Nov. 3, 1970 F. MOCERI 3,537,800

PAINT RESERVOIR AND APPLICATOR ASSEMBLY

Filed Oct. 10, 1968

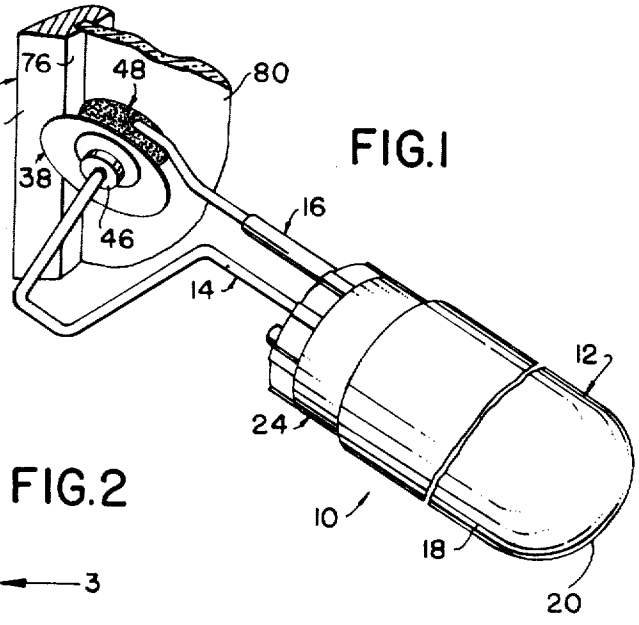


FIG.1

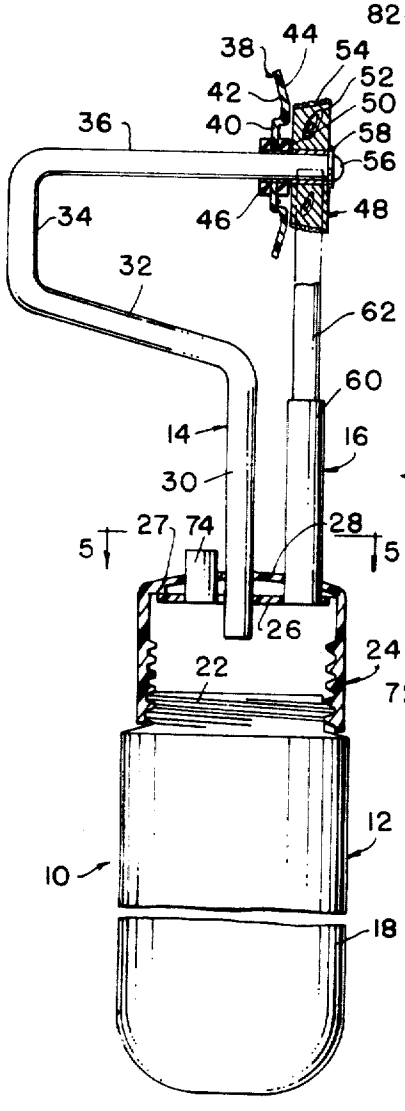


FIG.2

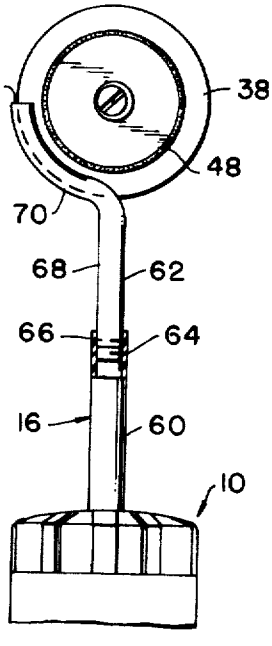


FIG.3

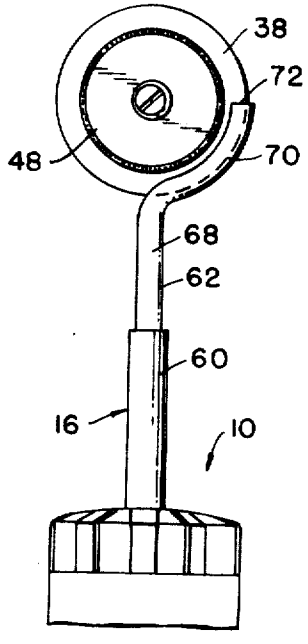


FIG.4

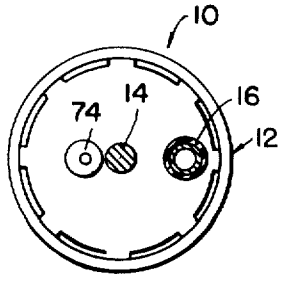


FIG.5

INVENTOR
FRANCESCO MOCERI

BY Whittemore, Hulbert & Belknap
ATTORNEYS

United States Patent Office

3,537,800
Patented Nov. 3, 1970

3,537,800

PAINT RESERVOIR AND APPLICATOR ASSEMBLY

Francesco Moceri, 733 Lantz W., Detroit, Mich. 48203

Filed Oct. 10, 1968, Ser. No. 766,460
Int. Cl. B44d 3/28
U.S. Cl. 401—193 7 Claims

ABSTRACT OF THE DISCLOSURE

A paint reservoir and applicator assembly is provided. The assembly includes a handle structure which carries an axle. The handle structure comprises a flexible paint reservoir. A roller is rotatably mounted on the axle along with a guide wheel. The roller has an outer paint receiving and transferring surface which is tapered inwardly towards the center of the roller. The guide wheel also has an angled surface for guiding the mechanism during use. A nozzle extends from the reservoir to the roller. Paint may be dispensed from the reservoir to the roller by manual depression of the handle structure. The outer portion of the nozzle is curved around the guide wheel to dispense paint tangentially onto the guide wheel. This portion may be rotated 180° to a position on either side of the roller to facilitate use of the assembly at different angles and positions and with the roller rotating in different directions.

BACKGROUND OF THE INVENTION

A common problem in the painting of architectural surfaces is the coating of edge strips or surfaces adjacent to surfaces which are not to be painted. For example, the sash edge surface of a window which is adjacent to the window glass must be painted without applying paint to the glass. Similarly, a molding strip along a wall is frequently painted a different color than the wall surface. Therefore, when the molding strip is painted, care must be taken not to apply paint to the wall surface. In the past, painters have utilized a small brush and laboriously painted such trim surfaces. Not only is such painting time consuming but frequently the surface which is not desired to be painted is inadvertently coated. In my copending application Ser. No. 721,389, filed Apr. 15, 1968, I have disclosed a paint trim roller and adjustable guide assembly which permits the painting of said trim surfaces quickly and efficiently without applying paint to the surface which is not to be painted. That assembly incorporates a roller mechanism which may be provided in different sizes to accommodate different widths of surfaces. A guide wheel is provided for guiding the mechanism during the painting operation. The guide wheel does not carry paint. The guide wheel may be adjusted with reference to its distance from the roller so that different sized trim moldings may be painted.

