

[54] PAINT APPLICATOR

[75] **Inventors: David O. Chase, Martin V. Maloney,**
both of Skaneateles, Frederick J.
Wood, Jr., Lancaster, Barry B.
Wood, Williamsville, all of N.Y.

[73] Assignee: **Shur-Line Manufacturing Co., Inc.,**
Lancaster, N.Y.

[22] Filed: Jan. 26, 1971

[21] Appl. No.: 109,891

[52] U.S. Cl.....15/210 R, 15/144 A, 15/145,
306/3

[51] Int. Cl. B25g 3/38, B44d 3/28

[58] **Field of Search**15/144 R, 144 A, 145, 172,
15/176, 210 R, 210 A, 244 R, 244 A, 244 B,
244 CH; 306/2, 3, 12-14, 17, 18

[56] **References Cited**

UNITED STATES PATENTS

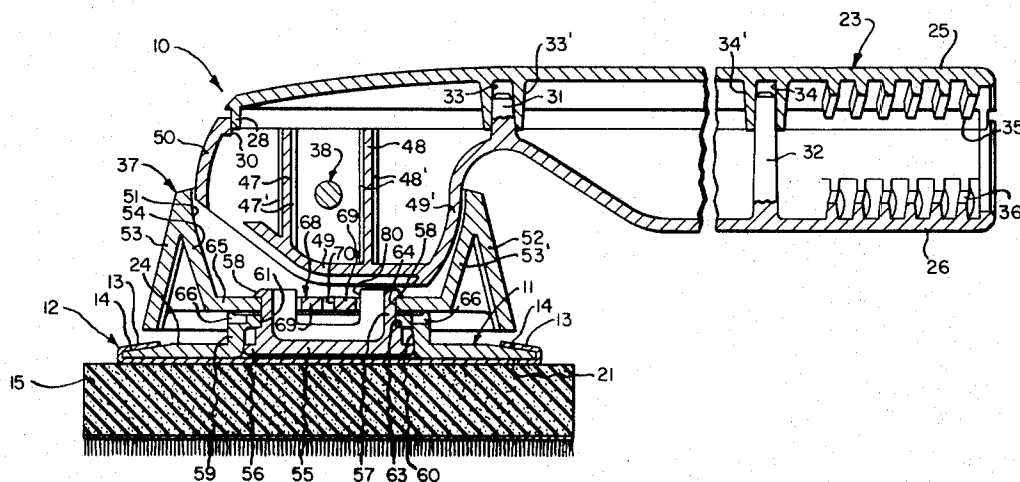
2,438,338	3/1948	Horn.....	15/244 A X
3,137,878	6/1964	Richards.....	306/2 X
1,687,953	10/1928	Starks.....	306/12
727,035	5/1903	Van Loan.....	306/3
3,473,183	10/1969	Burns et al.....	15/144 R
2,515,403	7/1950	Greenleaf et al.....	15/244 X

