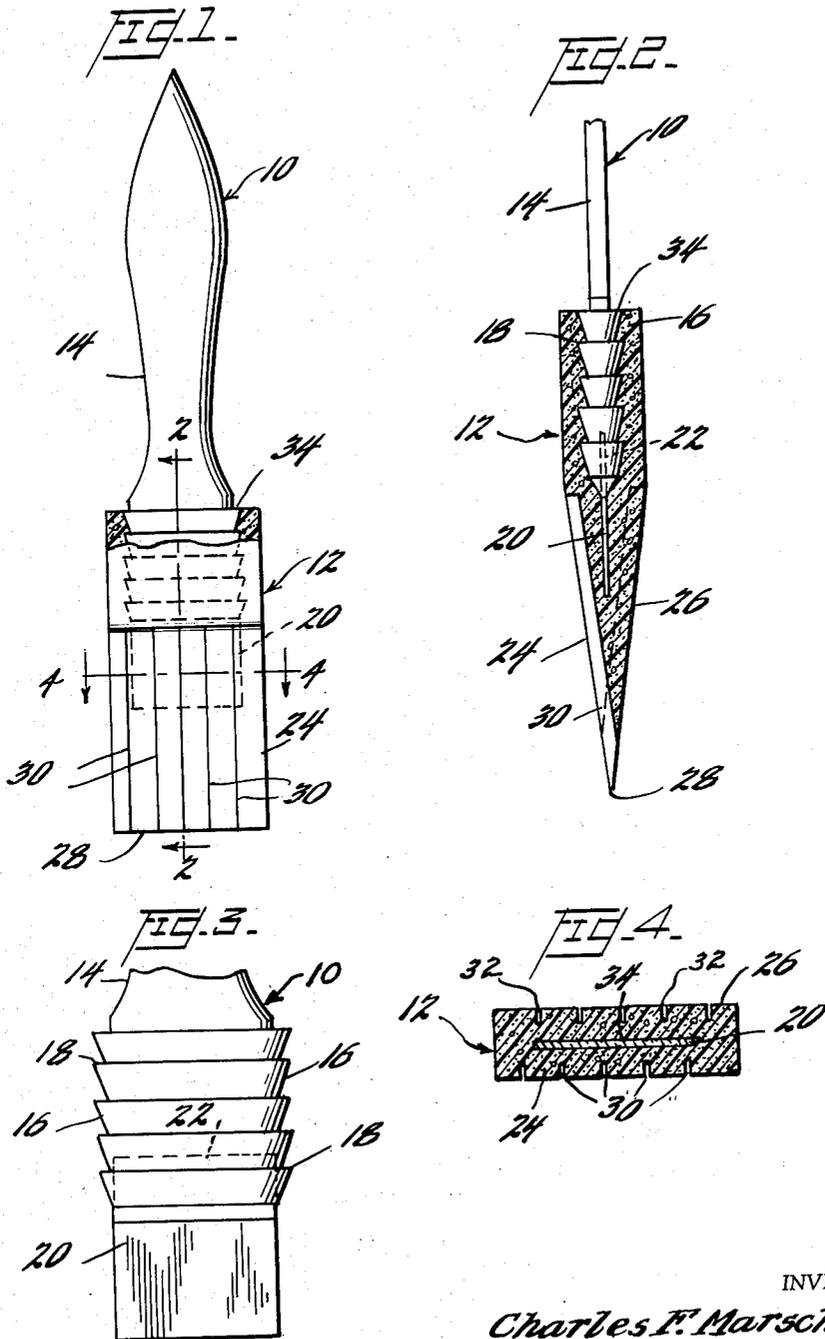


Oct. 23, 1962

C. F. MARSCHNER
COATING MATERIAL APPLICATOR WITH RENEWABLE
CELLULAR APPLICATOR ELEMENT
Filed April 7, 1958

3,059,262



INVENTOR

Charles F. Marschner,

BY *Parker and Webb*

ATTORNEYS

1

2

3,059,262
**COATING MATERIAL APPLICATOR WITH RE-
 NEWABLE CELLULAR APPLICATOR ELEMENT**
 Charles F. Marschner, 1522 Julie Lane, Los Altos, Calif.
 Filed Apr. 7, 1958, Ser. No. 726,669
 6 Claims. (Cl. 15-244)

The present invention relates generally to coating material applicators and is more particularly directed to certain new and useful improvements in devices for applying paint or the like to a surface or object.