The present invention comprises a modification and improvement of the device just disclosed. In the present invention, I have provided a handle structure which includes a flexible paint reservoir with a nozzle extending from the reservoir to the roller. Squeezing of the handle results in paint being automatically dispensed from the reservoir onto the roller. The nozzle includes a portion which may be turned 180° to thereby permit dispensing

of paint onto the roller on either side thereof. Additionally, the present invention provides adjustable collar means which frictionally engage the axle upon which the roller and guide wheel are mounted which permit quick and easy adjustment of these members and which are in themselves inexpensive to manufacture.

SUMMARY OF THE INVENTION

The paint reservoir and applicator assembly comprises a handle structure. An axle is carried by the handle structure. A roller is rotatably mounted on the axle. The roller has an outer paint receiving and transferring surface. A guide wheel is also rotatably mounted on the axle. The handle comprises a flexible paint reservoir. A nozzle extends from the reservoir to the roller. Paint may be dispensed from the reservoir onto the roller by manual depression of the handle structure.

The nozzle includes an outer portion which is rotatable 180° to be positioned on either side of the roller. This portion is curved around the roller to provide an angle of dispensing which is substantially tangential to the outer periphery of the roller. Adjustable spacing means are provided to position the roller and guide wheel at predetermined distances apart. The spacing means includes a pair of press-fit collars.

In the drawing:

FIG. 1 is a view in perspective of a paint reservoir and applicator assembly forming one embodiment of the present invention illustratively shown in use;

FIG. 2 is an elevational view of the device of FIG. 1 with portions of the applicator in section;

FIG. 3 is a view of the upper portion of the device of FIG. 2 as viewed in the direction of the arrow;

FIG. 4 is a view similar to FIG. 3 with the dispensing nozzle rotated 180°; and

FIG. 5 is a view in section taken substantially along the line 5—5 of FIG. 2 looking in the direction of the arrows.