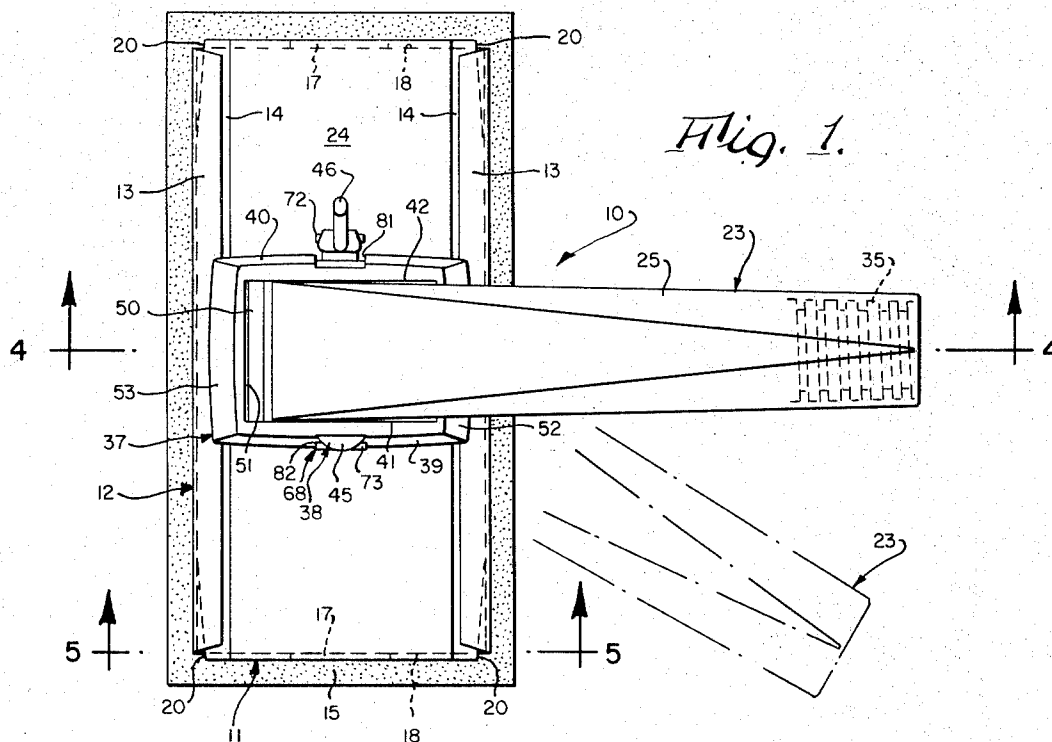
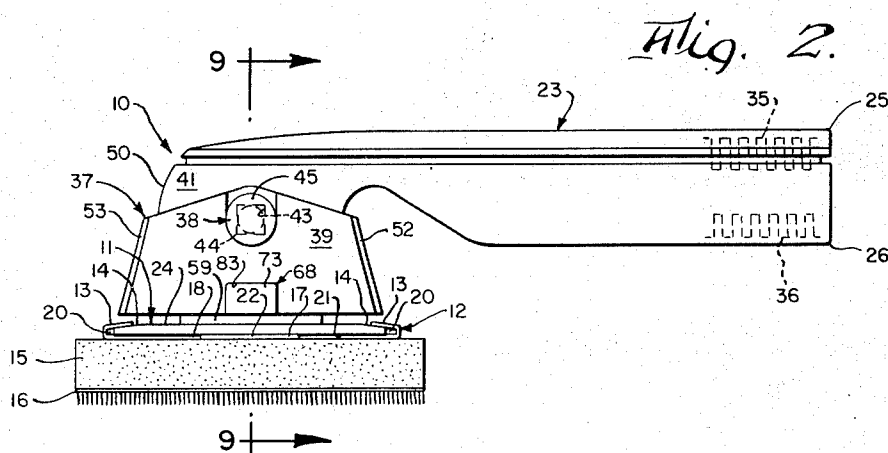
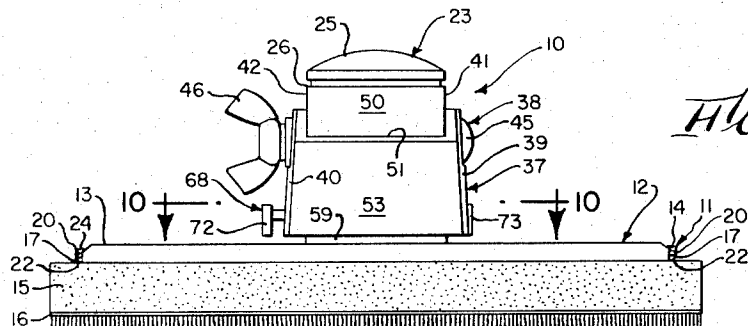
Primary Examiner—Daniel Blum
Attorney—Sommer, Weber & Gastel

[57] ABSTRACT

A paint applicator including a frame plate of generally rectangular configuration having a front surface and a rear surface and side edges which are tapered proximate their ends, a flexible backing plate proximate said front surface for mounting an absorbent pad, substantially parallel channel flanges on said backing plate for engaging the central portion of said side edges of said frame plate in complementary mating engagement, lugs extending outwardly from said front surface of said frame plate for bracketing the ends of said backing plate to thereby prevent the backing plate from shifting from its position on the frame plate, disengagement between said lugs and the ends of said backing plate being permitted by squeezing the channel flanges toward each other in the area of said tapered ends to cause said backing plate to bow away from the front surface of the frame plate preparatory to effecting sliding disengagement between the backing plate and the frame plate, a handle on the rear surface of the frame plate, and an indexing mechanism for permitting selective positioning of the handle about an axis extending substantially perpendicularly to the backing plate.

