

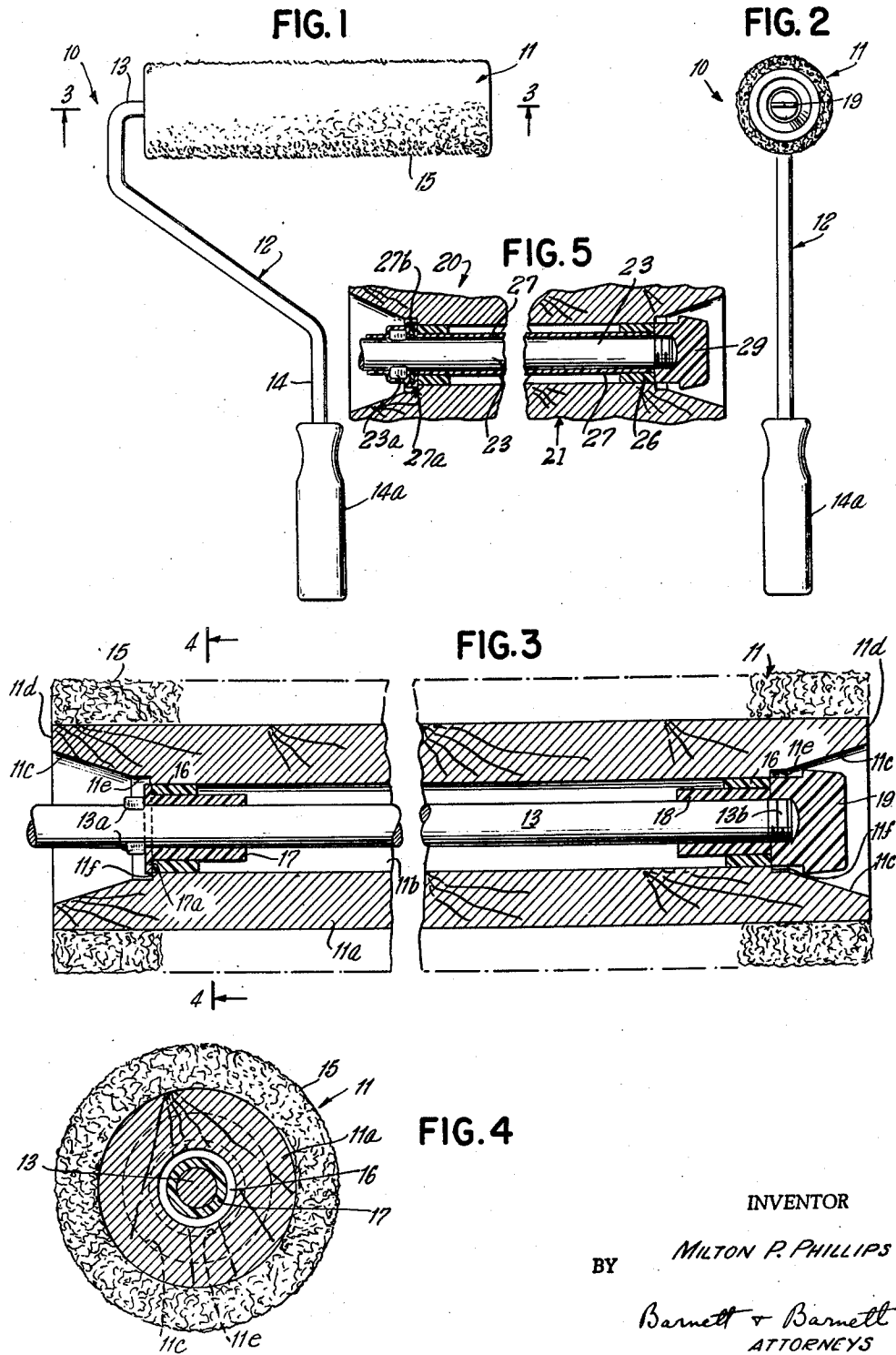
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ANTI-STREAKING PAINT ROLLER

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ANTI-STREAKING PAINT ROLLER

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This invention relates to surface finishing and coating devices and more particularly is directed to an improved paint roller construction for applying a smooth coating, stippling, graining and glazing, such as produced with oil, rubber and water base paints, as a finishing surface.

Among the objects of the invention is to generally improve the construction of devices of the character described, which shall comprise few and simple parts that are readily assembled to form a rugged and easily manually operated device, which shall form inexpensive articles of manufacture, which shall provide an improved non-metallic bearing construction eliminating paint discoloration caused by the friction of paint against metal parts in operation of the roller and having long wearing qualities, which roller can be easily removed from the frame for cleaning or replacement and which shall be practical and efficient to a high degree in use.

