Sept. 16, 1947. L. P. A. TOUCHETT 2,427,581

PAINT APPLICATOR

Filed April 4, 1945

Fig. 1.

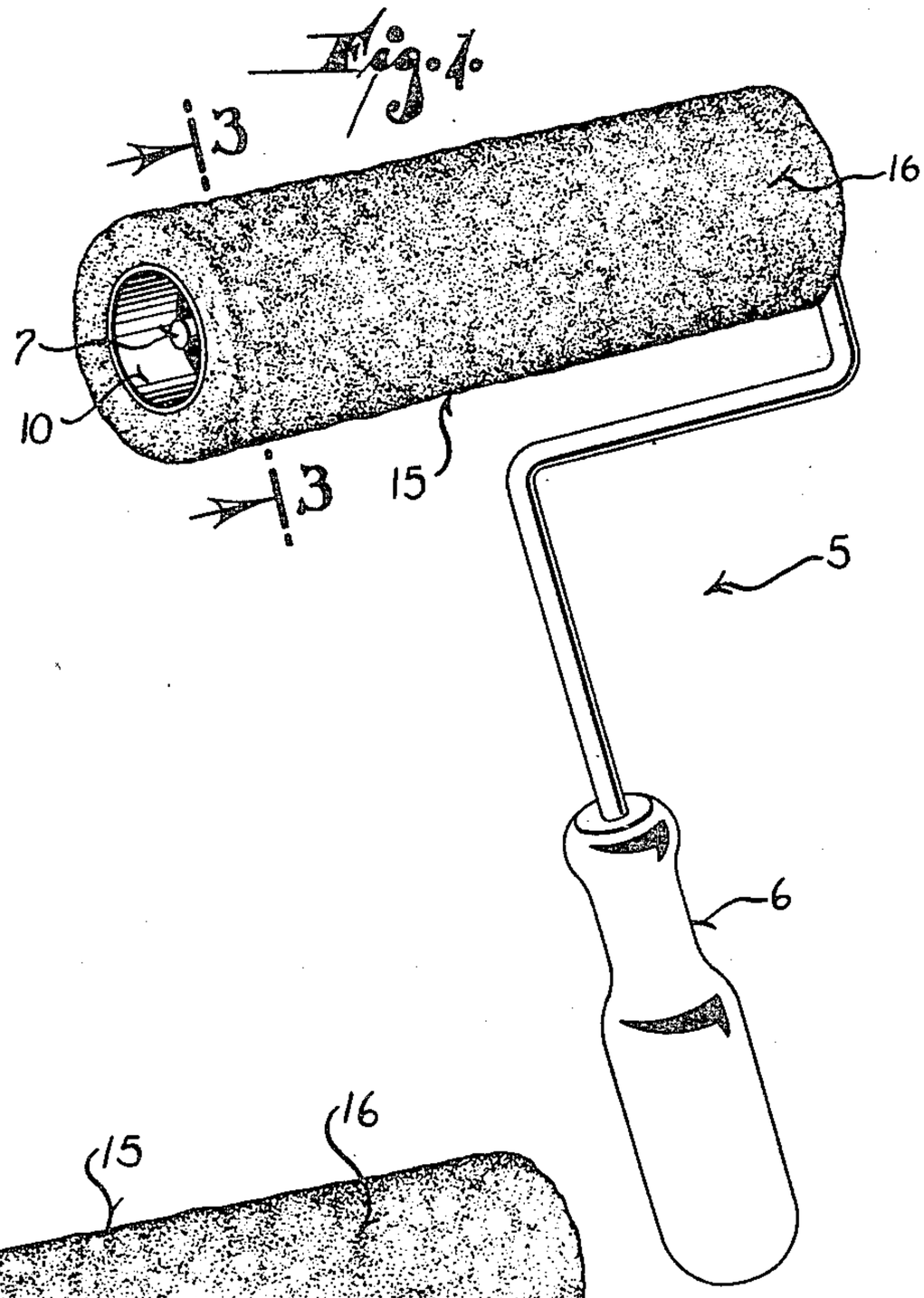

Fig. 2.

