Dec. 3, 1946. R. C. ADAMS 2,411,842

COATING APPLYING DEVICE

Filed March 28, 1942

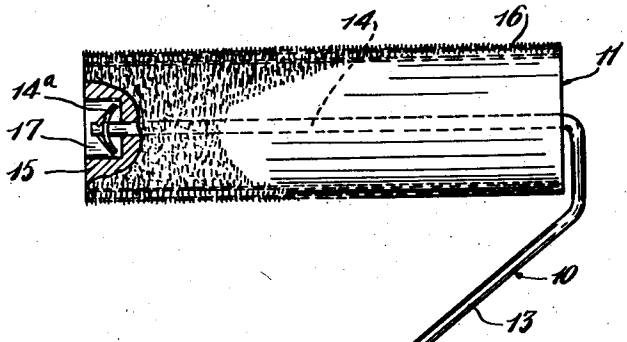


FIG. 1

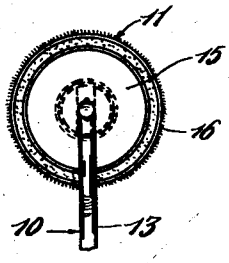


FIG. 2

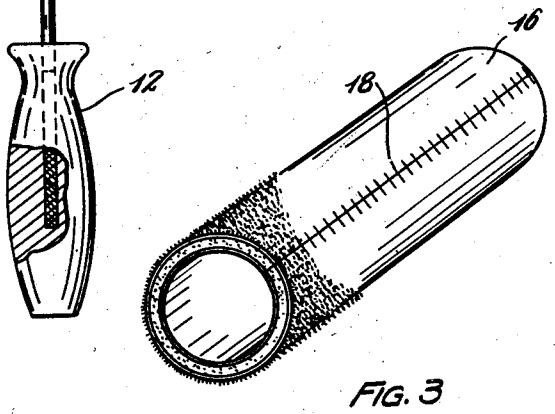


FIG. 3

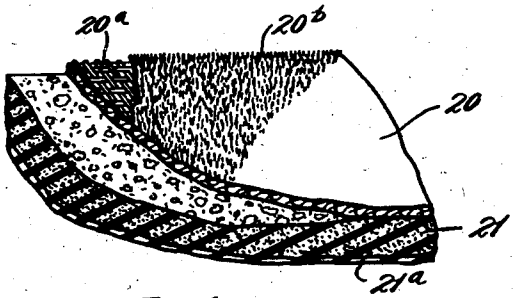


FIG. 4

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COATING APPLYING DEVICE

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5 Claims. (Cl. 15—27)

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This invention relates to roller-type applicators for paint and other coating materials and aims to provide an improved construction for a device of this kind.

Another object of my invention is to provide an improved device of the type mentioned in which a composite fabric and rubber material forms an efficient but low-cost covering for the roller.

A further object of my invention is to provide an improved roller-type coating applicator in which a rubber-backed pile fabric forms the covering for the roller.

Other objects and advantages of my invention will be apparent from the following description when taken in conjunction with the accompanying sheet of drawings, in which:

Fig. 1 is a plan view showing my improved roller-type applicator with portions thereof broken away;

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

Fig. 3 is a perspective view showing the covering removed from the roller; and

Fig. 4 is a perspective sectional view showing the composite material of the roller covering on a somewhat larger scale.

In the present embodiment of my invention I show an applicator adapted to be used in applying paint or other coating material to various surfaces. The applicator here shown comprises, in general, a support 10 and a covered roller 11 mounted thereon.

The support may be of any suitable construction and may comprise a handle 12, adapted to be conveniently grasped by a person using the device, and a bracket 13 connected with the handle and supporting the roller assembly 11. The bracket 13 may be in the form of a rod, of metal or other suitable material, which may be bent or otherwise shaped to the desired form and which includes a shaft portion 14 on which the roller assembly 11 is rotatable.

The roller assembly 11 may comprise a substantially cylindrical roller or roller body 15 formed of wood, plastic, or other suitable material and an absorbent covering 16 on such roller body. The roller body 15 may have an axial passage in which the shaft portion 14 is received for rotatably mounting the roller on the support 10. The roller may be retained on the shaft portion 14 by suitable means such as the spring washer 14a applied to the outer end of the shaft portion. The roller body may be provided with a recess or counterbore 17 in its outer end in which the washer 14a is accommodated.

The absorbent covering 16 of the roller con-

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stitutes an important feature of my invention. This covering may be in the form of a sleeve which surrounds the roller body 15 and has a snug fit thereon so that the covering will rotate with the roller when the latter is drawn over a wall or other surface to be painted or coated. The covering 16 may be made from a composite sheet material, which I will describe presently, and may be formed by shaping a section of such material into a sleeve of a size to snugly surround the roller body 15 but which can be slid axially onto or off of the roller. In forming the sleeve the meeting edges of the composite sheet material may be joined or united as by suitable cement or by means of the stitching 18, or both.