15 Claims, 12 Drawing Figures





INVENTORS
 DAVID O. CHASE
 MARTIN V. MALONEY
 FREDERICK J. WOOD, JR.
 BY BARRY B. WOOD

Summer, Weber & Hastel
 ATTORNEYS

Fig. 4.

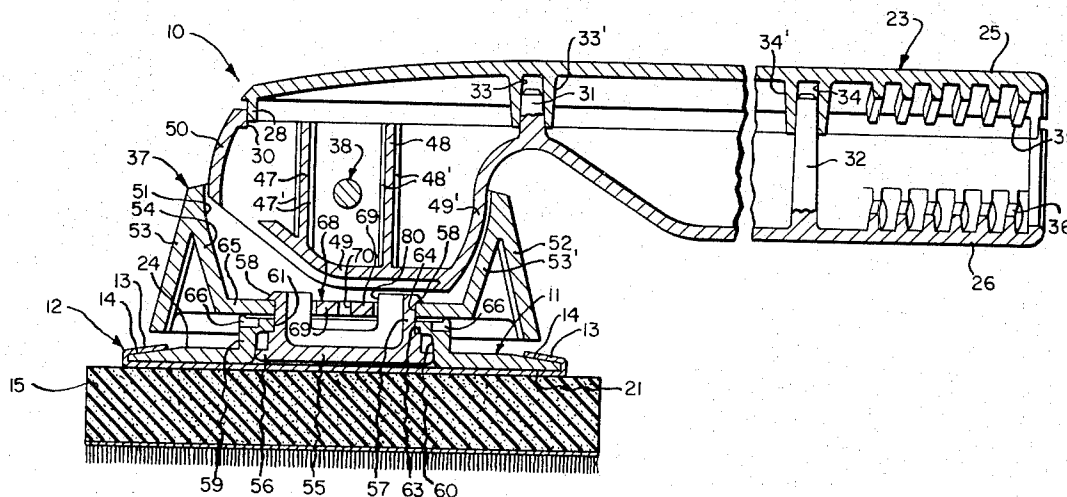


Fig. 5.

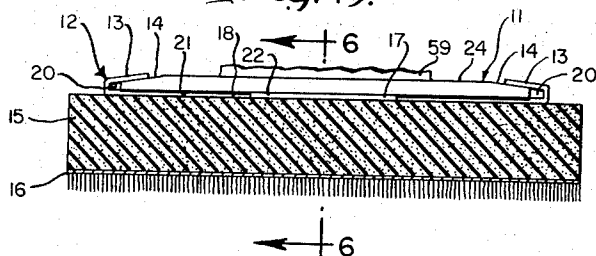


Fig. 6.

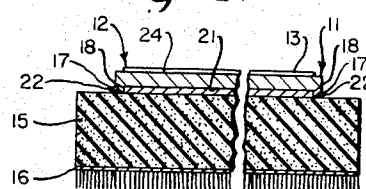


Fig. 7.

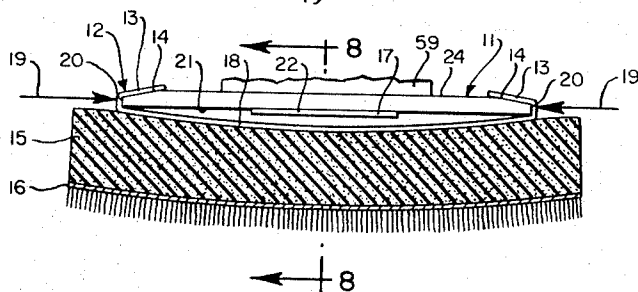
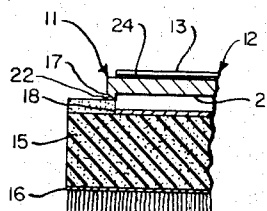


Fig. 8.



