Feb. 4, 1958 J. J. CARRABINE 2,821,734

PAINT BRUSH GUARD

Filed May 4, 1954

Fig 1

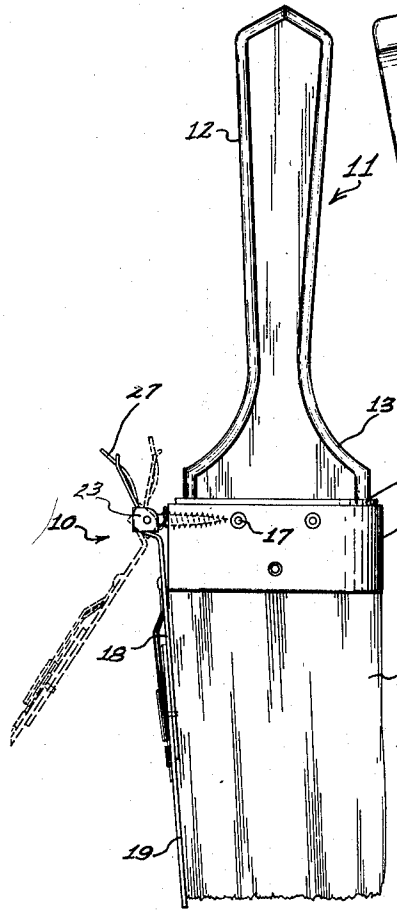



Fig 5

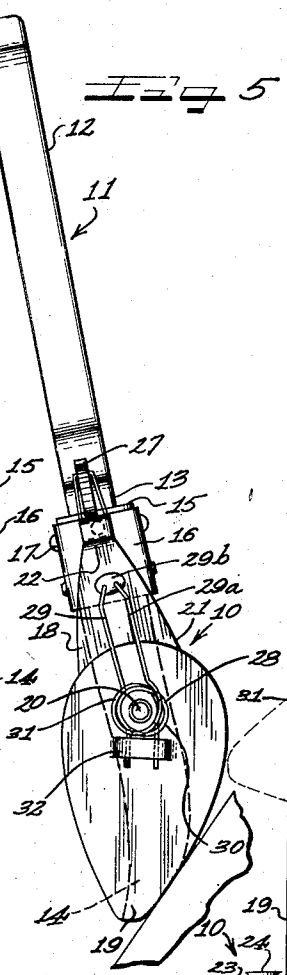



Fig 2

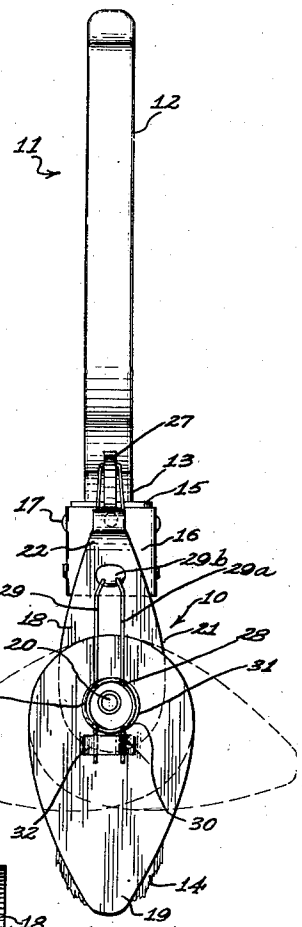



Fig 4

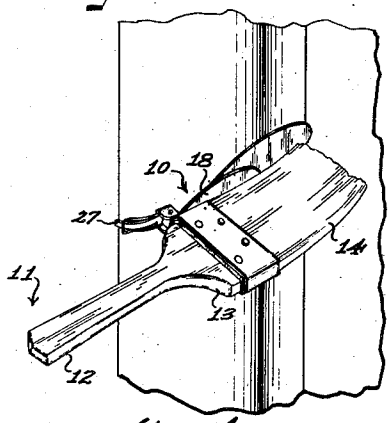
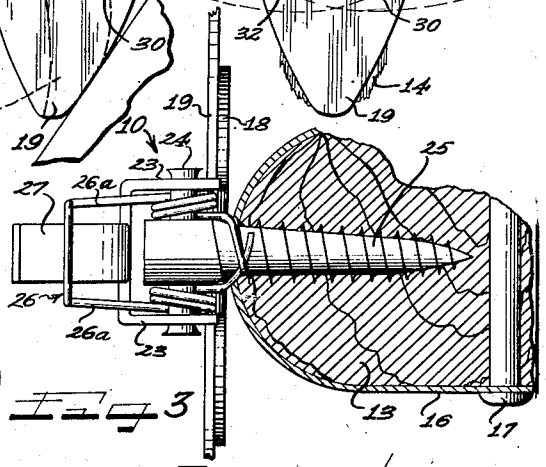