Other objects of the invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists of features of construction, combinations of elements and arrangement of parts which will be exemplified in the constructions hereinafter disclosed, the scope of the application of which will be indicated in the claims following.

In the accompanying drawing in which an illustrative embodiment of the invention is shown:

Figs. 1 and 2 are top plan and right end views, respectively, of an improved roller surface finishing device constructed to embody the invention for applying paints to surfaces.

Fig. 3 is an enlarged sectional view taken on line 3—3 in Fig. 1 showing details of the improved roller and bearing mounting construction.

Fig. 4 is a sectional view taken on line 4—4 in Fig. 3, and

Fig. 5 is a sectional view similar to Fig. 3 but showing a modified form of the invention.

Referring in detail to the drawing, 10 denotes an improved surface finishing and coating device comprising an elongated cylinder roller 11 mounted on a frame 12 for rotation on improved bearing means embodying the invention.

Frame 12 may be suitably formed for manual manipulation from a metal rod of circular cross section preferably of aluminum having an axle portion 13 on which roller 11 is mounted for rotation and a handle mounting portion 14 extending at right angles to the axle portion 13 and centrally thereof. Handle mounting portion 14 may be terminated in a suitable handle grip 14a, said roller 11 being in an effective mounted overhanging offset relation to said grip 14a and well balanced for easy manipulation of device 10.

As seen in Figs. 3 and 4, roller 11 may comprise a cylindrically shaped support or core member 11a having an axial bore 11b terminating on opposite ends thereof in frusto-conical shaped enlargements or recesses 11c extending inwardly from opposite ends 11d of core member 11a to intermediate cylindrical enlargements 11e ad-

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jacent bore 11b providing shoulders 11f. Core member 11a may be of suitable diameter, usually about one and a half to two inches, from four and a half to nine inches in length for ordinary and household uses and from nine to eighteen inches for special and industrial purposes, core member 11a providing a support backing of desired cylindrical surface area against which a paint spreading surface layer or covering 15 is firmly attached to extend completely thereover. Said layer or covering 15 may be tape-like invisibly spirally wound onto core member 11a providing a continuous non-streaking paint spreading surface for serving in the well understood manner and preferably may be made of natural or artificial wool, mohair or so-called "dynel" manufactured by the Union Carbon and Carbide Company, Inc., of New York, rubber or other fabric for producing a smooth coating, stippling, graining or glazing effect. Said covering 15 is secured to the exterior surface of core member 11a by any suitable adhesive well known in the art that does not soften or is not dissolved by the paint products being applied.

A feature of the invention is the provision of a non-metallic bearing means upon which the roller 11 rotates constructed to eliminate friction of paint against any metallic surface in operation of coating device 10.

To this end, bushings 16, preferably made of nylon, are suitably mounted as by a pressed fit in opposite ends of bore 11b adjacent shoulder 11f and serve as the movable component of the improved bearing means. The stationary components of said bearing means are provided as inner and outer sleeves 17 and 18, respectively, also preferably made of nylon and mounted by a pressed fit on axle portion 13 of frame 12.

As is clear from Fig. 3, inner sleeve 17 may be integrally formed with a radially extending end flange 17a abutting pinched lugs 13a serving to locate sleeve 17 in proper spaced relation with respect to outer sleeve 18, the latter being positioned just inwardly of threaded end 13b. Non-metallic wing nut 19 which also may be molded of nylon removably retains roller 11 in position on axle portion 13.

The practical utility of coating device 10 will now be apparent. After roller 11 and frame 12 have been constructed as shown in the drawing and described above, roller 11 is readily mounted in position on axle portion 13 simply by inserting threaded end 13b successively through both bushing 16 so that each of the latter is in alignment with and rides on its respective sleeve 17 and 18. Wing nut 19 is then screwed onto threaded end 13b to complete the assembly.

As will be clear from Fig. 3, frusto-conical and intermediate cylindrical enlargements 11c and 11e are sized and shaped to accommodate wing nut 19 completely inwardly of, that is, recessed from roller end 11d and provide sufficient space for finger manipulation thereof in mounting and dismounting roller 11. Bushings 16 and sleeves 17 and 18, serving as said improved non-metallic bearing means, are properly spaced and in register so that the innermost of bushings 16 abuts radial flange 17a and the outermost of bushings 16 aligns with the outer edge of sleeve 18. When wing nut 19 is pulled up tight against sleeve 18, roller 11 is properly positioned for free rotation on axle portion 13 yet reasonably snug fit between flange 17a and wing nut 19 to provide a substantially effective seal against paint entering between the bearing means.

