March 8, 1960 STANLEY WONSO 2,927,334

PAINTING ROLLER

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Fig. 1

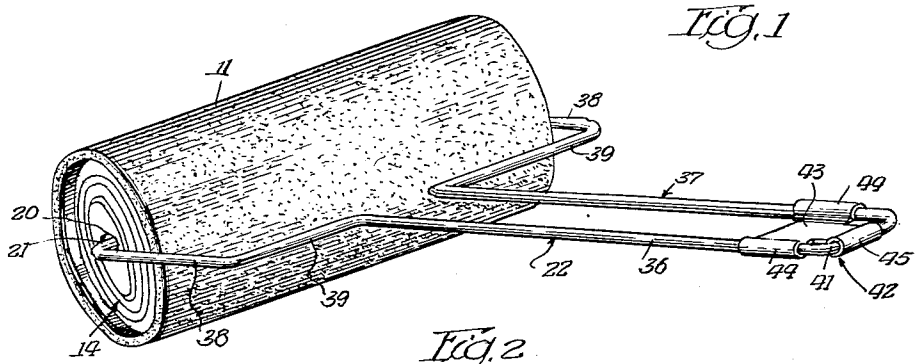


Fig. 2

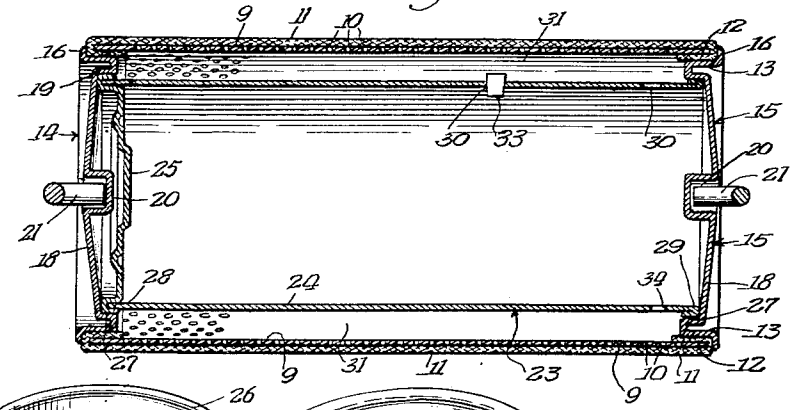
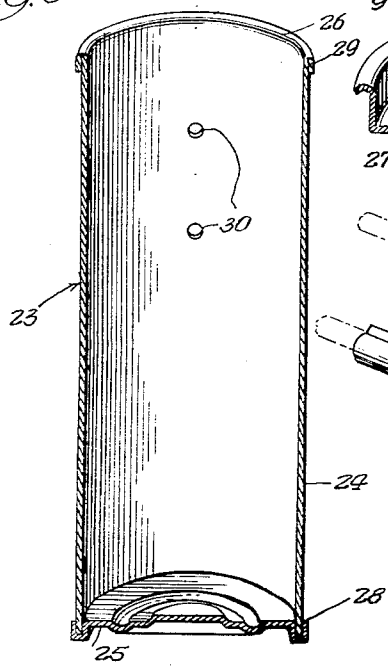


Fig. 3



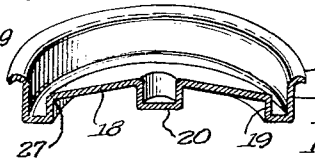


Fig. 4

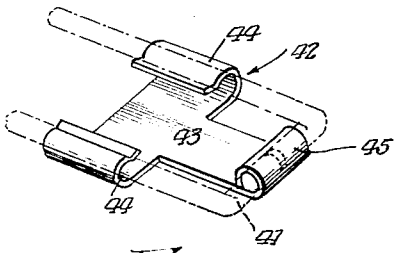


Fig. 5

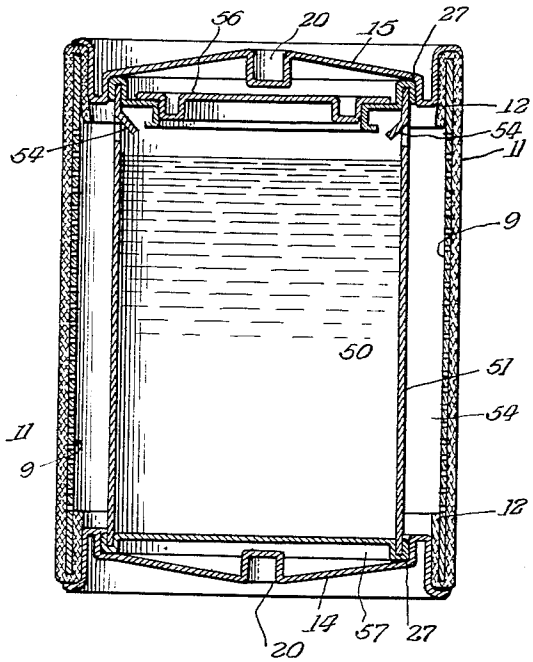
Inventor
Stanley Wonso
By: Fred Gerlach
his Atty.