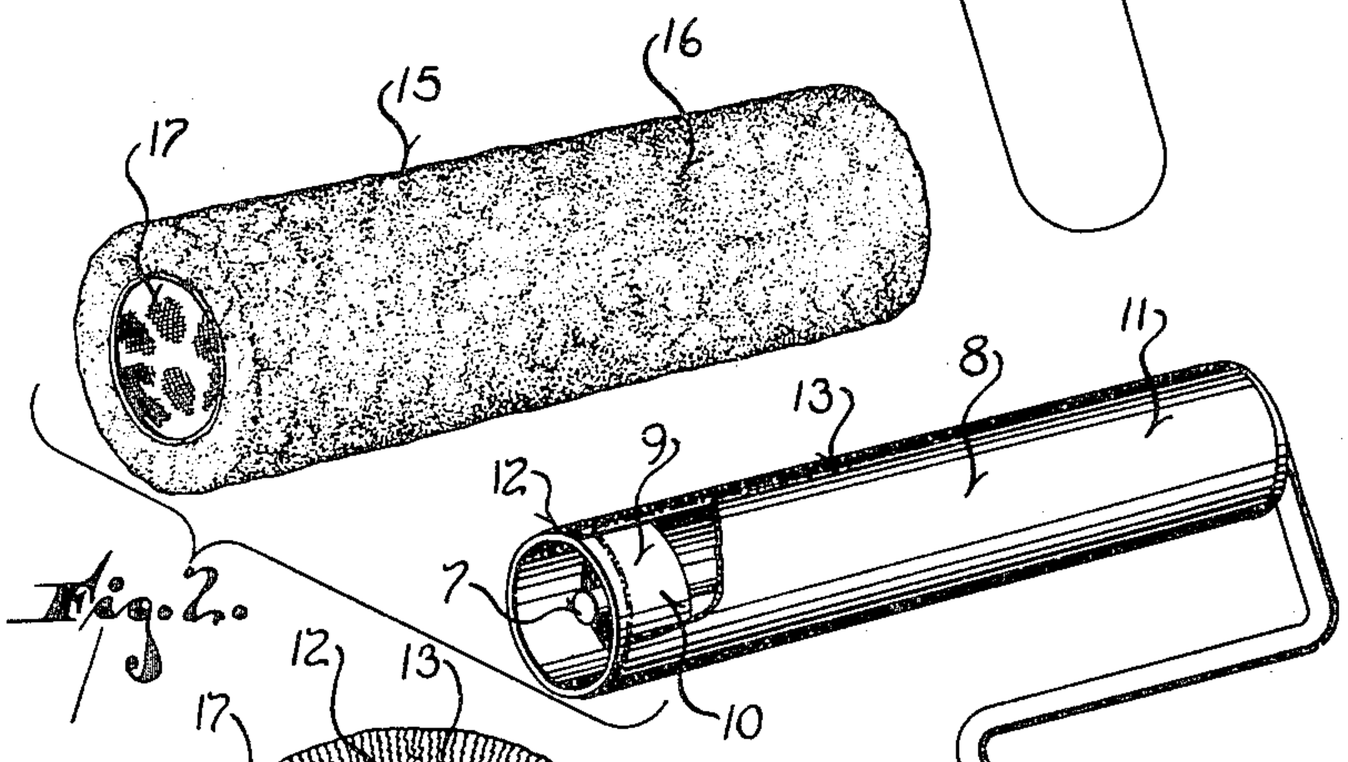

Fig. 3.

Inventor
Lawrence P. A. Touchett
By Dodge Sutton Jones
Attorney

Patented Sept. 16, 1947 2,427,581

UNITED STATES PATENT OFFICE

2,427,581

PAINT APPLICATOR

Lawrence P. A. Touchett, Fond du Lac, Wis.