INVENTORS
 DAVID O. CHASE
 MARTIN V. MALONEY
 FREDERICK J. WOOD, JR.
 BY BARRY B. WOOD
Sommer, Weber & Kastel
 ATTORNEYS

Fig. 9.

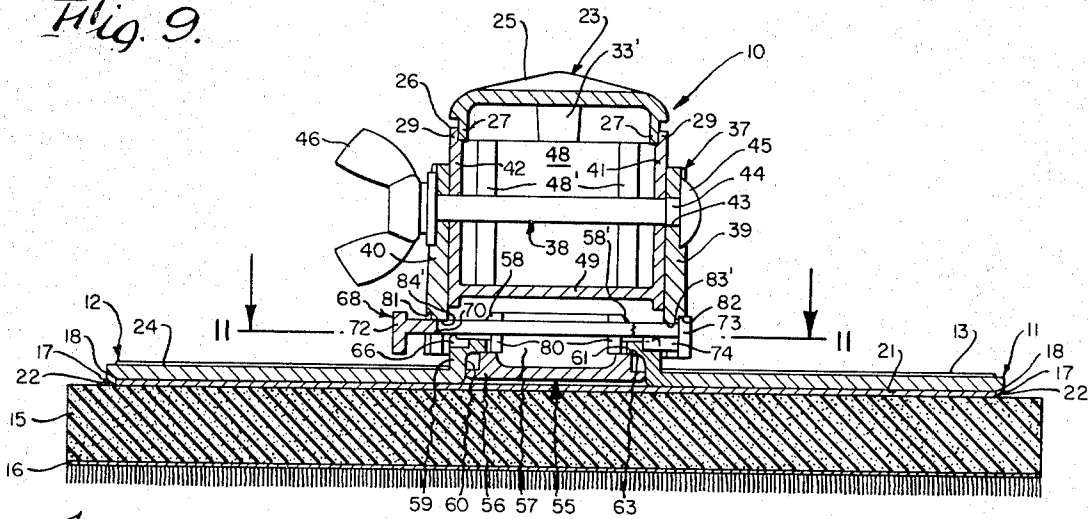


Fig. 11.

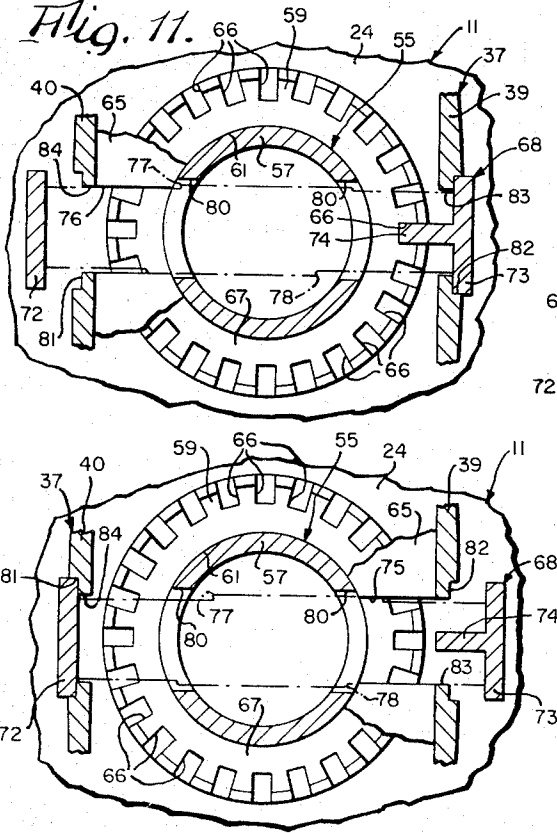
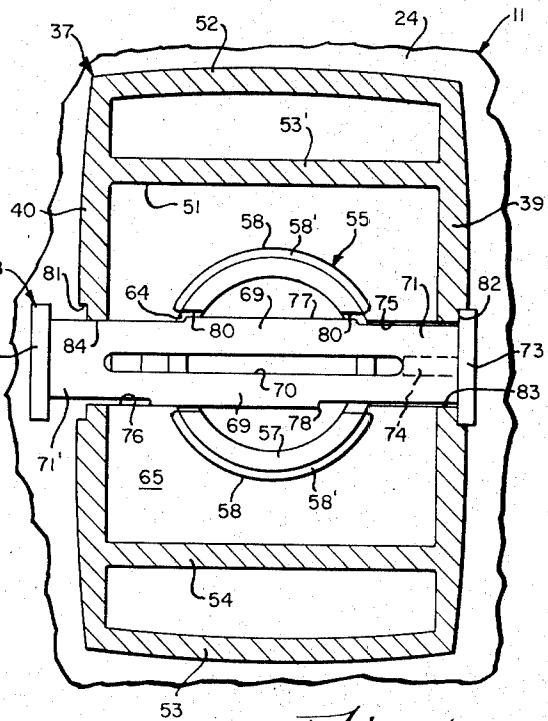