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Fig. 7



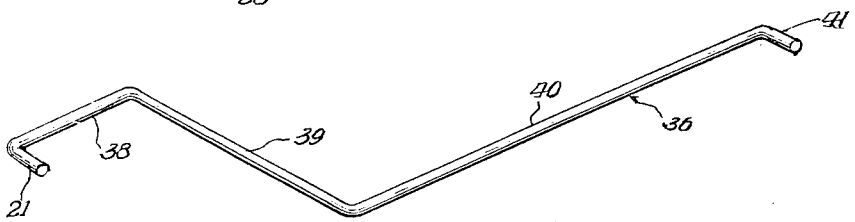


Fig. 6

Inventor:
Stanley Wonso

By: Fredy Mach
his Atty

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PAINTING ROLLER

Stanley Wonso, Chicago, Ill.

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1 Claim. (Cl. 15—132.5)

The invention relates to painting rollers.

The objects of the invention are to provide a painting roller which: is light in weight for ease in manipulation over surfaces to be decorated; can be readily disassembled and assembled to expedite cleaning; include a tubular cover of fabric permeable to and for applying or distributing the paint which can be readily sealed between the cylinder and heads which form the rollers; includes a paint container with ends which can be readily and demountably assembled with the heads of the cylinder; is simple in construction; can be produced at a low cost; includes a handle formed of sections so it can be packed with the roller in a small shipping box or carton; and other objects which will appear from the detail description.

The invention consists in the several novel features hereinafter set forth and more particularly defined at the conclusion hereof.

In the drawings:

Fig. 1 is a perspective view of a roller embodying the invention;

Fig. 2 is a longitudinal section;

Fig. 3 is a sectional perspective of the paint-container which is insertable into the cylinder of the roller;

Fig. 4 is a sectional perspective of one of the heads or end closures for the cylinder;

Fig. 5 is a perspective view of the clip for holding the handle-sections together and on the roller;

Fig. 6 is a perspective view of one of the sections of the handle;

Fig. 7 is a section illustrating the roller with paint in a can in which the paint is sold to the consumer in its vertical position after the cylinder and heads have been assembled in readiness for applying the paint.

In Figs. 1 to 4 the invention is exemplified in a roller which comprises a foraminous hollow cylinder 9 of sheet-metal with perforations 10, and a tubular covering or jacket 11 of a soft woven or knitted fabric which is flexible and elastic so it can be stretched around and cover the perforations in the cylinder 9. This fabric is permeable to paint from the perforations 10 for applying and spreading the paint on surfaces to be decorated. The covering or jacket 11 is fabricated in tubular form for the endwise insertion of the cylinder 9 and is of sufficient length to extend over the entire cylinder and to provide projecting end-portions which are foldable around and into the ends of cylinder 9. Cylinder-heads 14 and 15 of sheet-metal form removable end-closures for the cylinder and with the cylinder 9 and covering 11 form the roller which is adapted to spread paint on the surface to be decorated. Each head 14 and 15 includes a cylindrical flange 13 which is adapted to be pressed into the infolded end 12 of cover 11 and a circumferential bead 16 which fits against the fold of the cover around the adjacent edge of cylinder 9. When the flange 13 on a head 14 or 15 is forced into the inturned end 12, it will compress the fabric between the head and

the cylinder and form a seal for preventing escape of paint from either end of the cylinder. The heads 14 and 15 being frictionally and slidably held in the cylinder-ends can be readily and expeditiously assembled with and detached from the cylinder. The beads 16 abut against the end-folds of covering 11 and position the heads longitudinally in the cylinder 9. Each head 14 and 15 has an outwardly tapered wall 18 extending outwardly from flange 19 and an inwardly integral socket 20 for receiving a trunnion 21 on a handle generally designated 22. The corner between flange 19 and wall 18 of each head 14 and 15 forms an annular shoulder angular in cross-section which functions as an annular seat 27 for removably retaining the ends of the paint-container, generally designated 23, longitudinally and radially in the cylinder 9 and between heads 14 and 15.

