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Smith et al.

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[54] **ADJUSTABLE DRIP SHIELD FOR PAINT ROLLER**

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[52] **U.S. Cl.** ..... **15/248 A**

[51] **Int. Cl.** **B44d 3/28,** B44d 3/40

[58] **Field of Search** ..... 15/248 A, 248 R, 15/230.11, 105, 104.8; 401/218; 229/30–34, 5.5

[56] **References Cited**

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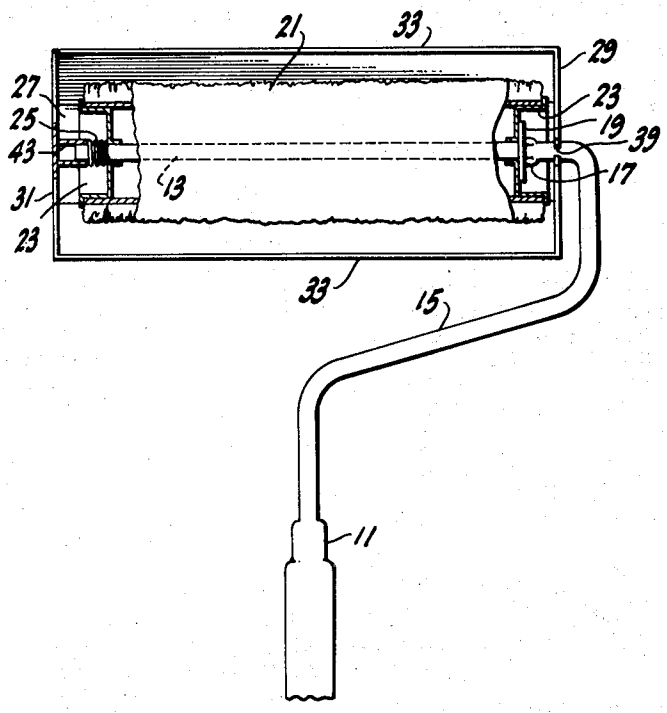
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[57] **ABSTRACT**

A drip shield is removably attached to a conventional paint roller by frictional engagement on the shaft of the roller itself whereby the position of the shield with respect to the handle of the roller may be varied at will.

