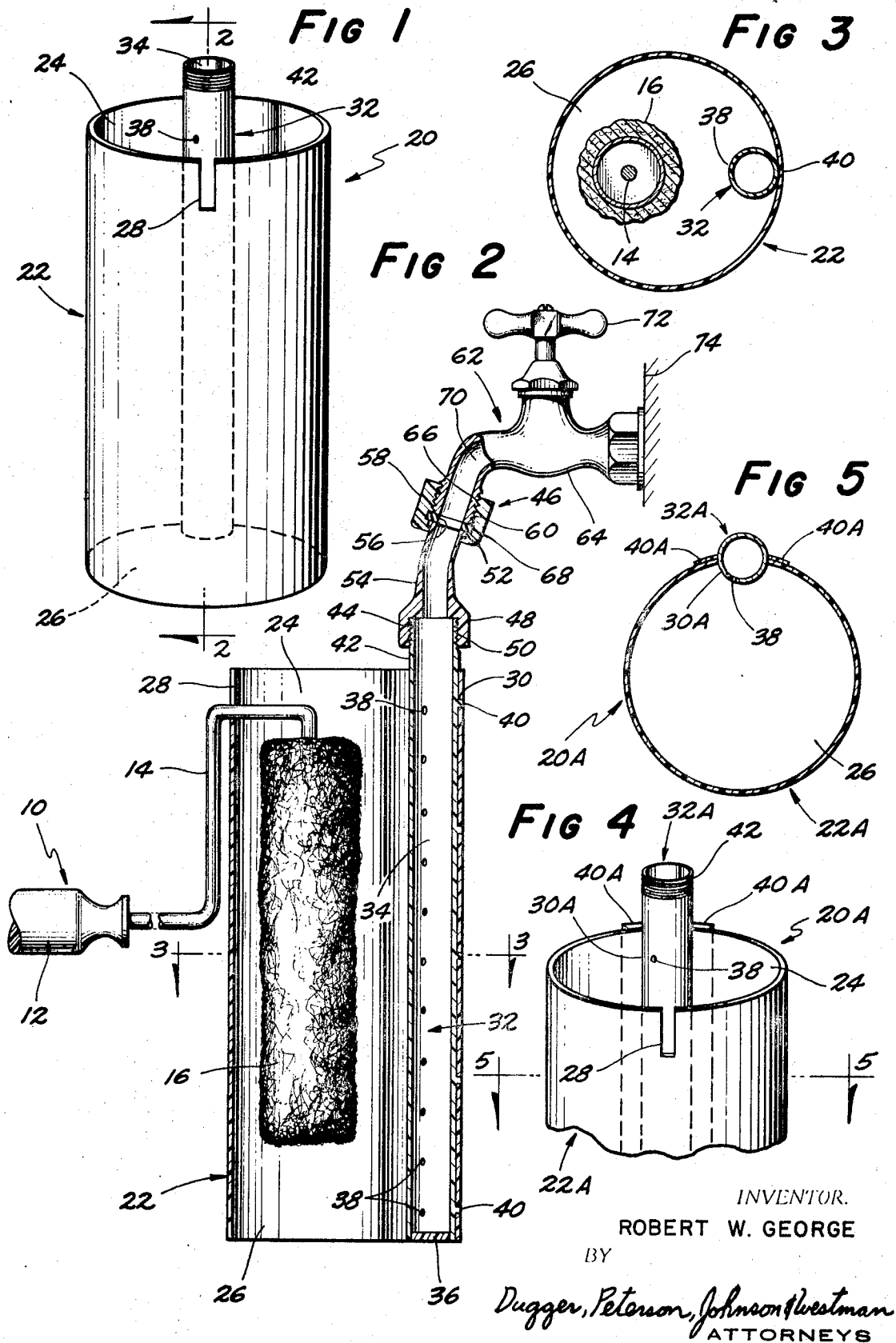
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FAUCET-MOUNTED CLEANING DEVICE FOR PAINT ROLLERS

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3,577,280 FAUCET-MOUNTED CLEANING DEVICE FOR PAINT ROLLERS

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3 Claims

ABSTRACT OF THE DISCLOSURE

A cylindrical casing has an open top and open bottom. A tubular member secured to the casing is provided with a series of vertically spaced apertures which spray water onto the paint roller when inserted through the open top, the water being free to drain through the open bottom after impinging upon the paint roller. The upper end of the tubular member is equipped with coupling means for attaching the tubular member directly to a faucet so that the entire device is supported by the faucet when cleaning the roller.