Fig 3




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United States Patent Office 2,821,734 Patented Feb. 4, 1958



2,821,734

# PAINT BRUSH GUARD

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Application May 4, 1954, Serial No. 427,509

2 Claims. (Cl. 15—248)

The instant invention relates to a new and improved type of guide and guard device for use with paint brushes.

More particularly, it relates to a new and improved guide and guard means for facilitating the accurate use of a paint brush in the painting of a window sash, trim, moldings, wall junctions, or various painting operations where it is desirable that paint be applied close to, but not onto a particular adjacent surface.

An object of the instant invention is to provide an improved guide and guard device for a paint brush which is of simple and economical construction and which can be readily applied to the brush as an attachment, or can be incorporated in the brush by the manufacturer.

Another object of this invention is to provide an improved bristle guard for a paint brush which will serve to keep the bristles from contacting an adjacent part or surface which is to be kept free of paint, but which is sufficiently flexible so as not to interfere with or prevent the intended use of the paint brush.

One feature of this invention lies in the provision of a guide and guard device pivotally mounted on the handle of a paint brush for lateral swinging movement toward and away from said brush, thereby permitting the brush to be dipped into a can of paint without the liability of coating the guide and guard device with said paint.

Still another feature of this invention lies in the provision of a guide and guard device for use on a paint brush which comprises a support plate member pivotally mounted on said brush and an oval-shaped guard plate member resiliently mounted on said support member such that said support plate and said guard plate are normally held in a position parallel to and in contact with the bristles on said brush, whereby said guard plate member is adapted to oscillate in a plane parallel to said bristles, thereby preventing lateral deflection of said bristles when the same are flexed during a painting operation.

Other objects, features and advantages of the instant invention will be apparent to those skilled in the art from the following discussion of the annexed sheet of drawings and the appended claims.

On the drawings:

Figure 1 is a front elevational view of a conventional paint brush having the novel guide and guard device of the instant invention mounted thereon;

Figure 2 is a side elevational view similar to Figure 1, showing the manner in which the guard plate oscillates;

Figure 3 is an enlarged fragmentary view of a paint brush handle with parts in section illustrating the manner in which the novel guide and guard device of the instant invention is mounted on a paint brush;

Figure 4 is a perspective view of a paint brush having the instant guide and guard device mounted thereon and illustrating the manner in which said device operates, and;

Figure 5 is a side elevational view of a paint brush in operation illustrating the manner in which the instant guide and guard device operates.

As shown on the drawings:

The instant guide and guard device, shown generally



at 10 in the drawings, may be suitably mounted on any conventional form of paint brush.

The paint brush 11 shown in the drawings, comprises an elongated handle portion 12 and a generally enlarged head portion 13.

A bundle of bristles or brush fibers 14 are mounted on the head portion by means of a suitable rubber sleeve 15 and a thin band or ferrule 16 surrounding the joint between the brush fibers and the head. The ferrule 16 is rigidly mounted in place by suitable pins or rivets 17.

The guide and guard device 10, which is pivotally mounted on one side of the handle 12, comprises a support plate member 18 having an oval-shaped guard plate member 19 oscillatably mounted thereon by means of a pin 20. Both the support plate member 18 and the guard plate 19 may be formed from any suitable material, such as sheet metal, plastic or the like and may be economically and easily produced by die stamping or similar methods.

The support plate member 18 comprises a generally elongated, oval portion 21 terminating in a narrower shank portion 22. Downturned, opposed parallel ears or lugs 23 are formed integrally with the shank portion 22 and provide suitable means for pivotally mounting the guide and guard device 10 on the paint brush 11.

