

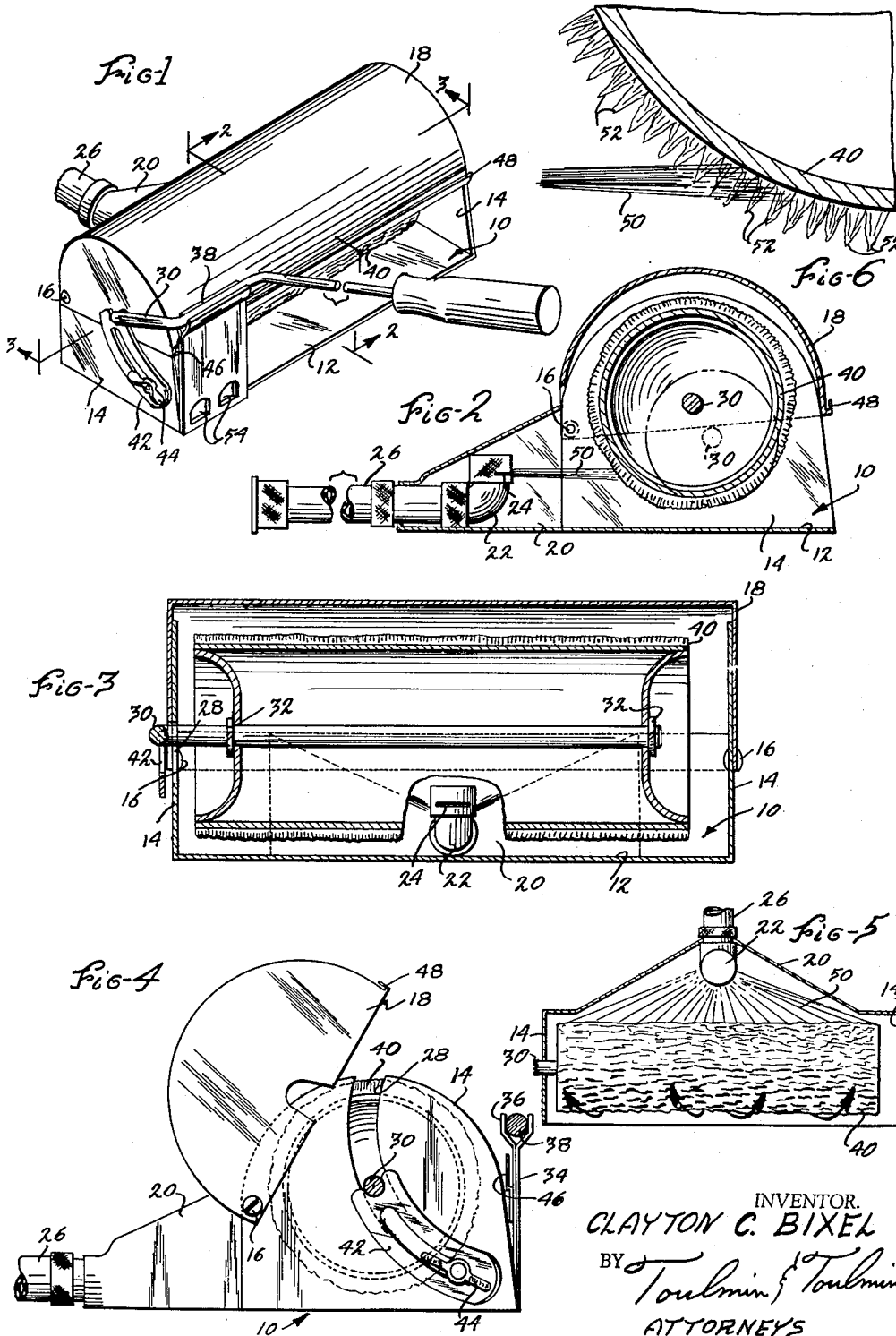
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PAINT ROLLER CLEANER

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PAINT ROLLER CLEANER

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6 Claims. (Cl. 68—205)

This invention relates to a device for cleaning paint rollers and the like and is particularly concerned with such a device which will clean paint rollers quickly and effectively without removing the roller from the supporting handle therefor.