Fig. 10.

Fig. 12.

INVENTORS
DAVID O. CHASE
MARTIN V. MALONEY
FREDERICK J. WOOD, JR.
BY BARRY B. WOOD

Summer, Weber & Gaster
ATTORNEYS

PAINT APPLICATOR

The present invention relates to an improved paint applicator which is used for the purpose of applying paint to surfaces such as shingles or the like.

A paint applicator of the type with which the present invention is concerned includes a frame plate which removably mounts a paint absorbent pad on the front surface thereof and a handle on the rear surface thereof. In the past the removing of the pad for purposes of cleaning or replacement was difficult if the pad was mounted securely. Alternatively, if the pad was mounted loosely, it could work its way off in use. Also, the handle could not be adjusted in a relatively simple manner. It is with overcoming the deficiencies of the prior paint applicators that the present invention is concerned.

It is accordingly one object of the present invention to provide an improved paint applicator having a paint absorbent pad which is mounted thereon in a secure manner but which can be removed in an extremely simple manner when desired.

Another object of the present invention is to provide an improved paint applicator in which the handle can be oriented to any desired position about an axis extending substantially perpendicular to the absorbent pad and locked securely in such orientation. Other objects and attendant advantages of the present invention will readily be perceived hereafter.

The improved paint applicator of the present invention includes a frame plate of generally rectangular configuration having a pair of side edges, a pair of ends and a front surface and a rear surface, a flexible backing plate for mounting on the front surface of said frame plate, absorbent pad means on said backing plate, a pair of substantially parallel channel flanges on said backing plate for slidable mounting engagement on said side edges of said frame plate, locking means mounted relative to the frame plate and the backing plate for maintaining the backing plate in mounted relationship on said frame plate, and tapered portions on said side edges proximate said ends to permit said channel flanges proximate said flanges to be squeezed together to disengage said locking means to permit the backing plate to be slid from said frame plate. The present invention also includes mounting means for handle means which extend outwardly from the rear surface of the frame plate for permitting pivotal movement of the handle means about an axis substantially perpendicular to the frame plate, and means for selectively locking the handle means in any desired position.

The various aspects of the present invention will be more fully understood when the following portions of the specification are read in conjunction with the accompanying drawings wherein:

FIG. 1 is a plan view of the improved applicator of the present invention;

FIG. 2 is a side elevational view of the device of FIG. 1;

FIG. 3 is an end elevational view thereof taken from the left of FIG. 2;

FIG. 4 is a fragmentary enlarged vertical sectional view thereof taken generally along line 4—4 of FIG. 1;

FIG. 5 is a vertical sectional view thereof taken generally along line 5—5 of FIG. 1;

FIG. 6 is a fragmentary vertical sectional view thereof taken generally along line 6—6 of FIG. 5 and

showing the structure for locking the backing plate on the frame plate;

FIG. 7 is a fragmentary vertical sectional view similar to FIG. 5 and showing the configuration which the backing plate will assume when the ends of the backing plate are pinched together;

