June 26, 1945. R. C. ADAMS 2,378,900

COATING DEVICE

Filed Feb. 2, 1942

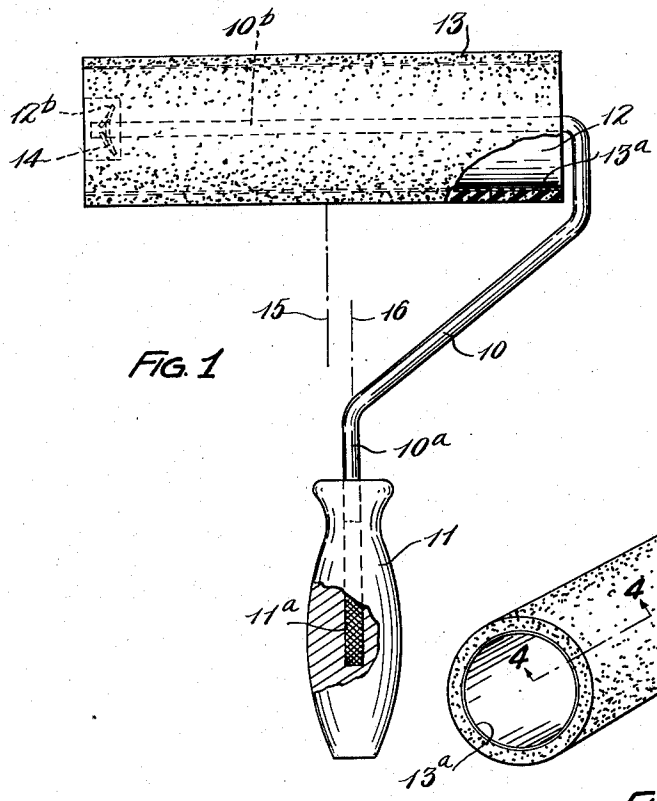


FIG. 1

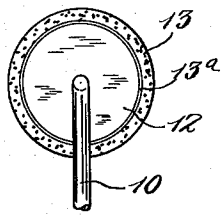


FIG. 2

FIG. 3



FIG. 4

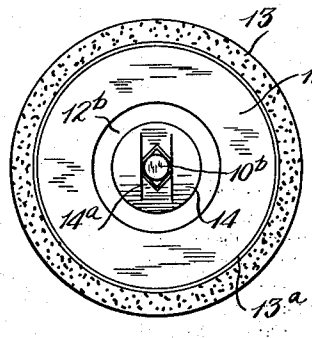


FIG. 6

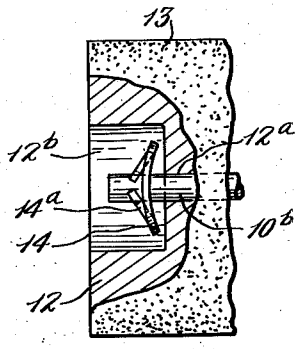


FIG. 5

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COATING DEVICE

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Application February 2, 1942, Serial No. 429,139

1 Claim. (Cl. 15—244)

This invention relates to a coating device or applicator of the roller type for applying paint or other coating materials to various surfaces, and aims to provide an improved and simplified construction for a device of this kind.

Another object of the invention is to provide an improved paint or coating applicator of the roller type in which a sponge rubber sleeve is used as an absorbent covering for the roller, and in which the mounting of the roller and the arrangement of the handle afford an economical construction and a comfortable balance when the device is held in the hand of the operator.

A further object of my invention is to provide a novel absorbent covering for a paint or coating applicator of the roller type.

The invention may be further briefly summarized as consisting in certain novel combinations and arrangements of parts hereinafter described and particularly set out in the appended claim.

In the accompanying sheet of drawings:

Fig. 1 is a plan view of a roller-type applicator or coating device constructed according to my invention, the device being shown with portions thereof broken away;

Fig. 2 is a partial side elevation of the device;

Fig. 3 is a perspective view of the absorbent covering;

Fig. 4 is a partial longitudinal sectional view taken through the covering as indicated by line 4—4 of Fig. 3;

Fig. 5 is a view showing a portion of the roller and further illustrating the roller-mounting and retaining means; and

Fig. 6 is an end view of the roller.

As shown in the accompanying drawing, my coating device or applicator may comprise a support or bracket 10 having a handle portion or grip 11 for manipulating the device and carrying a roller 12 which is provided with an absorbent covering 13. The bracket 10 may comprise a rod, of metal or other suitable material, bent or otherwise formed to the desired shape and having a portion 10*a* at one end thereof on which the grip 11 is mounted, and a shaft portion 10*b* at the other end extending in a direction substantially normal to the axis of the handle portion or grip and on which the roller 12 is rotatably mounted. The grip 11 may be made of wood, plastic or the like and the bracket portion 10*a* may have a knurled or roughened section 11*a* extending into, and retained in, the grip 11.