That is, the support plate 18 is pivotally mounted for lateral swinging movement toward and away from the brush 11 by means of a pin, or the like 24 which is journaled in suitably aligned apertures formed in the ears 23. The pin 24 which serves as a fulcruming point for the support member 18, in turn, is mounted in a suitably threaded pin or screw 25 which is threadedly engaged in the head portion 13 of the paint brush 11 as shown best in Figure 3.

The support plate member 18 having the oval guard plate 19 mounted thereon, is normally constantly biased toward the bristles 14 by means of a U-shaped torsion spring 26.

As seen best in Figure 3, the arm portions 26*a* of the spring 26 are spirally wrapped around the pin 24 on either side of the screw 25 while the free ends of the arms 26*a* are anchored or secured by being bent around the shank of the screw 25.

The U-shaped portion of the torsion spring 26 abuts against an outwardly curved thumb piece 27 formed integrally with the support plate 18. The spring loaded effect of the torsion spring 26 on the thumb piece 27 normally and constantly urges the support plate 18 and the guard plate 19 to a position substantially parallel to and in contact with the bristles 14 of the brush 11. That is, in its normal operating position the guide and guard device 10 comprising the support plate 18 and the guard plate 19, extends longitudinally of the bristles 14 and is held in a position substantially parallel to said bristles with the support plate 18 and the guard plate 19 exerting a slight amount of resilient pressure against the bristles 14.

The longitudinal axis of the guard plate 19 is normally resiliently held in an aligned position with the longitudinal axis of the support plate 18 by means of a centering spring 28. The centering spring 28 comprises a double torsion-type spring having longitudinally extending arms 29 and 29*a* mounted on the support plate 18 as at 29*b*. A left hand compression coil 30 is formed in the arm 29*a* intermediate the ends thereof, while a right hand compression coil 31 is formed in the arm 29 intermediate the ends thereof. The free, end portions of the arms 29 and 29*a* are secured by an abutment tab 32 formed on the guard plate 19.

The centering spring 28 enables the oval guard plate 19 to be oscillated, or eccentrically pivoted about the pin 20 either to the right or left as shown in dotted lines in Fig-

ure 2. Whenever pressure is not exerted on the guard plate 19, however, the centering spring will always return the guard plate 19 to an aligned position with the support plate 18 as shown in Figure 2 in dark lines.

In using a paint brush having the instant guide and guard device mounted thereon for applying paint to a surface which is to be accurately painted without the painting of an adjacent, contiguous surface, one first disengages the support plate 18 and the guard plate 19 from contact with the bristles 14 by laterally swinging said support and guard plate away from the bristles 14. This is easily effected by exerting a slight amount of pressure with the thumb or finger on the thumb piece 27. The bristles 14 of the brush 11 are then dipped into a suitable container of paint. After the bristles 14 have taken up the desired amount of paint, the pressure on the thumb piece 27 is released thereby allowing the torsion spring 26 to bring the support plate 18 and the guard plate 19 back into a position which is substantially parallel to and slightly in contact with the bristles 14.

In the actual painting operation the guard plate 19, which extends a slight distance beyond the ends of the bristles 14, is employed as a guide element to engage the work and operates as a means for directing the flow of paint in relation to the surface being painted and an adjacent surface which is to remain paint-free.

The guard plate 19, as its name connotes, restricts the flow paint to that side of the guard plate which is in contact with the brush.

This is due to the fact that the oval shape of the guard plate 19 allows the guard plate to rotate or oscillate in such a manner as to conform to the contour of the bristles 14 which are flexed under the pressure applied during painting.

The advantage of employing an oval shaped guard plate as versus other shapes may be more fully appreciated when one considers the curvature of the bristles 14 under flexing pressure. As with most uniformly flexible materials, the bristles 14 when bent or flexed tend to assume a geometrical shape substantially equivalent to a natural curve. Now, in order for the guard plate 19 to most effectively prevent the lateral deflection of the flexed bristles, said guard plate 19 should have a geometrical shape that always conforms to the contour of the bristles regardless of the curvature imparted to said bristles by a flexing tension. I have found that a guard plate having an oval shape adequately fulfills these requirements. For, as seen best in Figure 5 when an oval-shaped guard plate, such as 19, is eccentrically rotated or oscillated about a fixed point (such as the pin 20), said guard plate 19 will always present an outer curvature to the working surface substantially equivalent to a natural curve. Regardless of the amount of flexion exerted on the bristles 14, the oval guard plate 19 will always rotate in such a manner as to follow the exact contour of the bristles as they are flexed and present a complete barrier against the lateral deflection of said bristles along the entire length thereof at any particular state of flexion. Accordingly, then, the guard plate 19 always assures an accurate painting of a surface without the painting of an adjacent contiguous surface.

