PATENT SPECIFICATION

613,188

Application Date: June 14, 1946. No. 17953/46.

Complete Specification Accepted: Nov. 23, 1948.

Index at acceptance:—Classes 19, E; and 95, B1.

COMPLETE SPECIFICATION

Improvements in Rollers for Applying Paint

We, CECIL RHODES MACKEY and NORMAN JAMES BREAKEY, both Subjects of the King of Great Britain, of 46, Astley Avenue, in the City of Toronto, County of York, Province of Ontario, in the Dominion of Canada, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in rollers particularly adapted for applying paint uniformly to surfaces and the principal objects of the invention are to devise an implement presenting a uniform pile covered surface which will roll smoothly over the surface to which the paint is to be applied and will spread the paint uniformly over such surface, to provide a simple and effective means for manipulating said roller in the application of paint to a surface and to devise a structure which will permit the easy and quick interchange of rollers.

A further object is to provide a form of roller which may be manufactured economically so that it may be discarded and replaced without undue cost.

The principal feature of the invention consists in spirally mounting a length of textile fabric upon an open-ended cylinder, mounting bearing supports in the open ends of said cylinder and rotatably securing said bearing supports and cylinder from the shaft extension of a handle.

A further important feature consists in the novel manner of constructing the end closures and bearing supports for the cylinder whereby a journal member is secured centrally in a flanged cup or disc adapted to fit into and seal the ends of the cylinder.

In the accompanying drawings Figure 1 is a plan view of a paint-applying implement constructed in accordance with this invention.

Figure 2 is an end elevational view.

Figure 3 is a longitudinal part mid-sectional and part elevational view of a roller and bearing support constructed in accordance with this invention.

Figure 4 is an elevational view of the inside face of one of the end closure caps and journal bearing.

In the construction of the device herein shown the paint-applying roller 1 is preferably formed of a plurality of substantially cylindrical laminations 2 of cardboard and on the periphery of this cylinder is spirally mounted a length or lengths of a suitable textile fabric 3 which is preferably a short pile fabric which, because of the spiral winding, presents a uniform cylindrical pile surface. The fabric is mounted upon the cardboard cylinder and secured by a suitable adhesive so that the spiral edges of the fabric strips abut snugly and there will be no definite line of demarcation which might cause a bumping effect if the textile material were joined in a straight line lengthwise of the cylinder.

The terminal ends of the textile strips may be firmly secured in place in addition to the adhesive by the use of wire staples 4 which may be driven into the cardboard and will grip and hold the terminal ends of the strips.

It will be understood that a cylinder such as described may be made in any desirable length and afterwards cut into shorter lengths if desired to facilitate manufacture.

Sheet metal discs 5 formed with cupped flanges 6 to fit snugly within the interior circumference of the cardboard cylinder are formed with outturned end flanges 7, the sheet metal of the outer flanges being preferably rolled inwardly to avoid raw edges of the metal being exposed. These discs when fitted into the ends of the cylinder have their end flanges 7 abut snugly against the ends of the cylinder.

The discs 5 are formed with circular central orifices and inserted into these orifices are the journal bushings 8 which are formed with flanges 9 on the outward side which abut the outer face of the disc

[Price 2/8]

Price 4s 6d

and said bushings are formed with stepped shoulders 9^1 which extend through the holes in the disc and the bushings are secured in place by deforming the edges of the shoulders 9^1 to form lugs 10 which overlap the inside face of the disc and thus hold the bushings securely in position.

It will be understood of course that these end caps may be made from a solid section of cast or machined metal if desired in which case the bushings would form an integral part of the cap but the construction described is preferable.

A handle 11 has mounted therein a rod 12 of circular cross section which is bent at right angles for approximately a length slightly longer than half the length of the cylinder, being bent again at right angles to form a short length 13 which is formed with a right angle bend 14 providing a substantially **U**-shaped structure, the end remote from the handle 11 being of a length to extend through the paint-applying cylinder.

A collar 15 is rigidly secured on the rod which extends through the cylinder at a point adjacent to the bend 14 and abuts the bearing bushings in the cap inserted in one end of the roller formed by the flanged discs.

The outer end of the rod extends through and is journalled in the bushing in the disc at the opposite end of the roller and it is threaded to receive a suitable nut 16.

The roller is thus mounted on adequate journals at both ends and provides a tool for applying paint to surfaces which may be handled with ease and facility.

When it is desired to change the roller, either because of excessive wear or being allowed to dry with paint upon it or to use another colour of paint, it is simply necessary to remove the nut 16 from the threaded end of the handle rod and withdraw the rod from the end discs. The discs may then be pried loose from the end of the cylinder and inserted in the fresh cylinder. When thus inserted the rod end is slipped into place and the nut replaced and the device is again ready for use.