Paint rollers are well known and comprise a handle supporting a rotatable cylindrical member having a surface thereon that will retain paint so that it can be applied to a surface by rolling the roller thereover. Such surfaces often take the form of lamb's wool or the like which establishes a fibrous outer layer on the roller that will retain paint when dipped into the paint but which will readily give the paint up to a surface over which the roller is rolled.

While rollers of this nature are satisfactory for applying paints, the cleaning of the rollers has always been time consuming and difficult to accomplish effectively. If all of the paint is not removed from such a roller after it is used, the paint may set up and become insoluble or it may bleed out into another color with which the roller is used subsequently.

Devices have been made in which the outer sleeve with which many rollers are provided can be removed and placed in a cleaning device for cleaning but this is a messy operation since the paint retaining sleeve must be handled by hand.

The present invention proposes providing a cleaning device for paint rollers, especially when they are used with a water soluble paint which will operate without the necessity of disassembling the roller from its handle and without detaching the outer fibrous sleeve from the roller.

A further object of this invention is the provision of an inexpensive compact device for cleaning paint rollers of water soluble paints in which all mess and manual operations in connection with removing the paint are eliminated.

A further object of this invention is an arrangement for cleaning paint rollers which leaves the paint roller in substantially perfect condition for reuse.

It is also an object of this invention to provide an arrangement for cleaning paint rollers in which the fibers of the surface of the paint roller are cleaned as adequately at their inner ends as at their outer ends, and with the fibers being fluffed up during the cleaning operation whereby the paint roller not only dries quickly after the cleaning operation but is in the best condition for storage and reuse.

These and other objects and advantages will become more apparent upon reference to the drawings in which:

Figure 1 is a perspective view of a cleaning device for paint rollers according to my invention;

Figure 2 is a sectional view indicated by line 2—2 of Figure 1;

Figure 3 is a vertical transverse sectional view indicated by line 3—3 on Figure 1;

Figure 4 is an end view looking in from the left end of Figure 1;

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Figure 5 is a plan sectional view showing the apparatus in operation; and

Figure 6 is a diagrammatic view showing the action that takes place during a cleaning operation.

Referring to the drawings somewhat more in detail, the device according to this invention comprises a base portion 10 which may be metal or plastic and which consists of a flat bottom part 12 with upstanding end parts 14. Pivoted to the end parts as by screws or rivets 16 is an arcuate cover member 18. The base portion 10 has extending from the back thereof a projection 20 within which there is located at about the center an elbow 22 having a slit 24.

Elbow 22 is connected with a pipe or conduit or hose 26 extending out the back of projection 20 for connection with a supply of water under pressure.

As will be seen in Figures 1 and 4, the one upstanding end wall 14 of the base part has an arcuate slot 28 therein. This slot is provided for receiving the rod 30 forming a part of the handle for the roller. The rod 30 is the part of the handle that extends directly through the roller and on which the roller may be rotatably mounted and retained in position as by snap rings 32 which will be seen in Figure 3.

The base portion 10 comprises an upstanding part 34 in front which has a bifurcated upper end 36 which receives portion 38 of the handle for the roller.

The provisions of the bifurcated end 36 on upstanding part 34 and the slot 28 permits the roller to be placed in the device with the cylindrical rotary portion 40 thereof positioned in front of slit 24 of elbow 22. According to this invention it is desired for the fan-like jet of water issuing from slit 24 to impinge against the cylindrical portion 40 of the roller adjacent the bottom thereby reducing splashing of the water and also driving the rotary cylindrical portion 40 in rotation.

Inasmuch as there will be rollers of different sizes I provide an adjustable member for engaging rod 30 to support the rod in different positions along slot 28. Such a means might take the form of plate 42 adjustable along slot 30 by loosening of wing nut 44 and adapted for being clamped in position by tightening of the wing nut.

When the roller is in place and the cover 18 is closed down over the roller, the spring element 46 on upstanding part 34 engages the lip 48 extending across the front edge of the cover and thus yieldably retains the cover in position.