The absorbent material which I use in forming the covering 16 may be a composite sheet material comprising an upper fabric layer 20 and a lower or backing layer 21 of rubber. A composite sheet material of this kind has been used heretofore as an automobile floor covering. The fabric layer 20 may comprise a woven sheet 20a of burlap or the like formed of warp and woof threads and having an upstanding relatively short nap or pile 20b thereon. The warp and woof threads may be formed of either animal or vegetable fibers or a mixture of such fibers and may extend in the usual woven or crisscross relation. The nap or pile 20b may be in the form of flock attached to the woven sheet or burlap 20a by a suitable cement or other adhesive. In forming the fabric 20 the woven sheet 20a may be coated or impregnated with cement, latex, rubber solution, or other tacky material and the fibers or flock may be blown onto the sheet to which they then become connected to form the nap or pile. The fibers for the nap or pile may be either animal or vegetable fibers or a mixture thereof. It will be understood, of course, that the nap or pile 20b may be obtained on the fabric layer 20 by connecting the fibers with the warp and woof threads in the manner usually accomplished in the weaving of textile fabrics.

The lower or backing layer 21 may be a layer of relatively soft and yielding rubber, preferably a layer of sponge rubber which is substantially coextensive with the upper fabric layer 20 and is uniformly united to the back thereof. The sponge rubber layer 21 may have a substantially impervious integral rind 21a extending over its lower or exposed face and which forms an impervious lining in the sleeve-shaped covering 16. The rubber layer 21 may be united to the fabric layer 20 by cement or any other suitable means or may be united thereto by the adhesion obtained

therebetween by molding and vulcanizing the rubber against the fabric layer.

When the covering for the roller of my applicator is formed from this composite sheet material, I find that the pile fabric **20** forms an absorbent medium which will take up a substantial volume of paint when the roller of the device is dipped thereinto. This fabric also serves very satisfactorily in applying or transferring the paint to the wall or other surface being treated when the roller of the applicator is rolled over such surface. The backing layer **21** of sponge rubber forms a cushioning medium beneath the fabric layer **20** which I find to be very desirable and which improves the paint-applying function of the roller. The yielding of the rubber cushioning medium when the roller **11** is pressed against the surface being coated results in a flattening of the roller surface and an increased area of contact for the roller. The yielding nature of the roller covering also enables the roller to adapt itself more readily to irregularities in the surface being coated. As shown in the drawing the soft rubber backing layer **21** is of a substantially uniform thickness sufficient to enable the same to accomplish the above-described functions including that of a cushioning medium.

Some of the paint or coating material with which the device is used may pass through the fabric layer **20** and enter the cells of the sponge rubber layer **21** thereby increasing the paint-carrying capacity of the roller. The paint which enters the sponge rubber layer will be squeezed therefrom by the pressure which is applied to the device during its use and such paint will thereby be fed back through the fabric layer **20** to the surface being coated. The rind **21***a* on the lower face of the sponge rubber layer is very desirable because it provides a surface which will grip the roller body **15** for retaining the covering thereon and it also prevents the paint from passing through the sponge rubber layer. It would be undesirable to have any substantial amount of the paint pass through the sponge rubber layer because it would travel along between the covering and the surface of the roller body **15** and would seep or drip from the ends of the roller. The covering **16**, as formed from the composite sheet material above described, is flexible and pliable and can be readily removed from the roller body and subjected to a washing or cleaning operation to remove the paint or coating material therefrom.

Instead of the covering **16** being retained on the roller body **15** merely by the frictional engagement of the rubber backing therewith, I may retain the covering on the roller body by cementing the same thereto. When the covering is cemented to the roller body, or is otherwise connected therewith so as not to be readily removable, it can be washed or cleaned while in place on the roller body.

Throughout the specification and claims I have

used the term "pile fabric" in connection with the covering material of the roller assembly **11**. I desire it to be understood that I regard this term as defining the covering material regardless of whether the nap or pile is in the form of flock or is connected with the warp and woof threads during weaving.

From the foregoing description it will now be readily seen that I have provided an improved roller-type applicator in which a composite fabric and rubber sheet material forms an efficient, but inexpensive, absorbent covering for the roller of the device.

While I have illustrated and described the present embodiment of my roller-type applicator in more or less detail, it will be understood, of course, that I do not intend my invention to be limited to the particular device and details herein disclosed, but regard my invention as including all changes and modifications coming within the spirit and the scope of the appended claims.

Having thus described my invention, I claim:

1. In a roller-type applicator for coating materials, a covering for the roller comprising a pile fabric having a cushioning layer of sponge rubber united to the back thereof.

2. An applicator for paint or the like comprising a support including a handle, a roller on the support, and a covering for the roller comprising an absorbent fabric sleeve having a pile on its outer surface and a layer of sponge rubber substantially coextensive with its inner surface, said sponge rubber forming both a cushioning medium and a reservoir adapted to contain paint and feed the same to the pile fabric.

3. An applicator for coating material comprising a support including a handle, a roller on the support, and a covering for the roller comprising a fabric sleeve having a pile on its outer surface and a layer of sponge rubber united to its inner surface.

4. An applicator for coating material comprising a support including a handle, a roller on the support, and a covering for the roller comprising a fabric sleeve having a pile on its outer surface and a layer of sponge rubber united to its inner surface, the exposed face of the sponge rubber layer having a substantially impervious rind thereon.

5. An applicator for paint or the like adapted for manual manipulation, comprising a support having thereon a handle and an elongated cylindrical roller, and an absorbent covering surrounding the roller and comprising a fabric sleeve having a pile on its outer surface and a layer of sponge rubber united to its inner surface and forming both a cushioning medium and an absorbent medium adapted to contain paint and feed the same to the pile fabric, said sponge rubber having on its inner surface a substantially impervious paint-retaining rind.

RICHARD C. ADAMS.