

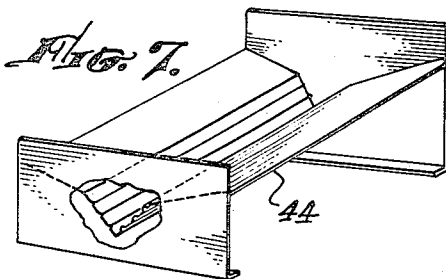
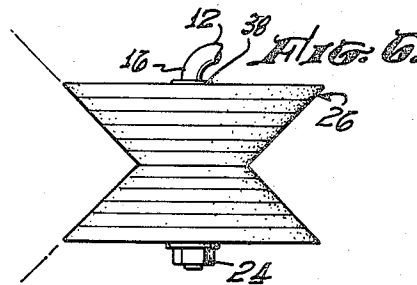
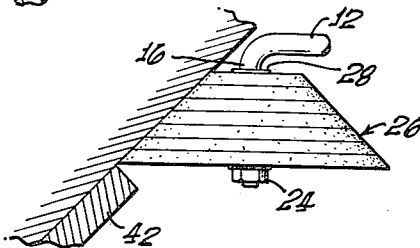
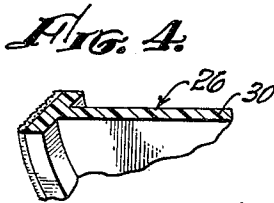
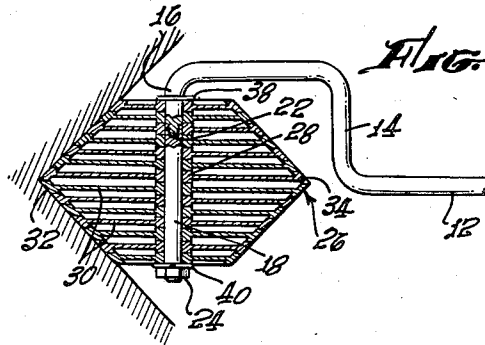
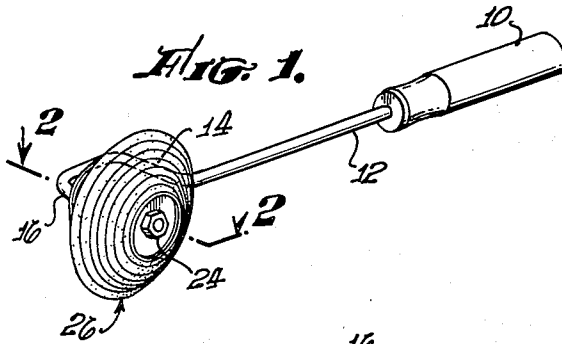
March 22, 1960

W. "L" NALL

2,929,089

PAINT APPLICATOR FOR CORNERS

Filed Oct. 6, 1958



WARREN "L" NALL,  
INVENTOR.

BY  
Bonard I. Brown  
ATTORNEY.

1

2,929,089

## PAINT APPLICATOR FOR CORNERS

Warren "L" Nall, Pomona, Calif.

Application October 6, 1958, Serial No. 765,608

5 Claims. (Cl. 15—230)

This invention relates generally to an improved paint applicator; more particularly, it relates to a roller applicator for applying paint to adjoining surfaces defining corners.

Although roller applicators have been utilized in the prior art for applying paint or the like to flat surfaces and to corners, there has long existed a need for an applicator capable of providing corner painted surfaces which are uniform with adjacent surfaces painted with roller applicators. It is highly desirable that surfaces adjacent to corners be painted with a roller applicator, rather than with a brush, in order that these surfaces may have a finish which is uniform with the finish of other areas painted with roller applicators. Heretofore, it has been a common practice to paint such surfaces with brushes. This has proved unsatisfactory because of the different surface finishes produced by brushes and roller applicators. Corner rollers of the prior art have generally proved unsatisfactory because of their tendency to smear the paint finish. Smearing has resulted from the fact that different areas of a tapered roller surface move at different linear speeds because of their different distances from the axis of rotation. Areas moving at relatively high linear velocities therefore tend to slide against the surface being painted rather than rolling on the surface.

The present invention provides an applicator having a tapered roller surface formed by a plurality of separate rotors. Each of the rotors is free to rotate independently on a common spindle or axis. The frusto-conical peripheral surfaces of the rotors cooperate to define a tapered roller surface for applying paint to a surface. The smearing of paint is substantially eliminated, because the variation in linear velocity along the frusto-conical surface of a rotor is relatively small.

