PORTABLE PAINT ROLLER CLEANING APPARATUS

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Filed: April 15, 1970

Appl. No.: 28,774

U.S. Cl. 15/4, 34/58, 68/214
Int. Cl. A46b 17/06

Field of Search 15/1, 3, 4; 34/58, 59; 134/161, 157, 135; 68/214

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ABSTRACT

An apparatus for cleaning paint rollers includes a closed housing in which a roller that has been saturated with a paint solvent can be rotatably mounted. The roller is releasably engaged within the housing by a device attached to the end of an axle. The axle can be rotated to spin the roller dry. Paint and solvent is confined to the interior of the housing throughout the cleaning operation. A hole is provided in the lid of the housing so that paintbrushes can also be inserted and spun dry. When the apparatus is not in use as a paint roller or brush cleaner, it serves as a container for the storage of painting equipment.

3 Claims, 4 Drawing Figures
PORTABLE PAINT ROLLER CLEANING APPARATUS

BACKGROUND OF THE INVENTION

The present invention relates to an apparatus for cleaning paint rollers and, more particularly, to a novel and highly effective apparatus in which paint rollers can be spun dry.

It is a common practice among professional as well as amateur painters to clean paint rollers by emersing the rollers in an appropriate paint solvent. The solvent must then be removed from the roller by rolling it rapidly across a large surface and wiping the roller with rags. This is a notoriously messy and time consuming process to which no acceptable alternative has been devised previously.

SUMMARY OF THE INVENTION

The present invention is a portable apparatus for cleaning paint rollers which comprises a substantially closed housing and a roller spinning means. A roller which has been saturated with a paint solvent is supported by the roller spinning means between two opposed walls of the housing and spun dry. The roller spinning means comprises an axle rotatably journaled in one wall of the housing and means attached to one end of the axle for releasably engaging the roller.

The roller spinning means may include a manually operable crank and a means for connecting the crank to the roller and for increasing the speed of the roller in relation to the crank. An arrangement of pulleys and a belt may be used for this purpose.

An opening is provided in a removable lid which forms part of the housing. Paintbrushes can be inserted through the opening and spun dry within the housing. When the apparatus is not being used to clean rollers or brushes, it serves as a convenient portable carrying case and storage compartment for painting equipment.

BRIEF DESCRIPTION OF THE DRAWINGS

An of additional aspects of the invention can be gained from a consideration of the following detailed description of a representative embodiment of the invention, in conjunction with the appended drawings wherein:

FIG. 1 is a three-dimensional pictorial view of a paint roller cleaning apparatus constructed in accordance with the invention;

FIGS. 2 and 3 are cross-sectional views of the apparatus of FIG. 1, and

FIG. 4 is a three-dimensional pictorial view of a paintbrush held by a brush spinner which can be used in conjunction with the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows an exterior view of a paint roller cleaning apparatus having a substantially closed housing 10 that is generally rectangular in shape and is preferably made of plastic. Metal, wood and other suitable materials may also be employed. The top of the housing 10 comprises a removable lid 12 which, as may be seen most clearly in the cross-sectional views of FIGS. 2 and 3, has a depending lip 14 projecting from the bottom thereof. The lip 14 is adapted to engage the interior edge 16 of the remainder of the housing 10 thereby effectually sealing the housing against seepage of paint from the inside while the apparatus is in use. A means 18 for releasably securing the lid 12 to the remainder of the housing 10 and holding it in a closed position is provided at each end of the housing 10. The securing means 18 may be resilient clips of the type used on conventional tool chests.

A conventional paint roller 20 to be cleaned is provided with an absorbent covering 22 that has been saturated with a paint solvent. The roller 20 is mounted on a conventional paint roller handle 23 which is placed in the housing 10 so as to engage a groove 24 in a wall 25 of the housing 10. The roller 20 and the handle 23 are supported by a roller spinning means 26 which includes an axle 27 that is rotatably journaled in a wall 28 opposite the wall 25 of the housing 10.

It should be noted that the roller 20 can readily be placed in the housing 10 without removing it from the paint roller handle 23. Thus it is not necessary to touch the roller 20 when inserting it in the apparatus.

The roller 20 is secured to the axle 27 for rotation therewith by a means 29 for releasably engaging the roller 20 comprising a roller engaging member having two prongs that are easily inserted into two slots provided in the roller 20. The roller engaging member 29 is pressed against the roller 20 by a helical spring 30 which encircles the axle 27. By compressing the spring 30, the roller engaging means 29 can be moved away from the roller 20 which can then be removed from the housing 10. Springs and axles of different lengths may be used to accommodate rollers of different lengths.

The axle 27, which is journaled in a hole 31 in the wall 28 of the housing 10, is positioned against the inside of the wall 28 by a washer 32. The axle 27 can readily be removed and placed inside the housing 10 for storage.

The lid 12 includes an opening 34 which permits a paintbrush 36 to be inserted into the housing 10 and spun clean. A screw-on cap 38 is provided which may be used to cover the opening 34, as shown in FIG. 1. The lid 12 is also provided with a handle 40 by which the apparatus may be readily transported, and a vent 42 through which air and fumes are permitted to escape from the apparatus. A vent may also be provided in the cap 38.