BACKGROUND OF THE INVENTION

(1) Field of the invention

This invention relates generally to apparatus for cleaning paint rollers, and pertains more particularly to a device that can be mounted directly on the faucet that is supplying the water.

(2) Description of the prior art

Various devices have heretofore been contrived for cleaning paint rollers. Most of these devices utilize a stream of water that impinges upon the paint roller when inserted within the encircling casing. However, the devices with which I am acquainted have been quite costly to manufacture and have not met with any degree of commercial success. Accordingly, one object of the present invention is to provide an exceedingly simple device for effectively cleaning paint rollers.

Another object of the invention is to provide a device of the foregoing character that can be mounted directly to the faucet, thereby freeing the user's hands for manipulating the paint roller during the cleaning procedure and also for adjusting the faucet to vary the pressure of the impinging water.

A further object of the invention is to provide a cleaning device that will adequately shield the user from splashing during the cleaning operation.

Still further, the invention has for an object the rapid cleaning of a paint roller without the need for moving the paint roller within the device during the cleaning process.

A further object of the invention is to provide a cleaning device for paint rollers in which most of the residual water remaining on the roller after the cleaning operation can be effectively removed by centrifugal action.

Still further, another object of the invention is to provide a cleaning device that will be exceptionally rugged and long lasting, actually involving no moving parts or parts that would be subject to wear from the roller as it is rotating within the casing.

Still further, another object of the invention is to provide a cleaning device for paint rollers that does not require any detachment or disassembly of the roller from the handle on which it is mounted for actual painting use.

Yet another object of the invention is to provide a cleaning device for paint rollers that can be fabricated at an exceedingly low cost, thereby encouraging its widespread adoption by those only painting on a relatively infrequent basis.

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Briefly, the present invention envisages the provision of a cylindrical casing having a tubular member secured directly thereto so as to provide a single unit that can be readily attached and detached from a conventional faucet. The tubular member is provided with a series of vertically spaced apertures through which the water is discharged directly onto the paint roller which has been inserted through the open top, the open bottom permitting the gravitational drainage of the water from the casing after it has performed its cleaning function. In the preferred embodiment, the tubular member having the apertures formed therein is contained completely within the casing. In another form of the invention, however, the tubular member is provided with integral flanges that are secured along their length to the exterior of the casing, the casing in the latter situation having a vertically directed slot so that a portion of the tubular member projects inwardly therethrough.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a preferred form of my device;

FIG. 2 is a vertical sectional view taken in the direction of line 2—2 of FIG. 1, the view illustrating the device when mounted on a typical faucet;

FIG. 3 is a horizontal sectional view taken in the direction of line 3—3 of FIG. 2;

FIG. 4 is a fragmentary perspective view corresponding generally to FIG. 1 but illustrating a different construction that can be used, and

FIG. 5 is a sectional view, somewhat resembling FIG. 3, but taken in the direction of line 5—5 of FIG. 4 so as to show to better advantage the structural arrangement of the modified version of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Although latex paint applicators of the type to be cleaned when utilizing my invention have been used on a large scale basis and are quite familiar, nonetheless a typical applicator has been designated generally by the reference numeral 10. The applicator 10 includes a handle 12, a reversely bent rod or shank 14, and a roller 16, the roller 16 providing the fluffy or matted surface that is used to retain paint during the painting operation.

The preferred form of my invention is exemplified in the device denoted in its entirety by the reference numeral 20. The device for the most part can be constructed of plastic material and it is planned that such material will preferably be of high impact polystyrene.