4 Claims, 6 Drawing Figures



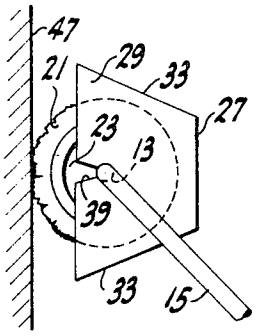


FIG-2

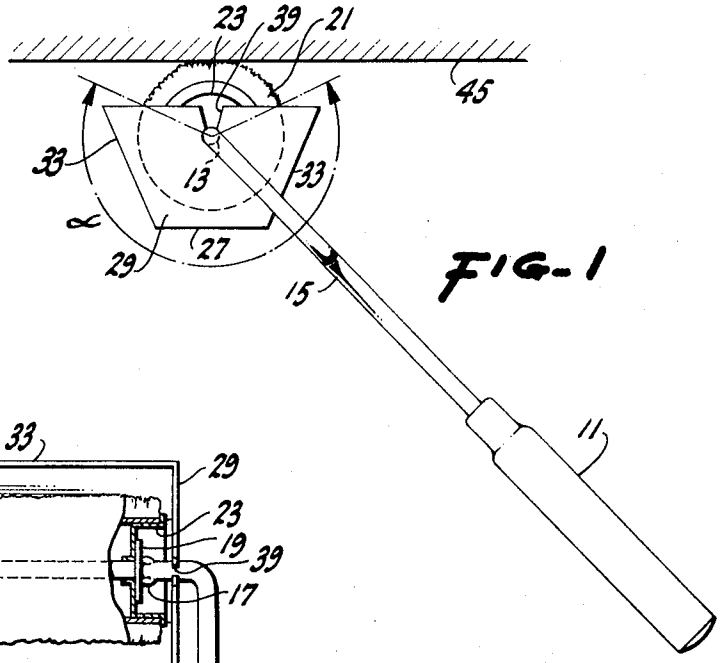


FIG-1

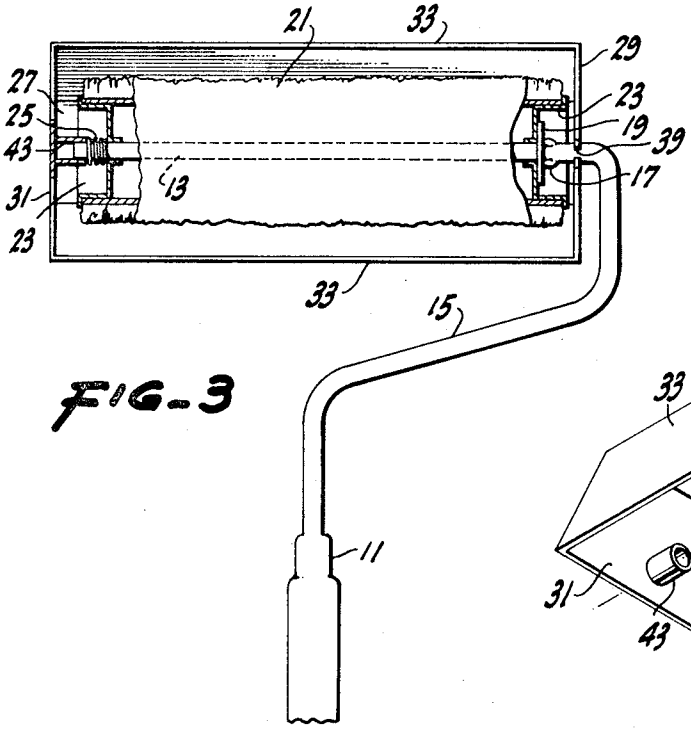


FIG-3

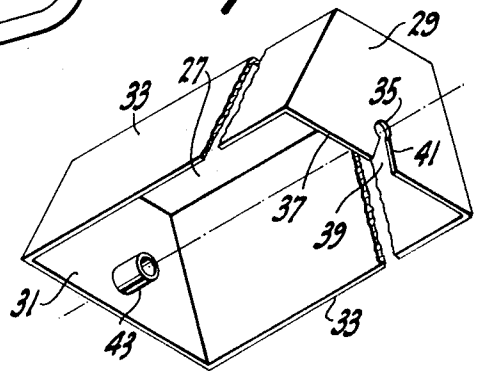


FIG-4

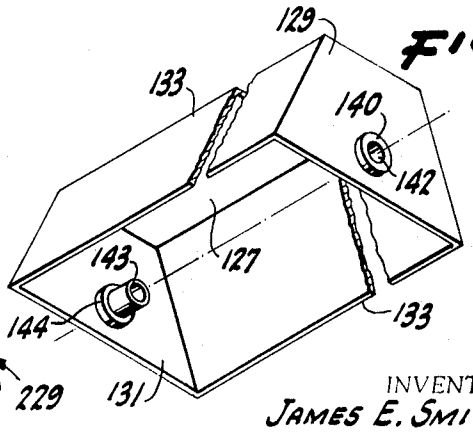


FIG-5

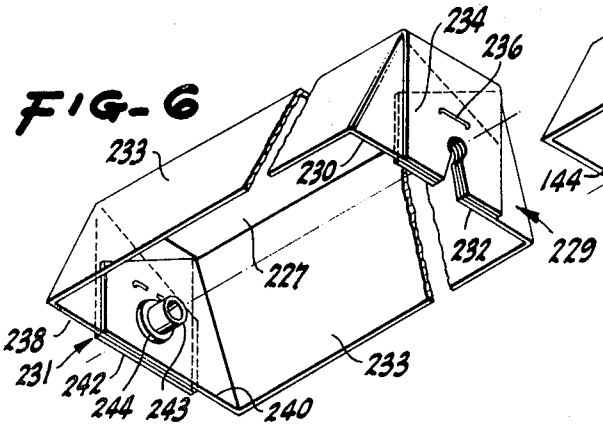


FIG-6

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ADJUSTABLE DRIP SHIELD FOR PAINT ROLLER