Application April 4, 1945, Serial No. 586,576

3 Claims. (Cl. 15—27)

1

This invention relates to paint applicators and has particular reference to that type of paint applicator which comprises a roller having a paint retaining and distributing surface on its exterior by which paint may be applied to wall surfaces and the like upon passage of the roller thereover.

One type of paint applicator of this nature which has come into recent use comprises a handle having a roller journalled on the handle for rotation on an axis transversely of the handle and having a tube or sleeve of felt secured over the exterior of the roller. The felt sleeve when immersed in paint soaks up a quantity of the paint and retains the same for distribution upon the surfaces to be painted when the roller is passed thereover and a slight pressure applied to the same to force the paint out of the felt. Paint applicators of this type have the advantage of enabling walls or like surfaces to be painted in considerably less time than is possible using the conventional paint brushes.

Past roller types of paint applicators, however, have one serious disadvantage in that they are successful only for use with so-called "water paints." They cannot be successfully used with oil base paints. Many experiments conducted with oil base paints show that the felt sleeves heretofore in use are utterly incapable of retaining a desired quantity of paint or of effecting even distribution of the paint upon the surface to be painted. As far as is known, there has been no roller type applicator available heretofore by which oil base paints may be applied to wall surfaces or other areas to be painted.

It is, therefore, one of the objects of the present invention to provide a sleeve for the rollers of paint applicators of the character described having characteristics such as to enable retention of a desirable amount of oil base paint in the body of the sleeve and also to effect even distribution of such oil base paint over walls or other surfaces to be painted.

More specifically, it is an object of this invention to provide a paint applicator of the character described with a sleeve for its exterior made of a material having a relatively deep pile of exceedingly fine and closely packed highly resilient fibers capable of retaining quantities of oil base paints for even distribution upon walls or other surfaces to be painted.

Another object of this invention is to provide a paint applicator of the character described with a paint retaining and distributing sleeve made of lambs wool, the fibers of which assure

2

retention of and even distribution of an oil base paint.

Still another object of this invention resides in the provision of a sleeve made of lambs wool or an equivalent material having a similar deep pile of exceedingly fine and closely packed fibers of great resiliency, and which may be readily substituted for the rollers of conventional paint applicators in present day use for the application of water paints.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates one complete example of the physical embodiment of the invention constructed according to the best mode so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a perspective view of a roller type paint applicator equipped with the paint retaining and distributing sleeve of this invention:

Figure 2 is a perspective view of the applicator showing the sleeve removed from the roller thereof; and

Figure 3 is a cross sectional view taken through Figure 1 on the plane of the line 3—3.

Referring now more particularly to the accompanying drawing in which like numerals indicate like parts, the numeral 5 designates generally a paint applicator of the roller type having a handle 6 and a spindle 7 disposed transversely to the handle and which rotatably receives a roller 8 thereon.

The roller per se comprises spaced apart cups 9 at opposite ends of the roller having their open ends facing outwardly and their cylindrical side walls 10 providing supports for a pair of diametrically opposite resilient curved plates 11. Each of the plates 11 has its marginal edge portion which is disposed longitudinally of the roller supported by and secured to the side walls 10 of the cups as at 12, while the remaining portions of the plates curve outwardly and away from the cylindrical surface of the cups in substantially spiral manner as viewed in cross section in Figure 3 so that their free edges 13 are spaced a distance outwardly of the cylindrical bounding surface of the cups.

The usual practice is to provide a paint re-

taining and distributing surface for the roller comprised of a felt sleeve telescoped over the resilient plates. It has been found, however, that the felt sleeve is useful only for the application of so called "water paints" to walls or other surfaces and that it is utterly useless for the application of oil base paints to such surfaces.