As is well known to those skilled in the art, there is a widely prevalent misconception among those not so skilled that the application of paint or similar coatings requires no particular skill and may, therefore, be accomplished by virtually anyone with little or no experience. The fact is, however, that, entirely apart from the numerous technical problems involved in preparing the surface to be painted and properly mixing the paint or other coating to be applied, the proper application of the paint is a highly exacting task and involves considerable technique. An important aspect of this technique involves the proper selection and care of the brush to be employed for a particular job and this, in turn, includes not only the selection of the brush but the proper cleaning and preservation of the brush between different occasions of use.

The conventional paint brush commonly employed at the present time consists of a bundle of bristles, which may be of either natural or synthetic fibers, closely held together in a uniform bundle and secured at one end to a suitably shaped handle. Inevitably, however, the bristles wear out through constant contact with the surface being coated and, since such brushes are relatively expensive, considerable loss is involved in replacing the same. In addition, although different brushes vary widely in their ability to take up and retain paint while in use, the action of the bristles in this respect still leaves something to be desired. Furthermore, the job of cleaning a paint brush after use is both difficult and messy and is not without some element of danger resulting from the storage and use of more or less volatile solvents. Finally, even where the brush cleaning is accomplished by an expert, some small residual amount of paint may remain between the bristles and thus serve to contaminate the true color desired on subsequent jobs.

In view of the foregoing, it is an important object of the present invention to provide an applicator for a coating material such as paint or the like which comprises separable handle and work contacting elements and wherein the work contacting element is made of a relatively inexpensive material which may be thrown away after a single use so as to avoid the necessity for cleaning with its attendant danger, expense and loss of time.

Another object of the invention is to provide a brush like applicator of the type described wherein the work contacting element is composed of a flexible, resilient, cellular material possessing improved qualities with respect to its ability to pick up and hold paint or other coating material during use.

A further object of the invention is to provide a disposable brush like applicator of the type described in which the handle portion of the device is so constructed as to utilize substantially the entire end area for contact with the disposable element, thereby achieving a superior gripping action.

Yet another object of the invention is to provide a device of the type described in which the disposable work contacting element includes a number of transversely staggered longitudinal slits so arranged as to achieve greater pick-up and holding ability and also to produce a working edge having superior contour following characteristics.

A still further object of the invention is to provide separable handle and work contacting elements for an applicator of the type described in which the handle includes a projecting flexible tip which may be inserted into a slot within the disposable work contacting element so as to permit the latter to employ tapered faces terminating in a relatively fine working edge and yet, at the same time, insure adequate strength and resiliency in that portion of the disposable element thus tapered.

An additional object of the invention is to provide an improved disposable work contacting element for an applicator of the type described.

The foregoing together with other and further objects and advantages of the invention will become more readily apparent to those skilled in the art from a consideration of the following detailed specification taken in conjunction with the accompanying figures of the drawing in which:

FIGURE 1 is a front elevational view of one form of applicator in accordance with the present invention, a portion of the disposable element being broken away to illustrate the gripping action between it and the handle;

FIGURE 2 is a partial vertical cross-sectional view to a somewhat enlarged scale taken substantially along the line 2-2 of FIGURE 1;

FIGURE 3 is a partial front elevational view, to a slightly enlarged scale, illustrating the lower portion of the handle element of the applicator shown in FIGURE 1; and

FIGURE 4 is a transverse cross-sectional view, to a somewhat enlarged scale, taken substantially along the line 4-4 of FIGURE 1.

Referring now in somewhat greater detail to the drawings, and in particular to FIGURE 1 thereof, the improved applicator in accordance with the present invention is seen to bear a general resemblance to a conventional paint brush. The handle of the device is designated generally by reference numeral 10 and the disposable work contacting element is designated generally by reference numeral 12. As shown in the drawing, the handle element 10 is suitably contoured or shaped in any convenient manner as indicated by reference numeral 14 so as to accommodate the hand of the user and provide a suitable grip for the manual application of paint, varnish, or other covering material to the surface or object to be treated. The lower portion of the handle 10, as most clearly illustrated in FIGURE 3, is somewhat enlarged and is provided with a plurality of substantially parallel serrations 16 extending transversely of the handle and forming a series of relatively sharp edges 18 extending continuously around the entire outer surface of the lower handle portion. It is to be particularly noted that, by reason of the enlargement of the lower portion of the handle 10 and the provision of the serrations 16 and resulting sharp edges 18 covering substantially the entire lower handle portion, the gripping action between the handle 10 and the disposable element 12 is quite firm as will hereinafter appear.