BACKGROUND OF THE INVENTION

Since the development and high popularity of roller type applicators for paint, numerous attempts have been made to provide a shield for the spatter and drip from the roller while operating along both walls and ceilings. In almost all cases, however, the shield has been attached to the handle of the roller in a rigid fashion whereby the position of the shield has been fixed by the position of the roller handle. Consequently, the shield had to be held in a universal position to accommodate its use both along walls and along ceilings. One of the results of this rigid fixation to the handle has been that the shields of the prior art have been such as to not permit a substantial enveloping of the roller itself. Thus, they were effective only to prevent that portion of the spray from the roller which is almost directly backward toward the handle. While some attempts have been made to more fully envelope the roller, this has been accomplished in the past only by the use of relatively cumbersome alterations of the shaft and conformation of the drip shield itself. Even these alterations have been possible only with fairly expensive construction of the shield.

SUMMARY OF THE INVENTION AND OBJECTS

The invention is incorporated in a drip shield for rollers which is held in fixed but adjustable position about the shaft or axle of the roller itself. The position of the guard relative to the handle may be varied by merely rotating the shield about the roller shaft. The shield may be held in a given position about the shaft of the roller by any suitable means such as by frictional engagement.

In general it is an object of the present invention to provide a drip shield for a paint roller which is easily adjustable so that the roller might be used either on walls or on ceilings.

Another object of the invention is to provide a drip shield which is not only inexpensive to manufacture but quite simple to attach and to use.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view illustrating a roller and drip shield in accordance with the invention arranged for applying paint to a ceiling;

FIG. 2 is a view similar to FIG. 1 but showing the roller and shield arranged for applying paint to a wall;

FIG. 3 is a bottom plan view of the drip shield and roller shown in FIGS. 1 and 2;

FIG. 4 is a bottom perspective view of the drip shield shown in FIGS. 1, 2 and 3;

FIG. 5 is a bottom perspective view similar to FIG. 4 but showing an alternative embodiment of the invention; and

FIG. 6 is a view similar to FIG. 4 but showing another alternative embodiment to the invention wherein the drip shield is formed by folding a flat blank.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1, 2 and 3 there is shown a paint roller of the usual type including a handle 11 and a roller shaft 13 joined together by an arm 15. The shaft 13 includes a raised stop or upset 17 against which is positioned a spacer or washer 19. A paint roller or applicator 21 having end pieces 23 is rotatably positioned on the shaft 13 and held in place against the washer 19 by a spring clamp 25 or the like. The device thus far described is a paint roller of the conventional type and forms no part of the present invention except in combination with the drip shield hereinafter described.

The drip shield itself is a generally basket shaped device including a back portion 27, an inner end portion 29, an outer end 31 and side walls 33. The back portion 27 and side walls 33 together form a deflector wall to prevent paint from being sprayed from the roller. The end portions 29 and 31 cooperate with the deflector wall to form a basin for receiving paint which has been sprayed or dripped from the roller. In the embodiment of the drip shield shown in FIGS. 1, 2 and 3 and even more fully in FIG. 4, the end wall 29 includes an opening 35 having a diameter slightly smaller than that of the shaft 13. The opening 35 communicates with the free edge 37 of the end wall 29 by means of a wedge shaped cut 39. The cut 39 intercepts the opening 35 to provide a restriction 41 having a dimension substantially less than the diameter of the opening 35.

The opposite or outer wall 31 carries an inwardly extending tubular portion 43 which has an inside diameter sligthly smaller than the diameter of the shaft 13. Alternatively, the outer wall 31 may also be provided with an opening and cut as illustrated in FIG. 4 on the inner wall 29. The entire drip shield shown in FIG. 4 may be formed of a semirigid plastic such, for instance, as polyethylene.

This particular embodiment of the drip shield may be applied to the roller simply and quickly by first forcing the tube 43 onto the end of the shaft 13 and then snapping the opening 35 on the other side of the roller itself. Since the opening 35 and the inner diameter of the tube 43 are both slightly smaller than the diameter of the shaft 13 itself the drip shield is held in angular position with respect to the handle of the roller merely by frictional engagement on the shaft. It is quickly seen that the position of the drip shield may be located as shown in FIG. 1 whereby the roller is arranged to apply paint to a ceiling 45. By simply twisting the drip shield about the shaft 13 the relative position of the shield and the handle may be changed to that as shown in FIG. 2 whereby the roller is positioned to apply paint to a wall 47.