In the present invention, therefore, a special sleeve 15 is provided. This sleeve is made of a material having a relatively deep pile 16 of exceedingly fine and closely packed fibers which stand substantially on end and have a high degree of resiliency. One such material which has been found highly desirable and successful for use with oil base paints is lamb's wool, and the sleeve 15 of this invention is preferably made of a piece of lambskin with the wool side facing out.

The reason for the success of a lamb's wool sleeve for use with roller type paint applicators and oil base paints is not fully understood, but it is believed that its deep pile of closely packed and exceedingly fine but highly resilient fibers which stand substantially on end more or less duplicate the action of a conventional paint brush during passage over a wall surface to be painted.

In making the sleeve, a piece of lambskin is secured over a cylindrical core or backing element 17 of resilient, form retaining material and of a size to snugly engage over the roller 8.

This backing element preferably comprises a piece of wire screening rolled into a form retaining substantially resilient cylinder. The backing element thus cooperates with the spirally arranged plates on the roller to support the lamb's wool sleeve in a cylindrical shape and spaced from any solid, unyielding portions of the roller.

Yieldability of the sleeve is thus not confined solely to the soft fibers of the lamb's wool upon contact of the sleeve with wall surfaces to be painted, and only slight pressure is required to provide a relatively wide area of contact at which the paint is transferred from the sleeve to the surfaces being painted.

During use of the applicator of this invention, it is believed highly probable that slight pressure exerted on the sleeve causes considerable yielding on the part of the fibers of the wool to force oil base paints retained thereby to the surface being painted, and that in passage over the wall the fibers thus depressed tend to resume their natural positions due to the inherent resiliency of the fibers and thus exert in effect a brushing action on the surfaces being painted to uniformly distribute and remove excess paint therefrom.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art that the sleeve of this invention for the first time enables the use of roller type paint applicators with oil base paints.

What I claim as my invention is:

1. A paint applicator of the character described, comprising: a handle; a roller rotatably mounted on the handle and having circumferentially spaced yieldable wall surfaces extending for the full length of the roller and defining the maximum cross sectional dimension of the roller; a cylindrical backing element, form retaining in character, but yieldable under radially applied force telescoped over said yieldable wall surfaces of the roller so as to be held spaced from any unyielding portions of the roller; and a sleeve secured over the exterior of said backing element, said sleeve being of material having a relatively deep fibrous pile of exceedingly fine and closely packed fibers which substantially stand on end and mutually support each other, said fibers having a high degree of resiliency to provide a resilient paint retaining and distributing surface for the roller.

2. A paint applicator comprising a roller, a shaft, said shaft extending laterally through said roller and acting as a support therefor, longitudinally extending resilient members, said members having one of their longitudinal edges attached to said roller, the other edge extending outward therefrom, a cylindrical sleeve arranged to telescopically engage the outwardly extending edges of said resilient member, and a cover of material having a deep fibrous pile, said cover attached to said sleeve to permit removal of said cover with said sleeve from said roller.

3. A paint applicator of the character described comprising in combination a handle, a shaft, said shaft supported on one end by said handle, a roller, said roller consisting of a pair of cylindrical end bearings mounted to said shaft, a plurality of resilient members extending longitudinally with said shaft from one bearing to the other, said resilient members attached to said bearing at one of their edges and having the other edge extending outward from the peripheral face of said bearing, a sleeve, said sleeve forming the cylindrical backing element, said sleeve constructed of a material sufficiently resilient to retain its shaft, and a cover of material having a deep fibrous pile, said cover adherently attached to the outer periphery of said sleeve to permit its removal with said sleeve from said roller.

LAWRENCE P. A. TOUCHETT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,432,940	Yates	Oct. 24, 1922
1,757,228	Albertson et al.	May 6, 1930
1,803,357	Robins	May 5, 1931
1,886,136	Taylor	Nov. 1, 1932
2,231,738	Shoup	Feb. 11, 1941
2,278,794	Nelson	Apr. 7, 1942
2,298,682	Dahlstrom	Oct. 13, 1942