The spirally wound pile fabric mounted on journals in the manner described provides an exceptionally fine implement for applying paint to surfaces and its ready removal and substitution can be accomplished at very low cost.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A roller for applying paint comprising an open-ended cylinder having a length of textile fabric spirally wound thereon, bearing supports mounted in the open ends of said cylinder, and a handle having an extension mounted in bearings carried by said bearing supports.

2. A roller according to claim 1 in which the bearing supports are of circular form and have peripheral flanges engaging the inner wall of the cylinder.

3. A roller according to claim 2 in which the peripheral flanges have their outer edges flanged outwardly to engage in sealing contact with the ends of the cylinder.

4. A roller according to claim 1 in which the bearing supports are formed of sheet metal each having a cylindrical flange to fit the inner periphery of the roller, the outer edge of said flange being turned outwardly to form a sealing flange to engage the end of the cylinder in sealing contact.

5. A roller according to claim 4 in which metal journal bearings are provided in the sheet metal bearing supports, each formed with an end flange and a hub extending through a central opening in the sheet metal bearing support and the hub is deformed to lock the bearing in place.

6. A roller according to any of the preceding claims in which the cylinder is formed of cardboard wound in laminated form.

7. A roller according to any of the preceeding claims in which the ends of the spirally wound textile fabric are secured to the cylinder by staples extending through the textile strip into the cylinder.

8. A roller for applying paint substantially as described with reference to the accompanying drawings.

Dated this 14th day of June, 1946.

For the Applicants:
RAWORTH, MOSS & COOK,
75, Victoria Street, London, S.W.1,
Chartered Patent Agents.

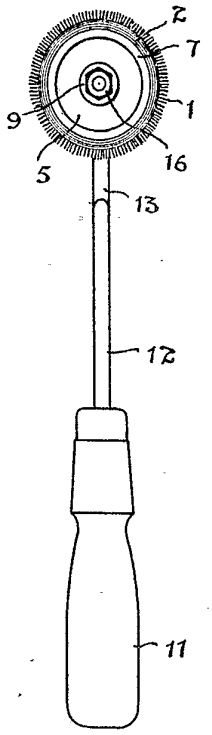

Fig. 2.

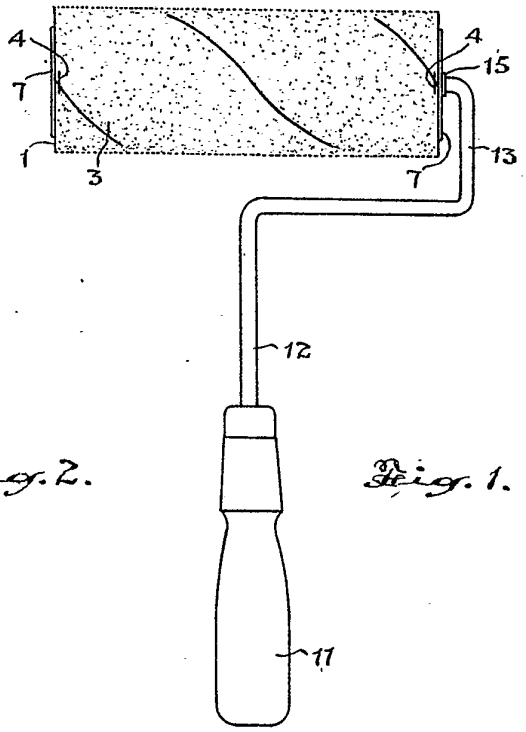

Fig. 1.

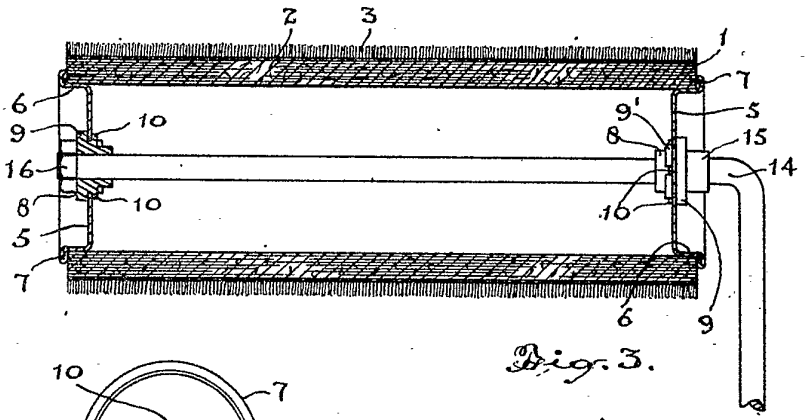

Fig. 3.

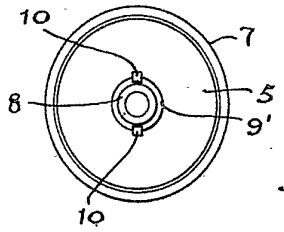

Fig. 4.

PUBLISHED BY :-
THE PATENT OFFICE,
25, SOUTHAMPTON BUILDINGS,
LONDON, W.C.2.

H.M.S.O. (Ty.P.)