The rotors may be assembled in different configurations on their common axis, in order to adapt the applicator for use in different types of restricted areas to be painted. This versatility increases the utility of the device of the present invention by enabling it to be utilized in corners and areas otherwise inaccessible to paint rollers. To facilitate this versatility of assembly, detachable spindles may be provided for selective use with the applicator of this invention.

It is therefore an object of the present invention to provide a roller applicator for applying paint uniformly to adjacent surfaces defining corners.

An object of this invention is the provision of an improved paint applicator adapted for the rapid and convenient application of paint to surfaces defining corners.

It is an object of this invention to provide a roller applicator capable of applying paint in corners without substantial slipping or wiping action between areas of the applicator.

An object of the present invention is the provision of a paint applicator adapted for painting in corners by the provision of a plurality of independently rotatable rotors of different diameters.

2

An object of the present invention is the provision of a paint applicator for painting corners or the like which is adapted for assembly in different roller surface configurations by the provision of a plurality of rotors which are mountable on a common spindle in various selected combinations.

Other objects and features of the present invention, as well as many advantages thereof, will become apparent to those skilled in the art from a consideration of the following description, the appended claims and the accompanying drawings, in which:

Figure 1 is a perspective view of a preferred embodiment of the corner paint applicator of the present invention;

Figure 2 is a sectional view taken at line 2—2 of Figure 1, showing the paint roller of Figure 1 in operative relation with a corner being painted;

Figure 3 is a fragmentary view showing rotors of the applicator of Figure 1 assembled in a modified configuration for painting a single surface;

Figure 4 is a fragmentary view, partially in section, showing certain details of a rotor utilized with the paint applicator of the present invention;

Figure 5 is a detailed view of the spindle utilized with the applicator of this invention;

Figure 6 is a fragmentary view showing a modified assembly of the rotors of the paint applicator of Figure 1; and

Figure 7 is a perspective view of a pan utilized in supplying paint to the applicator of this invention.

Referring to the drawing, and particularly to Figures 1 and 2, there is shown a preferred embodiment of the corner paint applicator of the present invention. The applicator includes a handle 10 secured to a shank 12. The shank is bent to form three elbows, as shown, which define portions 14 and 16, disposed at right angles to the shank and the handle 10. A spindle 18, shown in detail in Figures 2 and 5, is secured to the end of shank portion 16 by threaded engagement of its threaded opening with a reduced threaded end portion of the shank portion. The spindle has a reduced threaded end portion for receiving a nut 24 which secures the applicator assembly together.

The roller applicator surface is formed by a plurality of separate rotors 26, each of which is separately rotatable on the spindle. Each rotor has a central hub 28, which is journaled on the spindle 18, and an intermediate disc or web portion 30 extending between the hub and a peripheral rim. As shown, the frusto-conical surface 32 of each rotor is disposed at an angle of 45 degrees to the axis or spindle 18. The rotors are of graduated diameters, so that when assembled in adjacent relationship their peripheral surfaces cooperate to define a continuous tapered or frusto-conical surface or surfaces. The hubs 28 of the rotors are in abutting relationship and are secured on the spindle 18 by a flange or washer 38 on shank portion 16 and by a second washer 40 secured by the nut 24 on the spindle. In Figure 2 the rotors are shown assembled with the central rotors defining the apex of a corner by means of their oppositely inclined peripheral surfaces.

The peripheral surface of each rotor is covered with a material which is suitable for receiving and retaining paint for application to a surface when the rotors are rolled upon the surface. Such materials are well known in the art and include such materials as fabric or wool.

As hereinbefore indicated, the applicator of the present invention may be assembled with the rotors in various arrangements for adapting the applicator for use in different types of corners or in other relatively inaccessible locations.

The assembly shown in Figures 1 and 2 is adapted for the simultaneous application of paint to two perpendicular surfaces which define a corner. In Figure 3 is shown an assembly of rotors for painting a corner or area adjacent to a woodwork member 42, which is inaccessible to conventional rotors. A shorter spindle 18 is utilized in this assembly, thereby preventing the spindle from extending from the rotors in a manner which would interfere with applicator operation by contacting obstructions such as woodwork member 42. The assembly shown in Figure 6 is adapted for the painting of an outside corner.