Referring again particularly to FIGURE 3 and, as shown in the other views, the handle 10 is provided at its extreme bottom portion with a relatively thin, flat and resiliently flexible plate 20. The plate 20 is preferably made of a light springy metal although a suitable plastic or other material having the desired physical properties may also be employed. The plate 20 may be secured in the lower end of the handle 10 in any convenient manner and, as shown in FIGURE 3, the plate 20 is inserted with a drive fit into a suitable slot 22 provided in the handle 10. In like manner, the handle 10 is preferably made of wood although a suitable plastic or other material having the desired characteristics of easy shaping may be employed. Since the handle 10 constitutes a permanent

piece of equipment and is not thrown away after each use, it is preferably constructed in a careful manner and finished with moderate precision.

The work contacting element 12 is preferably formed from a single block of a suitable resilient cellular material and, as illustrated in FIGURE 2, the flexible body of the element 12 is provided with a pair of opposite faces 24 and 26 which taper downwardly together to provide a relatively fine, straight working edge 28. As indicated, the disposable element 12 may be composed of any suitable cellular or sponge-like material having flexible, resilient physical characteristics and capable of taking up and holding adequate quantities of the specific coating material being applied. For example, I have found that a foamed vinyl or foamed synthetic rubber material possesses the desired characteristics and may be cut or molded into the desired wedge shape as indicated in FIGURE 2.

As shown particularly in FIGURE 4, the improved disposable element 12 in accordance with the present invention is also provided with additional means for further increasing the inherent ability of the material to pick up and hold adequate quantities of the coating material. This means, in the present case, comprises a plurality of relatively shallow slits 30—32 which are cut into and extend longitudinally in the opposite tapered faces 24—26. As also particularly illustrated in FIGURE 4, it will be noted that the slits 30—32 are preferably arranged in a transversely staggered relationship in the opposite tapered faces 24—26 in such manner as to achieve maximum penetration and flexibility while at the same time maintaining adequate strength and resistance to shearing forces which are sometimes produced by rough handling during use. While the arrangement illustrated is preferred and has been observed to produce the best results in use, it will be obvious that, to at least some extent, the improved performance achieved by use of the slits 30—32 would likewise be obtained whether the slits were staggered transversely or not and, also, whether or not such slits are provided in one or both faces of the disposable element 12. It will be equally obvious that, while the preferred construction shows both of the faces 24—26 as being tapered to come together at a working edge 28, a similar result might be achieved by tapering only a single face.

As perhaps best shown in FIGURE 2 of the drawings, the upper central portion of the flexible body forming the work contacting element 12 is provided with an upwardly open slot 34. In view of the inherent elasticity and resiliency of the material of which the disposable element 12 is made, the slot 34 is capable of relatively wide expansion. Thus, when the lower portion of the handle 10 is inserted into the slot 34, the inner walls of the slot will expand to accommodate the lower handle portion and the edges 18 formed by the serrations 16 will firmly engage with the inner walls or surface of the slot 34 so as to retain the disposable element 12 in position on the bottom end of the handle 10. The spring-like element or flexible plate 20 extends downwardly into a continuation of the slot 34 and into that portion of the disposable element 12 which lies between the tapered faces 24—26. Although the gripping action of the inner surfaces of the continuation of slot 34 upon the plate 20 is not particularly important so far as its retaining function is concerned, the plate 20 does serve to reinforce and protect the element 12 at the important flexure area where the cross sectional area of element 12 has been reduced both by the tapering of the faces 24 and 26 and by use of the slits 30—32.

It is believed that the operation of the device will be readily apparent from the description given above. In general, the inexpensive disposable elements 12 preferably will be employed for only a single painting operation using one color. A new element 12 is prepared for use simply by inserting the lower portion of the handle 10 into the slot 34 so that the edges 18 are firmly gripped by the resilient action of the slot interior. Should additional gripping action be required, it is a relatively simple mat-

ter to place a flexible band such as a conventional rubber band or the like around the assembly in the region of the serrations 16. Ordinarily, however, no additional retaining means is required and, after use, the disposable element 12 may be readily removed from the handle 10 and thrown away. When it is desired to use the device again, or to apply a different color, a fresh element 12 is attached to the handle 10 in the same manner, the handle 10 thus serving over and over again so as to avoid needless expense. During use, the action of the slits 30—32 adjacent the working edge 28 provide extreme flexibility and enable the user to achieve excellent contour painting characteristics.

While I have disclosed herein a preferred embodiment of the present invention solely for the purpose of illustration, it will be obvious to those skilled in the art that many modifications, variations, substitutions and changes of materials may be made without departing from the spirit or scope of the invention as set forth in the appended claims.