This container 23 comprises a sheet metal cylindrical body or wall 24 and a sheet metal head 25 which has its margin permanently joined by a seam to one end of wall 24. The opposite end 26 is open so that when the container is removed from the roller and set upright on its closed end or in a vertical position as shown in Fig. 3, paint can be poured into and retained in the container until the roller has been operatively assembled with heads 14 and 15 and cylinder 9. One side of the wall 24 is provided with openings 30 so the container will hold predetermined volumes of paint in the container while it is supported in its vertical position. The seam 28 on the closed end of container 23 fits on the seat 27 on one of the heads 14 and 15 and the seam 29 on the open end of the container fits on the seat 27 on the other of said heads so that the container will be confined longitudinally and radially in the cylinder 9 by said heads.

A plurality of holes 30 are formed in one side of the wall 24 of container 23 for discharging the paint into the cylindrical chamber 31 between the container and the cylinder 9. Holes 30 are disposed different distances from the bottom 25 of the container 23. A plug 33 may be used to close one of the openings 30 so that the volume of paint retained in the container when it is vertical and being filled may be increased. A hole 34 in wall 24 opposite holes 30 admits air to the container from the space around it for the outflow of the paint into cylinder 9.

A handle 22 including sections 36 and 37 is formed of strips of wire and can be disassembled and compactly packed with the roller in a box or carton for storage or shipment. Each section includes a trunnion 21 fitting in a socket 20, an end-member 38, an inwardly extending member 39, an arm 40 and an angular outer end 41. A sheet metal clip, generally designated 42, comprises a base 43, resilient tongues 44 at its sides adapted to receive and grip the outer portions of arms 40, and an eye 45 adapted to receive and hold the ends 41 of the handle sections. The handle sections can be assembled with the clip by inserting the ends 41 endwise into eye 45, swinging and flexing the arms 40 onto the base 43 and snapping said arms through the openings on the inner sides of tongues 44 into resilient gripping relation with said tongues. The handle sections will then be held in operative relation by the clip. The resilience of arms 40 will permit the trunnions 21 to be snapped into the sockets 20 in heads 14 and 15. The handle sections can be separated and disconnected from the roller by spreading the trunnions out of sockets 20, disengaging arms 40 from tongues 44 and removing the ends 41 from eye 45. When the clip is released from the handle-sections, the latter can be placed alongside the roller for space-saving in a carton or package.

For filling the device, the container 23 is removed from the roller and supported in its vertical position, as shown

in Fig. 3. The paint is then poured into the container to the level of the lower hole 30, or if a plug 33 is inserted in that hole, the container may be filled to the level of the upper hole 30. The container will rest on its head 25 and be held vertically during the filling operation.

In assembling the roller for use, the container is placed on the seat 27 of head 14 while the latter rests or is held on a horizontal support, so that the container will be supported in an upright position. If desired, the head may be assembled with the container and the container filled with paint thereafter. The cylinder 9 is inserted in the fabric jacket 11 with its end-portions extending beyond the ends of the cylinder 9. The projecting portion at one end of the fabric 11 is folded around the contiguous edge and lapped into the adjacent end of cylinder 9. One end of the cylinder with its inlapped portion of the fabric is pressed around the flange 13 of head 14 until it is arrested by bead 16 on said head. The cylindrical flange 13 fits tightly in and compresses the inturned portion 12 to form a seal for preventing escape of paint between the head 14 and the adjacent end of the cylinder. If desired, the head 14 and cylinder 9 with its cover 13 can be assembled and the container lowered into the head.

When the head 14 has been assembled with and sealed to cylinder 9, the bead 16 will support the assembled head and cylinder in an upstanding position, while the container is vertically supported in the cylinder. The seam 28 on the container will fit onto the annular seat 27 on the head 14 and the container will be held concentrically in cylinder 9. If desired, the container may be loaded with paint after the container, head 14 and cylinder have been thus assembled. Next, the projecting end 12 of the fabric 11 at the upper end of cylinder 9 will be tucked or folded into the cylinder and around the open end of the container 23. The head 15 is then inserted into the upper end of cyinder 9 with the flange 13 on said head having a tight fit with the inlapped end 12 of fabric 11 and flange 16 engaging the edge-fold in the fabric to form a seal for preventing the escape of paint between the cylinder 9 and head 15. The seam 29 on the container 23 will fit on seat 27 on head 15. This head 15 in conjunction with head 14 will secure the opposite ends of the container against movement in the cylinder 9. When the container has been thus secured in the roller, the handle is applied to the roller by inserting the trunnions 21 endwise into the sockets 20 in heads 14 and 15. While the sections 36 and 37 of the handle are held in aligned relation, the clip 43 is applied to the inturned ends 41 of said sections as before described and the sections will be assembled in operative relation with the roller. When the trunnions 21 of the handle sections are confined in sockets 20 the handle will be pivotally connected to the roller for the application of paint.