In operation, after the roller has been placed in the device with the rotary cylindrical part in a properly adjusted position therein so that the fan-shaped jet of water, indicated at 50 in Figure 2, will strike the periphery of the cylindrical roller part near the bottom, the cover 18 is closed, and the elbow 22 is then supplied with water under pressure. The supplying of the elbow with pressure causes a thin fan-shaped jet of water to be projected against the rotary cylindrical portion of the roller and this not only mechanically dislodges paint from the roller but also dissolves water soluble paint and washes it away and also causes the roller to spin rapidly whereby paint and water with paint dissolved therein will fly off from the roller by centrifugal force.

Rapid spinning of the rotary cylindrical part of the paint roller also causes the individual fibers 52 thereof to stand out substantially radially as diagrammatically illustrated in Figure 6. This exposes the base portions of the fibers to the action of the water jet whereby the cleaning is rapid and efficient.

Also, with the fibers distended the water and paint dissolved therein flies off readily from the rotary cylindrical member whereby the member is substantially divested of free water when it is removed from the device and will thus dry very quickly.

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Furthermore, the entire cylindrical member is in the fluffiest possible condition and is thus in ideal condition for further cleaning operations or storage.

The water which runs off and is thrown off from the roller will flow out the open front of the base member, and in order to prevent water from piling up behind upstanding member 34 it may be provided with one or more apertures 54 through which water can freely drain.

The source of the water stream has been described as elbow 22 with slit 24, but it will be apparent that the supply of water could come from a tube extending parallel with the cylindrical member and having slit means or aperture means formed therein. I find the slit elbow is the most convenient and economical manner of forming the stream of water and, in any case, a slit which provides for a continuous sheet of water is to be preferred over a series of apertures since the individual jets of water that would issue from such apertures has a tendency to form grooves about the cylindrical member rather than fluffing up the entire surface thereof as occurs with a fan-shaped jet or a continuous sheet of water as would be produced by an elongated slit in a pipe parallel with the rotary cylindrical member.

As the device has been illustrated, it has been presumed that the space between portions 39 and 38 of the handle of the paint roller are substantially the same for all rollers; but it will be evident if any substantial variation in this dimension is encountered, slot 28 could be substantially widened or upstanding member 34 could be pivotally or otherwise movably supported on the base member so that the rotary cylindrical portion of the roller could always be positioned properly within the device.

It will be understood that this invention is susceptible to modification in order to adapt it to different usages and conditions; and, accordingly, it is desired to comprehend such modifications within this invention as may fall within the scope of the appended claims.

I claim:

1. In a device for cleaning paint rollers; a frame having a flat bottom and upstanding end parts, a slot in one of said end parts adapted for receiving a portion of the handle of a paint roller adjacent the point where it emerges from the rotary cylindrical member of the paint roller, means upstanding from said bottom for engaging the handle of the paint roller at a point between the said cylindrical member and the hand graspable portion of the handle thereby to support the paint roller with the cylindrical member between said end parts and rotatable, nozzle means in said device for directing a sheet of water against the periphery of the said cylindrical member to one side of the axis of rotation thereof whereby the sheet of water washes paint from the cylindrical member and also causes it to rotate at high speed, and a cover pivotally connected with said end parts adapted for being closed down over said cylindrical member during the cleaning operation.

2. In a device for cleaning paint rollers; a frame having a flat bottom and upstanding end parts, a slot in one of said end parts adapted for receiving a portion of the handle of a paint roller adjacent the point where it emerges from the rotary cylindrical member of the paint roller, means upstanding from said bottom for engaging the handle of the paint roller at a point between the said cylindrical member and the hand graspable portion of the handle thereby to support the paint roller with the cylindrical member between said end parts and rotatable, nozzle means in said device for directing a sheet of water against the periphery of the said cylindrical member to one side of the axis of rotation thereof whereby the sheet of water washes paint from the cylindrical member and also causes it to rotate at high speed, and a cover pivotally connected with said end parts adapted for being closed down over said cylindrical member during the cleaning operation, the said nozzle

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means comprising a slit parallel with the axis of rotation of said cylindrical member.