The paint reservoir and applicator assembly **10** comprises a hand engageable tubular reservoir member **12** from which extends a cylindrical rod **14** and a dispensing nozzle **16**. The reservoir **12** is preferably fabricated of a flexible plastic material such as nylon which may be deformed by squeezing to dispense the contents of the reservoir, namely, liquid paint. The reservoir **12** comprises a tubular side wall structure **18** the lower end of which is enclosed by a bottom wall **20**. The upper end of the reservoir is provided with an externally threaded neck **22**. An internally threaded cap **24** is received on the neck **22**. The cap **24** encloses the upper end of the reservoir and may be removed for filling or emptying of the reservoir.

The rod **14** and nozzle **16** are mounted on the cap **24**. As will be noted in FIG. 2, a disc **26** is received within the cap **24**. The diameter of the disc **26** is slightly less than the interior diameter of the cap for reception of the disc **26** within the cap. A lip **27** is provided in the cap to space the disc apart from the upper end wall **28** thereof. The rod **14** extends through openings in the disc **26** and in wall **28** of the cap to thereby be frictionally secured at two spaced apart points to result in a stable mounting of the rod free from wobble.

The rod **14** has a first straight portion **30** which extends outwardly from the reservoir **12**. The rod **14** is then bent

at an angle somewhat less than right angularly and a second straight portion **32** extends therefrom. The portion **32** merges with a straight portion **34** which is bent somewhat less than right angularly thereto and which in turn merges with a straight portion **36** bent right angularly thereto and back toward the straight position **30**.

The straight portion **36** serves as an axle for rotatably mounting a disc-like guide wheel **38**. The guide wheel **38** is preferably fabricated of a plastic material. A hub **40** is provided on the guide wheel **38**. A flange **42** extends radially outwardly from the hub **40**. The flange **42** has a convex face **44** which acts as a guide surface in use of the device. A split-ring collar **46** is frictionally received on the portion **36** in abutment with the hub **40**. The collar **46** serves to retain the guide wheel **38** in the position shown. The guide wheel **38** may be moved to different positions along the portion **36** by sliding the collar **46** and guide wheel **38** to the desired position on the portion **36**.

A disc-like roller member **48** is received on the portion **36** forwardly of the guide wheel **38**. The roller member **48**, like the guide wheel **38**, is freely rotatable on the portion **36**. A second press-fit split-ring collar **50** is provided on the portion **36** between the guide wheel **38** and roller member **48**. The collar **50** serves to retain the roller member **48** in place and to space the guide wheel **38** and roller member **48** apart the desired distance. Various sized collars may be used to permit variations in the distance between the guide wheel **38** and roller member **48** as necessary for a particular job. Both the collars **46** and **50** are preferably fabricated of a plastic material having sufficient resiliency to maintain frictional engagement with the portion **36** and thus retain the guide wheel **38** and roller member **48** in place during use of the device.

The outer peripheral edge **52** of the roller **48** is beveled inwardly toward the guide wheel **38**. The edge **52** is covered by a covering **54** of a fabric material suitable for receiving paint and transferring the same to surfaces which it is desired to paint. The covering **54** is preferably a material which has nap or hairs which project radially outwardly. The covering material may be, for example, velvet, felt, woven cloth, pile fabric, carpeting, or the like.

It will be appreciated from the description thus far that either or both of the guide wheel **38** or roller **48** may be removed and replaced with a member of different diameter or thickness to the end that the device may be used on a variety of different jobs. For example, rollers of from $\frac{1}{16}$" to 3" may be provided.

A screw **56** is received in a threaded opening in the end of the portion **36** with a washer **58** being placed between the head of the screw and the end of the portion **36** to thereby lock the various elements onto the portions **36**.

The nozzle **16** comprises a first tubular element **60** which is fixed in position and which extends from an opening in the disc **26** through an opening in the end wall **28** and terminates exteriorly of the reservoir **12**. A second tubular member **62** is rotatably received in the outer end **64** of the tubular member **60**. The tubular member **60** may be fabricated of a plastic material while the tubular member **62** may be fabricated of a metallic material. It will be noted that the end **66** of the tubular member **62** is threaded. This threaded portion provides a frictional connection between the tubular members while still permitting rotation of the tubular member **62**. The tubular member **62** has a first straight portion **68** which extends toward the roller **48** and terminates just short thereof. A curved portion **70** then extends around the roller **48** and terminates in an open end **72**. The curvature of portion **70** is substantially the same as the curvature of the roller **48** and thus paint is dispensed tangentially onto the edge **52** of the roller.