In Fig. 7, the roller is illustrated for applying paint from a can in which the paint is sold. The cylinder 9, covering or jacket 11, heads 14 and 15 and handle 22 may be of the construction illustrated in Figs. 1 to 6. The special container 23 is dispensed with and in lieu thereof a paint can 51 in which the paint is sold extends and fits between the annular seats 27 on heads 14 and 15 which are adapted to demountably secure and position said can endwise and radially in the cylinder 9.

The seam on one end of can 51 fits in the seat 27 on one of the heads 14 and 15. The sides of can 51 which has heads with seams joined to its body is punctured by any suitable means as at 54 at opposite points near the top of the can for the paint to flow into cylinder 9. When the can 51 has a friction-top 56, the latter may be left closed.

In assembling the roller with a can 51 filled with paint, the seam 57 around the bottom of the can is set into the annular seat 27 on head 14 after the sides of the can are punctured. Said head is supported to hold the can upright and prevent spilling of the paint. The cylinder 9 with the covering or jacket 11 applied thereto and the end-portion of the covering lapped around its lower edge and into the cylinder, is then placed around the can 51 and moved downwardly to compress the inwardly lapped portion of the cover 11 by the flange 13 and the end-fold of the covering against the bead 16 of head 14. The lower end of cylinder 9 will then be closed by and sealed to the head 14. Next, the upper end portion of jacket 11 is folded around the upper edge and into the end of cylinder 9 around the upper end of can 51. Head 15 is then pressed into the upper end of cylinder 51 with its flange 13 engaging the lapped portion of the cover and the top of the can is on seat 27 on head 15. The upper end of cylinder 9 will then be closed and sealed and can 51 will be confined longitudinally and radially in the roller. The handle 22 will be applied to the roller as before described. When the roller is manipulated over a surface to be decorated or painted, the paint will flow from can 51 into the cylinder 9, and through the perforations 10 to the covering 11 by which it will be spread over and applied to the surface over which the roller is manipulated. When the paint has been exhausted the roller can be readily taken apart for the insertion of a full can of paint.

The heads 14 and 15 are interchangeably usable at either end of cylinder 9. The covering 11 can be readily stripped off the cylinder so it can be immersed in a cleaning fluid or for replacement. The heads 14 and 15 are adapted to rest on a support while the container 23 is being filled with paint or the can 51 filled with paint is being placed on one of the heads 14 or 15.

Characteristics of the invention are: the cylinder, heads, paint container and fabric-covering can be quickly and easily assembled and disassembled; the tubular covering is utilized to form a seal between the cylinder and its end-closures; the roller in its entirety is light in weight for ease of manipulation in work; cans of paint as sold may be used in the holder; the handle can be quickly and easily assembled and applied to or taken apart for packing with the roller.

The invention is not to be understood as restricted to the details set forth since these may be varied within the scope of the appended claim without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

The combination with a paint can and lid assembly presenting circular axially extending body seams at the opposite ends thereof respectively, of a painting roller assembly adapted to contain said paint can and lid assembly in its entirety within the same, said painting roller assembly comprising an open-ended perforated cylindrical tubular member, a paint-permeable fabric jacket snugly fitting around said tubular member and having end portions lapped around the rim regions of said tubular member and projecting into the tubular member in reentrant fashion, and a pair of identical detachable sheet metal heads for closing the ends of the tubular member and for supporting said paint can and lid assembly therebetween in coaxial relation with respect to the tubular member, each head being of dished configuration and including a generally conical body portion of wide slant angle and small slant height, the base region of said body portion terminating in an axially extending cylindrical marginal flange having a reverse bend therein providing a reentrant flange of generally cylindrical configuration adapted to fit into the reentrant portions of the folded fabric jacket and compress the same against the inside end surface regions of the tubular member, the rim region of said reentrant flanges being beaded outwardly to engage the lapped portions of the jacket and limit inward movement of the heads axially of the tubular member, the inside diameter of said marginal flanges being substantially equal to the external diameter of the paint can and lid assembly whereby the end regions of the latter may fit

snugly within said marginal flanges in telescopic relation so that said marginal flanges constitute the sole support for the paint can and lid assembly within the tubular member, the apices of said generally conical body portions being formed with respective bail-receiving sockets therein for reception of the ends of a bail-type handle, the can portion of said paint can and lid assembly being adapted to be punctured for the egress of paint from the assembly into the tubular member.

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