FIG. 8 is a fragmentary vertical sectional view thereof taken generally along line 8—8 of FIG. 7 and showing the backing plate bowed away from the locking lug on the frame plate;

FIG. 9 is a vertical sectional view thereof taken generally along line 9—9 of FIG. 2 and showing the various structural features of the handle locking mechanism;

FIG. 10 is a fragmentary horizontal sectional view thereof taken generally along line 10—10 of FIG. 3 and showing further details of the handling locking mechanism;

FIG. 11 is a fragmentary horizontal sectional view thereof taken generally along line 11—11 of FIG. 9 and showing the position which the key on the slide member assumes when it locks tee handle to the frame plate; and

FIG. 12 is a view similar to FIG. 11 but showing the key in unlocking position.

The improved paint applicator 10 of the present invention includes a rigid frame plate 11 which is of substantially rectangular configuration in plan and is fabricated of molded plastic. A flexible plastic backing plate 12 which is also of substantially rectangular configuration includes side edges which are formed into substantially parallel channel flanges 13 which slide lengthwise onto inclined edge portions 14 of the frame plate. Adhesively secured to backing plate 12 is a foam pad 15 which extends beyond the side edges and the ends of the backing plate, as can be seen from FIG. 1. A paint absorbent pad 16 which may be mohair or the like is adhesively secured to foam pad 15. It will be appreciated that paint is applied to pad 16 and then transferred to the surface to be coated, and that the resilience of the foam permits the pad 16 to conform to irregular surfaces such as house shingles.

It will be appreciated that pad 16 must be removed from time to time for replacement or for cleaning. This is effected in an extremely simple and efficient manner by merely sliding backing plate 12 lengthwise of frame plate 11 until the channel flanges 13 are disengaged from the side edges 14 of the frame plate. In this respect, lugs 17 are molded integrally with frame plate 11 and extend outwardly from front surface 21 of the frame plate toward backing plate 12. From FIG. 1 it can be seen that the ends 18 of the backing plate lie within or between lugs 17 when the backing plate 12 is in properly assembled position on frame plate 11. By lying outside of ends 18, lugs 17 thereby lock backing plate 12 in position and prevent it from moving out of assembled position on frame plate 11.

When it is desired to remove backing plate 12 from frame plate 11, it is merely necessary to apply a squeezing force to the side edges of backing plate 11 proximate either end 18 thereof. This squeezing force is shown by arrows 19—19 in FIG. 7. This will cause channel flanges 13 to approach each other because of the fact that the side edges 14 of the frame plate are tapered at 20 to permit the ends of channel flanges 13

to move from the position shown in FIG. 5 to the position shown in FIG. 7. This will cause the backing plate 12 to move from the position shown in FIG. 5, wherein it rests against the front surface 21 of frame plate 11, to the position shown in FIG. 7, wherein it is bowed away from the front surface 21. This will cause lug 17 to no longer be in a position wherein it obstructs movement of backing plate 12 lengthwise of frame plate 11. Thereafter backing plate 12 can be slid off of frame plate 11 in the direction in which blocking engagement by lug 17 no longer exists. For example, if the lower lug 17 in FIG. 1 no longer blocked frame plate 11, then the frame plate could be moved upwardly in FIG. 1 while the backing plate was held stationary.

In order to reinstall backing plate 12 onto frame plate 11, it is merely necessary to align channel flanges 13 with side edges 14 and then proceed to slide the backing plate 12 into the position shown in FIG. 1. The lug 17 will be passed over by backing plate 12 because it will ride over the camming surface 22 thereon until such time as it snaps into the position shown in FIG. 6. It is to be especially noted that either end portion of backing plate 12 can be squeezed together so that the backing plate 12 can be removed from either end of the frame plate. The foregoing arrangement locks backing plate 12 securely on frame plate 11, while permitting it to be removed simply, as desired.