I claim:

1. A device for manually applying paint or the like comprising separable handle and work contacting elements, said handle being elongated and having an enlarged lower portion provided with a plurality of substantially parallel serrations extending transversely thereof and forming a series of relatively sharp edges around the surface of said lower portion, a relatively thin, flat, resiliently flexible metal plate secured to the lower portion of said handle centrally thereof and extending downwardly therefrom below said serrations, said work contacting element comprising an elongated flexible body formed of resilient cellular material having a pair of opposite faces tapering downwardly together to provide a relatively fine, straight working edge, an upwardly open slot formed in the upper central portion of said body receiving said plate and the serrated lower portion of said handle with the edges of said serrations in gripping engagement with the interior of said slot, and a plurality of relatively shallow slits extending longitudinally in transversely staggered relationship in the tapered opposite faces of said body.

2. A device for manually applying paint or the like comprising separable handle and work contacting elements, said handle being elongated and having its lower portion provided with a plurality of serrations extending transversely thereof and forming a series of relatively sharp edges around the surface of said lower portion, a resiliently flexible plate secured to the lower portion of said handle centrally thereof and extending downwardly therefrom below said serrations, said work contacting element comprising an elongated flexible body formed of resilient cellular material having a pair of opposite faces tapering downwardly together to provide a working edge, an upwardly open slot formed in the upper central portion of said body receiving said plate and the serrated lower portion of said handle with the edges of said serrations in gripping engagement with the interior of said slot, and a plurality of slits extending longitudinally in transversely staggered relationship in the tapered opposite faces of said body.

3. A device for manually applying paint or the like comprising separable handle and work contacting elements, said handle being elongated and having its lower portion provided with a plurality of serrations forming a series of relatively sharp edges extending around the surface of said lower portion, a resiliently flexible plate secured to said handle and extending endwise thereof, said work contacting element comprising an elongated flexible body formed of resilient cellular material having a pair of opposite faces tapering downwardly together to provide a working edge, an upwardly open slot formed in the upper central portion of said body receiving said plate and the serrated lower portion of said handle with the edges of said serrations in gripping engagement with

5

the interior of said slot, and a plurality of slits extending longitudinally in the tapered opposite faces of said body.

4. A device for manually applying paint or the like comprising separable handle and work contacting elements, said handle being elongated and having its lower portion provided with a plurality of serrations forming a series of relatively sharp edges extending around the surface of said lower portion, a resiliently flexible plate secured to said handle and extending endwise thereof, said work contacting element comprising an elongated flexible body formed of resilient cellular material having a pair of opposite faces tapering downwardly together to provide a working edge, and an upwardly open slot formed in the upper central portion of said body receiving said plate and the serrated lower portion of said handle with the edges of said serrations in gripping engagement with the interior of said slot.

5. A coating material applicator comprising an elongated handle and a work contacting element, means for securing said handle and said element together, a resiliently flexible plate, secured to and extending from the operative end of said handle, said work contacting element comprising an elongated flexible body formed of resilient cellular material having a pair of opposite faces tapering together to provide a working edge, a slot in said body receiving said plate between the tapered opposite faces of said body, and a plurality of slits extending longitudinally in transversely staggered relationship in the tapered opposite faces of said body, the forward end of said flexible plate extending well down into the tapered portion of the flexible body but terminating materially short of the working edge of the flexible body whereby the upper, non-

6

working portion of the flexible body is afforded resiliency while diminishing its flexibility.

6. A coating material applicator comprising an elongated handle and a work contacting element, means for securing said handle and said element together, a resiliently flexible plate, secured to and extending from the operative end of said handle, said work contacting element comprising an elongated flexible body formed of resilient synthetic cellular material having a pair of opposite faces tapering together to provide a working edge, and a slot in said body receiving said plate between the tapered opposite faces of said body, the forward end of said flexible plate extending well down into the tapered portion of the flexible body but terminating substantially midway thereof, whereby the upper, non-working portion of the flexible body is afforded resiliency while diminishing its flexibility.

References Cited in the file of this patent

UNITED STATES PATENTS

20	60,931	Park	Jan. 1, 1867
	618,845	Crosby	Feb. 7, 1899
	1,966,789	Dibble	July 17, 1934
	1,968,062	Wood	July 31, 1934
	2,011,975	Johnson	Aug. 20, 1935
25	2,099,030	Morrison	Nov. 16, 1937
	2,315,996	Workman	Apr. 6, 1943
	2,640,215	Borsini	June 2, 1953
	2,753,582	Fredericks	July 10, 1956
	2,820,236	Crowther	Jan. 21, 1958
30	2,864,115	Champlin	Dec. 16, 1958
	2,912,711	Hilton	Nov. 17, 1959
	2,946,073	Vosbikian et al.	July 26, 1960