The improved construction thus eliminates all metallic frictional surfaces, particularly metallic bearing surfaces of roller 11, thereby avoiding undesirable paint discoloration found to be caused by friction of certain types of paint against metal.

Fig. 5 shows a modified embodiment of the invention as coating device 20 having an axle portion 23 provided

with an over-all coating or skin 27 of a suitable plastic resin, for example, commercially known "K Resin," serving the purpose of inner and outer sleeves 17 and 18 in coating device 10. A radially extending flange 27a similar to end flange 17a may be provided as washer 27b mounted on axle portion 23 to abut pinched lugs 23a beneath the coating or skin 27. For mounting on skin covered axle portion 23, roller 21 is substantially identical to roller 11 except for the reduced bore of bushings 26, seen in Fig. 5 as suitably sized to fit over skin 27 and ride thereon as a bearing. Wing nut 29 retains roller 21 in free rotating position against flange 27a, the latter and nut 29 forming a seal in the same manner as in device 10 described above.

It is contemplated that rollers of any other construction well known in the art may be provided with non-metallic bushings similar to bushings 16 of roller 11 for use on axle portion 13 in practicing the invention.

It is thus seen that there are provided improved paint roller constructions with non-metallic bearings whereby the several objects of this invention are achieved and which are well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention and as various changes might be made in the embodiments above set forth, it is to be understood that all matters herein set forth or shown in the accompanying drawing are to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A coating device of the character described having a metallic axle portion in combination with a paint applying roller removably mounted for rotation on said axle portion, said roller having an axial bore through which said axle portion extends and a pair of spaced non-metallic bushings fitted in said bore, non-metallic means covering said axle portion in register with said bushings on which the latter rotate, and a pair of non-metallic abutment means carried in spaced relation on said axle portion abutting said bushings, said abutments means and bushings being so constructed and arranged to position said roller on the axle portion for free rotation and seal against paint entering between the bushings and said covering means.

2. The coating device defined in claim 1 in which said non-metallic covering means are a pair of sleeves mounted on said axle portion and one of said abutment means is formed as an integral flange radially extending from one of said sleeves.

3. A coating device of the character described comprising a frame of metallic rod stock bent into a free ended axle portion and a handle portion extending in right angular offset relation to the axle portion, a paint applying roller removably mounted for rotation on said axle portion, said roller having an axial bore through which said axle portion extends and a pair of spaced non-metallic bushings fitted in said bore, non-metallic means covering said axle portion in register with said bushings on which the latter rotate, a non-metallic radial flange extending from an inward end of said axle portion against which one of said bushings abuts, and a non-metallic removable means secured on said axle free end abutting

the other of said bushings, said flange and removable means being so constructed and arranged to position said roller on the axle portion for free rotation and seal against paint entering between the bushings and said covering means.

4. The coating device defined in claim 3 in which said non-metallic covering means is in the form of a skin and said radial flange is formed as a washer positioned beneath the skin.

5. A coating device of the character described comprising a frame of metallic rod stock bent into a free ended axle portion and a handle portion extending in right angular offset relation to the axle portion, a coating applying roller assembly mounted for rotation on said axle portion, said roller having an axial bore through which said axle portion extends and a pair of spaced non-metallic bushings fitted in said bore, a pair of non-metallic sleeves mounted on said axle portion spaced to register with said bushings on which the latter rotate, one of said sleeves being positioned adjacent an inward end of said axle portion and having a radially extending flange against which one of said bushings abuts for positioning said roller on said axle portion, the free end of said axle portion being threaded and having the other of said sleeves positioned adjacent said threads, and a non-metallic wing nut removably mounted on said axle portion threaded free end abutting the other of said bushings.

6. A coating device comprising a frame of metallic rod stock bent into a free ended axle portion and a handle portion extending in right angular offset relation to the axle portion, a paint applying roller mounted for rotation on said axle portion, said roller having an axial bore through which said axle portion extends and a pair of spaced non-metallic bushings fitted in said bore, non-metallic means covering said axle portion in register with said bushings on which the latter rotate, and a non-metallic radial flange extending from an inward end of said axle portion against which one of said bushings abuts positioning the roller on the axle portion in said registration.

7. A coating device of the character described comprising a frame of metallic rod stock bent into a free ended axle portion and a handle portion extending in right angular offset relation to the axle portion, a coating applying roller mounted for rotation on said axle portion, said roller having an axial bore through which said axle portion extends and a pair of spaced non-metallic bushings fitted in said bore, a pair of non-metallic sleeves mounted on said axle portion spaced to register with said bushings on which the latter rotate, one of said sleeves being positioned adjacent an inward end of said axle portion and having a radially extending flange against which one of said bushings abuts for positioning said roller on said axle portion.

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