A handle 23 extends outwardly from handle base 37 secured to the rear surface 24 of the frame plate. Handle 23 is fabricated from molded plastic and consists of upper part 25 and lower part 26 which are secured to each other by a suitable adhesive or bonding preparation. Such material is applied to the edge portions 27 and 28 of upper handle portion 25 which adhere to mating edge portions 29 and 30, respectively, of lower handle portion 26. The alignment between the upper and lower handle portions is effected by pins 31 and 32 which are molded integrally with lower handle portion 26 and fit into mating apertures 33 and 34, respectively, in bosses 33' and 34' in upper handle portion 25. The ends of handle portions 25 and 26 are formed into tapped portions 35 and 36, respectively, which in combination effectively form a helical internal thread for receiving the externally threaded end of a stick or pole (not shown) on which the paint applicator 10 can be mounted for reaching remote places. This, for example, permits the upper portion of a house to be painted by a person standing on the ground. Ordinarily, however, the handle 23 is grasped by the hand of the person using the paint applicator.

The handle 23 is secured to handle base 37 which is attached to frame plate 11 and extends outwardly from the rear surface 24 thereof. Handle 23 is pivotally secured to handle portion 37 by means of bolt 38 which extends through upstanding side walls 39 and 40 of base 37 and also extends through side walls 41 and 42 of handle 23. Aperture 43 in wall 39 is square for receiving a square shank end portion 44 adjacent head 45 of bolt 38 to thereby hold bolt 38 against turning when wing nut 46 is threaded on the opposite end of the bolt. The remainder of the apertures through which bolt 38 passes are only slightly larger than the bolt shank to provide a reasonably tight fit. Ribs 47 and 48, bottom wall 49, end wall 50 and rear wall 49' extend across side walls 41 and 42 to rigidize side walls 41 and

42 which are received in socket 51 of handle base 37. Enlarged columnar portions 47' and 48' are integral with ribs 47 and 48, respectively. Handle base 37 includes outer end walls 52 and 53 and the above mentioned side walls 39 and 40. The socket 51 is provided by inner walls 53' and 54 which merge into the above-mentioned side walls 39 and 40. By loosening wing nut 46 the inclination of handle 23 may be adjusted relative to the backing plate 11 and it may be retained in this adjusted position by tightening wing nut 46.

The handle base 37 is secured to frame plate 11 by means of a connecting member 55 which includes an enlarged head portion 56, a central shaft portion 57 and enlarged flange portions 58. As can best be seen from FIGS. 4 and 9, annular rim 59 is molded integrally with frame plate 11 and it includes a countersunk recess 60 therein which receives head portion 56 of connector member 55 so that it does not extend beyond the front surface 21 of frame plate 11. The central shaft portion 57 is journaled for rotary motion in circular aperture 61 in rim 59. Furthermore, movement of connector 55 through aperture 61 in the direction from front surface 21 toward rear surface 24 is prevented by an annular shoulder 63 on the central portion of shaft 57. The end of shaft 57 proximate flanges 58 is pressed through circular aperture 64 in wall 65 of handle base 37 to thereby connect handle base 37 to the annular rim 59 because of the fact that the central shaft 57 is held in apertures 61 and 64. Connector member 55 locks wall 65 to rim 59 by flanges 58 and annular shoulder 63.

During the process of inserting connector member 55 through the apertures 61 and 64, flange portions 58 are biased toward each other as a result of the camming action produced by the inclined surfaces 58' passing through the various above-noted apertures. The movement of flanges 58 toward each other is possible because of the resilience of connector member 55 and because of the diametrically opposed slots 80 in said shaft portion.

It is desirable to permit handle portion 37 to be adjustable about an axis which extends perpendicularly through the center of aperture 61. This is desirable, for example, in the event that the paint applicator is being used to paint shingles or the like at a position where the user has to reach laterally to the extreme limit of his capacity but desires to maintain the orientation of the frame plate 11 so that its longitudinal edges 14 are perpendicular to the vertical. In this event the handle 23 would be oriented relative to frame plate 11 so that it was possibly in the dotted line position shown in FIG. 1. When it is locked in such position, the above described objective can be achieved.