Because of the ability to quickly change the position of the drip shield with respect to the handle 11 the shield itself can envelope the major portion of the roller 21 itself. Consequently, the drip shield of the present invention permits enveloping the roller significantly more than the 180°, or less, permitted by the shields of the prior art without cumbersome and relatively expensive adjustment devices. As seen in FIGS. 1 and 2 the angle δ by which the roller is enveloped is approximately 230° or even more.

Referring to FIG. 5 an alternative embodiment is shown with elements designated by reference numerals numerically 100 higher than similar elements shown in FIG. 4. In the embodiment as shown in FIG. 5 the openings 35 and 39 are replaced by a grommet 140 situated in a drilled hole 142. With this variation of the device the drip shield is applied by first removing the roller 21 from the shaft 13, sliding the grommet 140 onto the shaft 13 past the upset portion 17 and then replacing the roller 21. The tube 143 (or a tube identical to the tube 43 of FIG. 4) is then placed onto the end of the

shaft **13** in the manner previously described. Specifically the tube **143** rather than being formed integrally with the drip shield, as is the tube **43**, is formed integrally with a grommet **144** which is inserted in a drilled opening in the wall **131**.

Referring further to FIG. **6** another embodiment of the invention is shown wherein the elements are designated by reference numerals numerically two hundred higher than similar elements shown in FIG. **4**. Here the drip shield, rather than being preformed as in the previously described embodiments, is formed by folding a precut blank such as of peper. In this embodiment leaves **230, 232** and **234** are overlapped and stapled together as at **236** to form the end wall **229**. Similarly the leaves **238, 240** and **242** are overlapped to form the wall **231**. In this instance the leaves **238, 240** and **242** may be held together by a grommet **244** through which a tube **243**, similar to the tube **43**, previously described, is forced. The operation of the drip shield, as shown in FIG. **6**, once it is fabricated as shown therein, is identical to that shown in FIG. **4**.

While the above embodiments of the invention have been defined in specific terms, it will be obvious to those skilled in the art, that variation may be made without departing from the spirit and scope of the invention. For instance, the back and side walls **27** and **33** may be combined as a single deflector wall having a semicircular cross section. Also, the inner wall **29** and arm **15** may be provided with resilient detent means to assist or replace the frictional engagement between the shaft and the shield as the means for maintaining the position of the shield.

Moreover, the drip shield of the invention could easily be adapted for use on those paint rollers where the shaft **13** does not extend beyond the end of the roller. In such instance, the interconnection between the shaft and the inner wall could be broadened by increasing the thickness of the wall **29**, by using an elongated grommet **140** or by any other device which would permit the shield to be cantilevered from the inner portion of the shaft **13**. In such instances particularly, it may be desirable to eliminate the outer wall **31** to permit the roller to be applied to corners more closely.

We claim:

1. A drip shield for use on paint applicators of the type having a handle, a roller shaft, an arm interconnecting said handle and roller shaft and a paint roller rotatable on said roller shaft, said drip shield comprising a deflector wall adapted to be disposed about the major portion of the cylindrical surface of the roller, end walls connected to the ends of said deflector wall, said end walls defining resiliently expandable shaft openings for receiving the roller shaft, said shaft openings, in their relaxed condition, being slightly smaller than the roller shaft whereby the end walls are adapted to frictionally engage the shaft and provide the sole means to support said deflector wall on the shaft and to retain it in angular position about the shaft.

2. A drip shield as defined in claim **1** wherein at least one of said end walls includes a grommet, said grommet being adapted to frictionally engage said shaft.

3. A drip shield as defined in claim **1** wherein one of said end walls includes a tube extending inwardly toward the other of said end walls, said tube being adapted to frictionally engage the outer end of said roller shaft.

4. A drip shield as defined in claim **1** wherein at least one of said end walls further defines a wedge shaped opening communicating between said shaft opening and a free edge of the end wall, the intersection of said shaft opening and said wedge shaped opening having a dimension substantially less than the shaft opening.

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