Describing now the device 20 illustrated in FIGS. 1—3, it will be seen that it includes a cylindrical casing 22 of polystyrene, which may be readily produced by extrusion, having an open top 24 and an open bottom 26. Additionally, the casing 22 is formed with a slot 28 that facilitates the insertion of the roller 16 forming a part of the previously-alluded to applicator 10, the shank 14, owing to its reversely turned configuration, engaging the bottom of the slot 28 as illustrated in FIG. 2. Close inspection of FIG. 2 will reveal the presence of a plurality of vertically arrayed holes 30 (five such holes having been somewhat arbitrarily selected) which can be readily punched in the casing 22, one such hole being discernible in FIG. 3 due to the fact that the sectional view is taken in the same plane that this particular holes resides. It will be appreciated that the thickness of the casing can be on the order of 0.090 inch, such a wall thickness lending itself readily to the punching of any preferred number of holes 30.

Also preferably of polystyrene is a tubular member 32 having a bore or passage 34 which is blocked at its lower end by a disc or plug 36. As with the casing 22, the

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tubular member 32 has a circular cross section. Actually, the tubular member 32 may be of the same thickness as the casing 22, that is on the order of 0.090 inch. Injection molding of the tubular member 32 permits the facile forming of a series of vertically spaced orifices or apertures 38 through which the water used in cleaning the roller is discharged under pressure. As can be seen from FIG. 3, the angle imparted to each aperture 38 is approximately at an angle of 30° with respect to a plane extending diametrically through the casing 22 and the tubular member 32, this angularity being best perceived in FIG. 3. The injection molding of the tubular member 32 also permits the formation of a number of pins or stakes 40 that project radially from the tubular member 32 and are received in the previously mentioned holes 30 punched in the casing 22. It will be noted that the tubular member 32 projects upwardly beyond the upper edge of the casing 22, this projecting portion being labeled 42 and having external threads 44 formed thereon.

At this time, attention is directed specifically to FIG. 2 where a union or coupling 46 has been indicated, the union including a female fitting 48, suggestively of nylon, having internal threads 50 at its lower end which threadedly receive therein the external threads 44 on the upwardly projecting portion 42 of the tubular member 32. The upper end of the fitting 48 is provided with a canted or slanted flange 52 having a particular slope for a purpose presently to be explained. The fitting 48 has an internal passage or bore 54 extending therethrough. A resilient washer 56 abuts the upper surface of the flange 52. By means of a coupling nut 58 having internal threads 60, the union or coupling 46 can be attached to a faucet 62.

Although the faucet 62 may assume a variety of types, the particular faucet that has been selected for illustrating the invention includes a body 64 having a threaded end portion 66 formed with a canted or slanted edge 68. It is due to the canted edge 68 that the flange 52 on the fitting 48 of the union or coupling 46 is slanted so as to correspond to the slope imparted to the edge 68. The body 64 has a passage 70 extending therethrough and by means of a handle 72 the faucet may be opened and closed to adjust the flow of water passing therethrough.

The faucet 62 is fastened to a fixed surface indicated only generally by the reference numeral 74. Actually, it is contemplated that the fixed surface 74 may constitute a portion of a conventional laundry tub, sink, or sill on the outside of a house or the like.

With the fitting 48 threaded onto the tubular member 32, the attachment of the device 20 to the faucet 62 is readily achieved by tightening the coupling nut 58. It is planned that the fitting 48, when fully tightened on the tubular member 32, will be angularly oriented so that the canted flange 52 will be in the proper position to permit such attachment. Thus, the user need only tighten the nut 58 to mount the entire device 20 after having only initially ascertained that the fitting 48 is correctly positioned. Even if the user must adjust the fitting, the provision of external threads 42 places the projecting tubular end under compression rather than tension which would result from the use of internal threads and a male threaded end on the fitting 48. In this way, should the user apply a large amount of torque to the fitting 48, the tube is not so apt to break.

Having mounted the device 20, the device is in readiness for the cleaning operation. Therefore, the user then inserts the roller 16 downwardly through the open upper end 24 of the casing 22, placing the shank 14 in the slot 28. This can be easily achieved with only one hand and the other hand of the user remains available for opening the faucet 62 by means of its handle 72.