The apparatus can be used to clean paint rollers which are first rolled in an appropriate paint solvent and then placed in the housing 10 in the manner explained above and spun dry. An auxiliary use of the apparatus is to clean brushes. In this instance it is used in conjunction with a conventional paintbrush spinner 44. A brush 36 is inserted in an end 46 of a conventional paintbrush spinner 44 shown in FIG. 4. The brush 36 is inserted in the opening 34 as shown in phantom lines in FIG. 3 and spun in response to the manual reciprocation of a handle 47.

The apparatus includes a means 48 for manually driving the roller 20 which comprises a first pulley 50 disposed outside the housing 10 and attached to the axle 24 for rotation therewith, a manually operable crank 52, a larger second pulley 54 to which the crank 52 is attached rotatably mounted on the housing 10, and a drive-belt 56 which operably connects the pulleys 50 and 54. Thus, the pulleys 50 and 54 and the drive-
belt 56 provide a means for connecting the crank 52 to
the roller 20 and for increasing the speed of the roller
20 in relation to the crank 52. An electric motor or other
source of power can be readily connected to
either of the pulleys 50 or 54 to drive the roller 20. If
desired, an arrangement of tooth gears could be sub-
stituted for the pulleys 50 and 54 and the drive belt 56.

The apparatus described above provides a simple
and convenient solution to the problem of cleaning
paint rollers. It allows any type of paint solvent, such as
terpentine or water, to be easily and effectively applied
to a roller while completely confining both the solvent
and the paint to the interior of the apparatus. The ap-
paratus is compact and can be economically manufac-
tured. Thus, it is suitable for use in the home by
amateur painters. When not in use to clean rollers or
brushes, it provides a convenient storage and carrying
case for painting equipment. The opening 38 allows the
apparatus to be used as a convenient closed container
in which brushes can be spun dry. Thus virtually all of
the painters equipment can be cleaned without using
any other containers. The removable lid 12 provides
easy access to the interior of the apparatus. The hous-
ing 10 also serves as a convenient container into which
paint solvent can be poured for application to the roller
20 or the brush 36.

It will be obvious to those skilled in the art that the
above-described embodiment is meant to be merely ex-
emplary and that it is susceptible of modification and
variation without departing from the spirit and scope of
the invention. For example, a different type of means
for releasably engaging the roller could be employed.
Therefore, the invention is not deemed to be limited
except as defined by the appended claims.

I claim:

1. A portable apparatus for cleaning paint rollers
comprising a substantially rectangular and substantially
closed plastic housing forming a container suitable for
storing painting equipment, the top of the housing com-
prising a removable lid having a depending lip project-
ing from the bottom of the lid adapted to engage the in-
terior edge of the remainder of the housing, means for
releasably securing the lid to the remainder of the hous-
ing in a closed position, a handle attached to the lid

whereby the apparatus can be readily transported, a
roller spinning means for supporting a paint roller
which is saturated with a paint solvent and a paint roller
handle on which the roller is mounted between two op-
posed walls of the housing and for rotating the roller
whereby the roller can be spun dry comprising an axle
rotatably journaled in one wall of the housing, means
carried by one end of the axle for releasably engaging
the roller for rotation therewith and means for rotating
the roller comprising a manually operable crank and a
means for connecting the crank to the roller and for in-
creasing the speed of rotation of the roller in relation to
the crank, and an opening provided in the housing
through which a paintbrush can be inserted and spun
dry within the housing.

2. The apparatus of claim 11 further comprising a
helical spring means which encircles the axle means for
biasing the means for engaging the roller against the
end of the roller.

3. A portable apparatus for cleaning paint rollers
comprising a substantially rectangular and substantially
closed plastic housing forming a container suitable for
storing painting equipment, the top of the housing com-
prising a removable lid having a depending lip project-
ing from the bottom of the lid adapted to engage the in-
terior edge of the remainder of the housing, means for
releasably securing the lid to the remainder of the hous-
ing in a closed position, a handle attached to the lid
whereby the apparatus can be readily transported, a
roller spinning means for supporting a paint roller
which is saturated with a paint solvent and a paint roller
handle on which the roller is mounted between two op-
posed walls of the housing and for rotating the roller
whereby the roller can be spun dry comprising an axle
rotatably journaled in one wall of the housing, means
carried by one end of the axle for releasably engaging
the roller for rotation therewith and means for rotating
the roller comprising a crank and a means for connect-
ing the crank to the roller and for establishing a speed
of rotation of the roller different from that of the crank,
and an opening provided in the housing through which
a paint brush can be inserted and spun dry within the
housing.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION


Inventor(s) Richard Dewey Hand

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 43, "An of" should be --An understanding of--;

Column 4, line 16, claim 2, "claim 11" should be --claim 1--.

Signed and sealed this 1st day of May 1973.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR. ROBERT GOTTSCALK
Attesting Officer Commissioner of Patents