The roller 12 is preferably formed of a non-metallic substance and may be made of wood or any other appropriate material. This roller may be of any desired length and has a central bore 12*a* through which the shaft portion 10*b* of the bracket extends. As shown in Fig. 1, the shaft portion 10*b* extends into the roller 12 at one end only thereof and the free end of the shaft portion projects into a counterbore 12*b* of the corresponding end of the roller. The roller may be retained on the shaft portion 10*b* by means of a locking member 14 which may be in the form of a dished spring washer having opposed partially sheared fingers 14*a* which grip the shaft portion 10*b* when the locking member is forced thereon. By having the bracket 10 extend into the roller 12 from one end only it will be seen that the other end of the roller will be left free and this will enlarge the range of use of the device and permit it to be used in otherwise inaccessible places.

The absorbent covering 13 comprises a sleeve of resilient sponge rubber which surrounds the roller 12 and may be of substantially the same length as the roller. The sleeve 13 is of a size or diameter slightly smaller than the diameter of the roller 12 so that when the sleeve is applied to the roller, it must be stretched somewhat and will grip the roller sufficiently to be retained thereon.

The sponge rubber forming the sleeve 13 contains numerous cells which render the covering absorbent so that it will take up a quantity of paint or other liquid coating material and will deposit a film of such material on the surface to be coated when the device is moved so as to cause the roller to roll over such surface. I find that frothing of the coating material can be substantially prevented if the sleeve 13 is formed from a type of sponge rubber in which the cells are interconnected with each other for substantially the full thickness of the sleeve. When sponge rubber of this kind is employed for the absorbent covering, I find that the covering will take up a larger quantity of the coating material than if the cells were isolated or unconnected and hence the roller will need to be dipped in the supply of coating material less frequently.

I have also found that more satisfactory results are obtained when the sponge rubber sleeve 13 is formed with a rind 13*a* on its inner surface. This rind on the inner surface of the sleeve enables the same to be more easily applied to and removed from the roller 12 and also causes the sleeve to adhere more closely and evenly to the rubber. The rind 13*a* also serves the very useful purpose of preventing the coating material from passing through the absorbent sleeve and flowing

out between the inner surface of the sleeve and the outer surface of the roller. One way of obtaining such an absorbent sleeve with a rind on the inner surface is to produce the sponge rubber in sheet form having a rind on its upper and lower surfaces and then splitting the sheet longitudinally and forming a desired length of such half sheet into a sleeve with the rind on the inner surface thereof.

Although natural rubber or latex can be used in forming the absorbent sponge rubber covering or sleeve 13, I prefer to use synthetic rubber because it is much less subject to deterioration as the result of the action thereon of different coating materials with which the device may be used. Moreover, I find that a sponge rubber covering or sleeve formed from synthetic rubber can be cleaned more easily and more satisfactorily at the end of the painting or coating operation.

In order that my coating device may have a comfortable balance when it is supported by grasping the grip 11, I form the bracket 10 so that the portion 10*a* thereof and the grip 11 will be relatively remote from the free end of the roller and relatively nearer the end of the roller into which the shaft portion 10*b* extends. In other words, the bracket portion 10*a* and the grip 11 are offset from the transverse mid-plane 15 of the roller and lie in or near a transverse plane 16 which passes substantially through the center of gravity of the device.

In using my improved applicator or coating device, the covered roller 12 is dipped into the paint or other coating material and is then rolled over the surface to which the coating material is to be applied. The absorbent covering or sleeve 13 carries a temporary supply of the coating material and applies it as a film to the surface over which the roller passes. After the painting operation has been completed, the absorbent covering or sleeve can be cleaned by a suitable washing operation to remove the paint or other coating material therefrom. When the covering or sleeve 13 becomes worn it can be readily removed from the roller 12 and a new sleeve substituted therefor.

It will be seen from the foregoing that I have provided a roller-type applicator for paint or other coating materials which is of extremely simple form and which can be economically manufactured. It will also be seen that I have provided a novel form of absorbent covering or sleeve for a device of this type and have provided a construction in which a comfortable balance is obtained for the device when held in the hand of the user.

While I have illustrated and described my improved roller device or applicator in a somewhat detailed manner, it will be understood, of course, that I do not wish to be limited to the features and details herein disclosed, but regard my invention as including such changes and modifications as do not constitute a departure from the spirit of the invention and the scope of the appended claim.

Having thus described my invention, I claim:

A portable paint applying device adapted for manual manipulation, comprising a bracket having thereon a handle and a shaft portion, an elongated cylindrical roller rotatable on said shaft portion, and an absorbent covering surrounding the roller and comprising an elongated sponge rubber sleeve having open cells on its outer surface and a substantially impervious continuous rind on its inner surface, said sleeve being resilient and of a size to grip the roller.

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