With the faucet 62 supplying water, the water is discharged under pressure through the various vertically spaced orifices or apertures 38 in a tangential direction against the roller 16. Such action results in the roller 16 being spun at a relatively fast rate. The water that is sprayed through the apertures 38 not only washes off the

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accumulated paint, but also causes the roller 16 to rotate at a rapid rate. This results in a thorough cleaning of the roller, both due to the centrifugal action that is developed by the rotation and the washing action from the water itself.

It takes only a few seconds to complete the cleaning of a roller 16. When the action has been finished, the faucet 62 should preferably be shut off before removing the roller 16 from within the casing 22. This allows the roller 16 to continue spinning due to its angularly developed momentum and the roller is at least partially dried by the continued flinging of moisture from the nap or fluffy surface of which the roller 16 is constituted. When the faucet 62 is to be used for other purposes, the device 20 can easily be detached by unthreading the coupling nut 58.

It will be appreciated that there is never an accumulation of water within the casing 22, for the water immediately drains through the bottom opening 26. If the device 20 is attached to the faucet of a laundry tub, it follows that the water gravitationally flows into the tub and then leaves via the usual drain at the tub's bottom. Not only is the roller 16 quickly cleaned, but the interior of the device is automatically cleaned too, there being no residual paint remaining on the interior of the casing 22 because of the washing action that takes place. It is important to appreciate that the casing 22 and the tubular member 32 constitute a single unit and are removed together when detached from the faucet 62.

It will be apparent that the stakes 40, which are received in the holes 30 of the casing 22, allow the fixed attachment of the tubular member 32 throughout virtually its entire length in a contiguous manner with respect to the casing. Thus, as best seen in FIG. 3, the tubular member 32, owing to its circular cross section, is tangentially affixed to the casing 22. It is contemplated that ultrasonic sealing be employed, causing the stakes 40 to be peened and thus resemble a rivet head (not apparent from FIGS. 2 and 3), but liquid cement or heat sealing map be resorted to, if desired.

The above-described embodiment is the preferred one because there are no external obstructions with respect to the cylindrical casing 22. In other words, the tubular member 32 is contained entirely within the casing 22. Also, the injection molding process is somewhat simpler due to the fact that the stakes 40 can be easily formed.

However, the modification shown in FIGS. 4 and 5 may be used. In this regard, the device now to be described has been indicated generally by the reference numeral 20A. The generally cylindrical casing has been indicated by the reference numeral 22A. The basic difference between the casing 22A and the casing 22 is that the casing 22A does not employ the holes 30, there instead being a slot 30A extending the full length of the casing. The casing 22A still lends itself, however, to being made by extrusion.

The tubular member has been labeled 32A and differs from the tubular member 32 by reason of the oppositely projecting integral flanges 40A which extend along the tubular member 32A throughout the length thereof with the exception of the projecting top portion. The laterally directed flanges 40A serve as the means by which the tubular member 32A is contiguously secured to the casing 22A. As with the device 20, suitable ultrasonic, cement or heat sealing techniques can be employed for attaching the flanges 40A to the margins of the slot 30A. Inasmuch as the embodiment 20A causes a segment of the tubular member 32A to project radially beyond the circumference of the casing 22A, as best viewed in FIG. 5, only a portion of the tubular member 32A projects inwardly into the interior of the casing 22A.

I claim:

1. A faucet-mounted cleaning device for paint rollers comprising an elongated casing open at its top to permit insertion of the paint roller to be cleaned and open at its bottom to permit draining of the cleaning water, a

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tubular member generally coextensive in length with the casing and contiguously secured thereto, said tubular member having a series of vertically spaced apertures through which water discharges onto the roller to effect the cleaning thereof, and coupling means at the upper end of said tubular member for attaching said tubular member directly to a faucet, whereby said faucet supports both said tubular member and said casing as a unit while supplying water under pressure thereto.

2. A cleaning device in accordance with claim 1 in which said tubular member is contained completely within said casing, both said casing and said tubular member having circular cross sections, and said tubular member being tangentially secured to said casing.

3. A cleaning device in accordance with claim 1 in which said tubular member is contained partially within said casing, said tubular member having a circular cross section and oppositely extending flanges and said casing

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having a generally circular cross section with a vertically directed slot therein of a width approximately the diameter of said tubular member, said flanges being secured to said casing.

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