The advantages of having the fibers completely barred from lateral deflection along the entire length thereof is not merely of academic interest. For, most paint brushes, unless they are accurately and expensively produced, do not have fibers of uniform length. That is, some of the fibers or bristles may be shorter than others and not extend to the tip of the brush. When this occurs it is not sufficient to merely prevent lateral deflection at the tip of the brush, for the shorter fibers, when flexed, may easily slip by the guard and cause smearing of an adjacent surface which is not desired to be painted.

In the instant guide and guard device this cannot occur for the oval guard plate 19 forms a complete barrier against lateral deflection of the fibers substantially along



the entire length of the fibers 14 at any contour or curvature which the flexed fibers may assume.

In addition, the guide and guard device of the instant invention is capable of being operated with only one hand as opposed to prior guards, which usually require two hands, namely: one hand to grasp the brush and the other to manipulate the guard device when the brush is dipped in the paint. The novel construction of the instant guide and guard device, which allows the entire structure to be laterally swung away from the paint brush by a slight pressure on the thumb piece 27, eliminates the necessity of employing two hands in its operation. This is not only labor saving but is also an added safety feature. For, in painting in overhead positions it is often advantageous to have one free hand for grasping a ladder or other support. This, however, necessitates that the painting operation, including dipping the brush in a can of paint, be performed entirely with the other hand. With the instant guide and guard device this is easily accomplished, while with the majority of prior guards this was not always possible.

By employing the novel guide and guard device of the instant invention, it is now possible for an ordinary householder to paint the trim around windows or doors without getting paint on adjacent surfaces. In addition, the instant guide and guard device may be advantageously employed in painting trim, moldings, or junctions of walls with floors or ceilings or adjacent walls such as the corner of a room or the like, wherein the wall and another surface are each to receive a different colored paint.

It will, of course, be apparent that a paint brush having the novel guide and guard device of the instant invention mounted thereon is not restricted to use in merely the painting of trim or the like. For, the guide and guard device may be easily laterally swung out of engagement with the bristles and the brush may then be used for painting substantially any surface.

It will be appreciated by those skilled in the art that I have now provided a new and improved guide and guard device which may be secured to a paint brush and which will enable even an unskilled person to paint trim and other fine work rapidly without danger of smearing adjacent surfaces.

It will also be apparent to those skilled in the art that various changes and modifications may be effected without departing from the novel scope of the instant invention.

I claim as my invention:

1. In a guard and guide device for a paint brush having a handle structure and bristles connected therewith, a support plate pivotally mounted on said handle for lateral swinging movement toward and away from the bristles, means on said support plate for manually swinging the same away from the bristles, means biasing said support plate toward the bristles in opposition to said manual swinging of the support plate, an oval guard plate to accommodate guarding during curvilinear movement of the brush having a narrow end with a small radius of curvature adjacent the bristle ends and its opposite end swingably carried by said support plate for swinging movement in a plane generally parallel to said bristles, said oval plate being a solid plate extending the full length of the bristles, and resilient means yieldably urging the major axis of said oval plate into alignment with the bristles.

2. In a guard and guide device for a paint brush having a handle structure and bristles connected therewith, a support plate pivotally mounted on said handle for lateral swinging movement toward and away from the bristles, means on said support plate for manually swinging the same away from the bristles, spring means biasing said support plate toward the bristles in opposition to said manual swinging of the support plate, an oval

guard plate having a narrow end with a small radius of curvature adjacent the bristle ends to accommodate guarding during curvilinear movement of the brush, said oval guard plate being a solid plate extending the full length of the bristles and being pivotally mounted at a large end opposite the narrow end for swinging movement in a plane generally parallel to said bristles, and



spring means urging the major axis of said oval plate into alignment with the bristles.

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