A vent tube **74** extends from an opening in the disc **26** through an opening in the end wall **28** and terminates a short distance outside of the cap **24**. The vent **74** permits the ingress of air into the reservoir **12** as liquid is dispensed therefrom.

Operation of the assembly **10** may now be understood. Referring to FIG. 1, the assembly **10** is designed to paint an edge surface such as the edge **76** of a sash frame **78**. It will be noted that the edge **76** extends to the surface of the sash glass **80**. It is, of course, not desired to have any paint applied to the glass. The assembly **10** is first set up for painting the particular sash in question. This involves selecting a roller **48** the edge surface **52** of which is equal to the width of the edge **76** to be painted. This roller is mounted on the assembly. The guide wheel **38** is then adjusted to a position where the distance between the face **44** of flange **42** is such that the face **44** will contact and roll on the sash frame surface **82** with the edge **52** of the roller riding on the edge **76** of the sash frame without having any contact with the glass **80**. The bevel of the roller edge **52** angles the roller away from the glass to prevent inadvertent contact of the roller with the glass. The face **44** of the guide wheel **38** provides an even surface for maintaining the roller **48** in the position illustrated in FIG. 1. The physical dimensions of the assembly **10** govern the path and swath of roller **48** with the results that the edge **76** is entirely coated with paint without any of the paint being applied to the glass **80**.

During the painting operation, the side wall **18** of the reservoir **12** may be squeezed to cause dispensing of paint from the nozzle **16** through the open end **72** thereof onto the roller **48** as needed. It will thus be appreciated that it is not necessary to apply paint to the roller **48** from an external paint supply. This convenience permits rapid painting of the sash frame.

As will be noted in FIGS. 3 and 4, the tubular portion **62** may be swung 180° to a position on either side of the roller member **48**. This is desirable when the assembly **10** is to be used in such a fashion that the roller **48** is to be rotated in different directions on the surface to be painted. It is desirable that the nozzle be so positioned as to direct paint in the same direction as rotation, that is, in FIG. 3, the roller **48** preferably rotates clockwise while in FIG. 4 the roller **48** preferably rotates counterclockwise. This is, however, not necessary. The roller may rotate in either direction while paint is being dispensed thereon and, in some cases, the position of the tubular member **62** is shifted so that it will be out of the way of the structure to be painted and permit the assembly to be used at different angles and positions.

What I claim as my invention is:

1. A paint reservoir and applicator assembly comprising a handle structure, an axle carried by said handle structure, a roller rotatably mounted on the axle, said roller having an outer paint receiving and transferring surface, a guide wheel rotatably mounted on the axle, said handle comprising a flexible paint reservoir, and a nozzle extending from the reservoir to the roller whereby paint may be dispensed from the reservoir onto the roller by manual compression of the handle structure.

2. An assembly as defined in claim **1** and further characterized in that said nozzle includes an outer tubular portion, said tubular portion being rotatable, the outer section of said tubular portion being curved around the roller and terminating in an open end directed generally tangentially to the outer periphery of the roller, said tubular portion being rotatable to positions 180° displaced with respect to the roller.

3. An assembly as defined in claim **1** and further characterized in the provision of adjustable press-fit collar means to position said roller and guide wheel on said axle at predetermined distances apart.

4. An assembly as defined in claim **3** and further characterized in that said collar means comprises at least one collar on said axle for each of the roller and guide wheels, said collars being positionable adjacent the respective roller and guide wheel to restrain longitudinal movement thereof along the axle, each collar being frictionally retained on the axle to restrain longitudinal movement of the collars along the axle.

5. An assembly as defined in claim 1 and further characterized in that a U-shaped support is provided at the outer end of the handle structure, said axle forming the outermost leg of said U-shaped support, the end of said axle terminating at a point beyond the nozzle, said roller and said nozzle being in alignment with each other.

6. An assembly as defined in claim 5 and further characterized in that said handle structure includes spaced apart wall means, said U-shaped support including a portion extending into the handle structure and secured to the spaced apart wall means to thereby provide a stable mounting.

7. An assembly as defined in claim 6 and further characterized in that said nozzle structure is secured to said spaced apart wall means.

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HARLAND S. SKOGQUIST, Primary Examiner

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