From the foregoing description, those versed in the art will understand the operation of the paint applicator of the present invention. The preferred method of applying paint to the applicator is that of rolling the applicator in a pan such as the pan 44 shown in Figure 7, which has an angular configuration conforming to the tapered surface or surfaces of the particular assembly of rotors being utilized. The applicator is then applied to the surface or surfaces to be painted and is rolled along the surface to apply the paint. To apply paint in a corner, the applicator is positioned as shown in Figure 2, and is rolled along the corner to apply paint to both intersecting surfaces at the same time. Slipping or wiping of rotor surfaces on the surface to be painted is substantially prevented, with the result that a uniform rolled paint surface is provided, this surface matching nearby surfaces painted with conventional rollers. As mentioned hereinbefore, if the tapered or frusto-conical applicator surface were formed by a single member, areas of a surface having higher linear velocity because of their greater distances from the axis, would tend to slide or wipe against the surface being painted. This would result in smearing or wiping of the paint and the surface painted by the tapered roller would not be uniform with other areas painted by conventional rollers. As the rotors of the applicator of the present invention are rolled upon the surface to be painted, each individual rotor is free to rotate independently. It will be appreciated that the rotors will therefore rotate at different rotational speeds because of the different diameters, but that the rotors will have substantially the same linear velocity at the surface being painted. There will be slight difference in the linear velocity along the surface of each individual rotor, but this difference will be insufficient to cause undesirable wiping or smearing of paint.

From the foregoing description, those skilled in the art will understand that the present invention provides a novel roller applicator which is capable of quickly and conveniently applying paint or the like in corners or in relatively obstructed locations, while providing a paint surface which matches other rolled surfaces. It obviates the necessity of using brushes or other roller means which destroy the over-all surface uniformity.

Although a specific embodiment of the present invention has been described and illustrated in detail, it is to be clearly understood that the same is by way of illustration and example only; it is to be understood that the invention is not to be limited thereto, as many variations will be readily apparent to those versed in the art and the invention is to be given its broadest possible interpretation within the scope of the appended claims.

#### The inventor claims:

1. A paint applicator comprising shank means, spindle means attached to the shank means, and a plurality of rotors of graduated diameter rotatably mounted on the spindle means, each of the rotors having a peripheral rim angularly disposed relative to the spindle means and having surface means adapted to carry paint for application to a surface to be painted, said peripheral rims cooperating to define a composite tapered roller for applying paint to said surface, whereby the rotors are individually rotatable on said surface to effect substantially equal linear velocity of said peripheral rims for producing a substantially uniform paint finish.

2. A paint applicator comprising shank means, spindle means attached to the shank means, and a plurality of rotors of graduated diameter rotatably mounted on the spindle means, each of the rotors having a peripheral rim angularly disposed relative to the spindle means and having surface means adapted to carry paint for application to a surface to be painted, said peripheral rims cooperating to define at least one composite tapered roller surface for applying paint to said surface to be painted, whereby the rotors are individually rotatable on said surface to effect substantially equal linear velocities of said peripheral rims for applying paint to restricted surfaces.

3. A paint applicator comprising shank means having a spindle attached thereto, and a plurality of rotors of graduated diameters rotatably mounted on the spindle, each of the rotors having a peripheral rim angularly disposed relative to the spindle and having surface means adapted to carry paint for application to surfaces to be painted, the rotors being assembled on the spindle to define oppositely inclined frusto-conical roller surfaces for applying paint in a corner.

4. An applicator for applying paint to a restricted surface adjacent to an obstruction, said applicator comprising a shank having a handle thereon, a spindle detachably mounted on the shank, and a plurality of rotors of graduated diameter rotatably mounted on the spindle, each of the rotors having a peripheral rim angularly disposed relative to the spindle and having surface means adapted to carry paint for application to a surface to be painted, said peripheral rims cooperating to define a composite tapered roller for applying paint to said restricted surface, the spindle length being predetermined to accommodate the number of rotors required for applying paint to said restricted area without striking said obstruction, whereby said rotors are individually rotatable on the spindle for applying paint to said restricted surface.

5. A paint applicator according to claim 4, wherein said spindle is threadedly attached to a portion of said shank perpendicular to said handle to facilitate manual operation of the applicator.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

|           |          |               |
|-----------|----------|---------------|
| 492,613   | Pierce   | Feb. 28, 1893 |
| 1,714,532 | Walter   | May 28, 1929  |
| 2,007,737 | Anderson | July 9, 1935  |
| 2,538,241 | Guimond  | Jan. 16, 1951 |