3. In a device for cleaning paint rollers; a frame having a flat bottom and upstanding end parts, a slot in one of said end parts adapted for receiving a portion of the handle of a paint roller adjacent the point where it emerges from the rotary cylindrical member of the paint roller, means upstanding from said bottom for engaging the handle of the paint roller at a point between the said cylindrical member and the hand graspable portion of the handle thereby to support the paint roller with the cylindrical member between said end parts and rotatable, nozzle means in said device for directing a sheet of water against the periphery of the said cylindrical member to one side of the axis of rotation thereof whereby the sheet of water washes paint from the cylindrical member and also causes it to rotate at high speed, and a cover pivotally connected with said end parts adapted for being closed down over said cylindrical member during the cleaning operation, the said nozzle means comprising an elbow attached to the bottom of said device with one leg upstanding from the bottom at right angles to the axis of rotation to the cylindrical member and a slit in the upstanding part of said elbow on the side toward the cylindrical member for directing a fan-shaped sheet of water against the said cylindrical member.

4. In a device for cleaning paint rollers; a frame having a flat bottom and upstanding end parts, a slot in one of said end parts adapted for receiving a portion of the handle of a paint roller adjacent the point where it emerges from the rotary cylindrical member of the paint roller, means upstanding from said bottom for engaging the handle of the paint roller at a point between the said cylindrical member and the hand graspable portion of the handle thereby to support the paint roller with the cylindrical member between said end parts and rotatable, nozzle means in said device for directing a sheet of water against the periphery of the said cylindrical member to one side of the axis of rotation thereof whereby the sheet of water washes paint from the cylindrical member and also causes it to rotate at high speed, and a cover pivotally connected with said end parts adapted for being closed down over said cylindrical member during the cleaning operation, there being means attached to the slotted end part for engaging the first mentioned portion of the handle of the roller to permit the cylindrical member to be supported between said end parts at varying positions so that the said sheet of water will almost impinge at the proper region of the cylinder member for varying sizes thereof.

5. In a cleaner for paint rollers of the type having a cylindrical paint retaining member rotatable on a handle that includes a hand graspable portion, a frame comprising a bottom with upstanding end parts, one of said end parts being slotted from the top downwardly to receive the portion of the handle of the roller that extends axially from the cylindrical member, a bifurcated clip upstanding from the front of said bottom adapted for engaging a portion of the handle of the roller that extends parallel with the cylindrical member whereby the roller can be placed in the device with the cylindrical member freely rotatable therein and located between the said end parts, a cover pivoted to said end parts adapted for being closed down over the cylindrical member, and means carried by the device toward the rear of the bottom adapted for directing a sheet of water against the cylindrical member below the center thereof whereby the sheet of water washes the paint from the cylindrical member and causes the cylindrical member to rotate rapidly thereby throwing water and paint from the cylindrical member by centrifugal force.

6. In a cleaner for paint rollers of the type having a cylindrical paint retaining member rotatable on a handle that includes a hand graspable portion, a frame comprising a bottom with upstanding end parts, one of said end

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parts being slotted from the top downwardly to receive the portion of the handle of the roller that extends axially from the cylindrical member, a bifurcated clip upstanding from the front of said bottom adapted for engaging a portion of the handle of the roller that extends parallel with the cylindrical member whereby the roller can be placed in the device with the cylindrical member freely rotatable therein and located between the said end parts, a cover pivoted to said end parts adapted for being closed down over the cylindrical member, and means carried by the device toward the rear of the bottom adapted for directing a sheet of water against the cylindrical member below the center thereof whereby the sheet of water washes paint from the cylindrical member and causes the cylindrical member to rotate rapidly thereby throw-

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ing water and paint from the cylindrical member by centrifugal force, an adjustable abutment carried by the slotted one of said end members adapted for abutting the handle portion where it passes through said slot thereby to adjust the altitude of the cylindrical member from the bottom of the device properly to locate cylindrical members of varying sizes relative to the sheet of water.

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