In order to permit the foregoing, the upper edge of rim portion 59 includes a plurality of keyways 66 which extend radially inwardly from the outer surface of annular portion 59 toward the inside thereof and terminate at inner ring portion 67 which is solid. A slide member 68 includes two elongated portions 69 which are separated by slot 70, the two elongated portions 69 being connected at their ends by portions 71' and 71 which in turn merge into upstanding portions 72 and 73, respectively, which can be grasped to move the slide member between the position shown in FIG. 11, wherein it locks the slide member 68 to annular rim

portion 60, and the position shown in FIG. 12, wherein this locking relationship is terminated. More specifically, as best can be seen from FIGS. 9, 10 and 11, a key 74 is molded integrally on the underside of portion 71. When the slide member 68 is moved to the position shown in FIG. 11, key 74 will enter one of keyways 66 with which it is in alignment. However, since the portion of slide 68 proximate end 71 rides in slot 75 in bottom wall 65, and since the portion of slide 68 proximate end 71' rides in slot 76 in bottom wall 65, it can be seen that when key 74 is in engagement with a slot 66 and portions 71 and 71' engage the sides of their slots 75 and 76, respectively, movement of handle base 37 is prevented because it is locked to the annular rim 59 on frame plate 11.

If it is desired to unlock slide member 68, it is merely necessary to move it to the right from the position shown in FIG. 11 to the position shown in FIG. 12. Thereafter, handle base 37 can be pivoted to any desired position and thereafter slide member 68 is again moved to a position analogous to that shown in FIG. 11 wherein key 74 enters one of the keyways 66 to lock the handle base 37 in its new orientation. As can be seen from FIGS. 11 and 12, there are 24 keyways 66 equally spaced about the circumference of annular rim 60 so that the handle can be adjusted to the nearest 15°. Furthermore, since the slots 66 extend around the entire 360° periphery of the rim, the frame plate 11 can in essence be turned upside down relative to handle 23. It will be appreciated that under certain circumstances it might be desirable to have the handle 23 extend longitudinally of frame plate 11, that is, turned 90° from the position shown in FIG. 1.

To hold slide member 68 in either its locked or unlocked positions, outwardly extending enlargements 77 and 78 are provided on the outer edges of portions 69. The dimension in plan across slide member 68 which includes one enlarged side portion 77 or 78 is greater than the width of slot 75 or 76. Thus when slide member 68 is in the position shown in FIG. 12, the portion of the slide including portion 77 is wedged into slot 75 with an interference fit to maintain slide 68 in this position. Also, when the portion of slide 68 which includes outwardly extending portion 78 is in the position shown in FIG. 11, slide 68 is wedged with an interference fit into slot 76 and it will remain there. This interference fit is permitted because slot 70 between side portions 69 provide for a resiliency of the slide member 68. As can be seen from FIGS. 4, 9 and 10, the central portion of slide 68 passes loosely through diametrically opposed slots 80 in connecting member 55. Furthermore, upstanding portions 72 and 73 are selectively received in recesses 81 and 82, respectively, in side walls 39 and 40, respectively. The end portions 71 and 71' of slide 68 pass through slots 83 and 84, respectively, in side walls 39 and 40, respectively. As can be visualized from FIG. 9, the underside of slide member 68 rides on diametrically opposed parts on the top of rim 59, and the top side of slide member 68 is located proximate the ends 83' and 84' of slots 83 and 84, respectively. Sideward movement of slide member 68 is limited by the side walls (not numbered) of slots 83 and 84.

What is claimed is:

1. A paint applicator comprising, a frame plate of generally rectangular configuration having a pair of side edges and a pair of first ends and having a front surface and a rear surface, handle means extending outwardly from said rear surface, a flexible backing plate for mounting on said front surface of said frame plate, pad means on said backing plate, a pair of substantially parallel channel flanges on said backing plate for mounting on said side edges, locking means mounted relative to said frame plate and backing plate for maintaining said backing plate in mounted relationship on said frame plate, and a taper on at least one of said side edges proximate one of said first ends to permit said channel flanges proximate said one of said first ends to be squeezed together to disengage said locking means to permit said backing plate to be slid from said frame plate.

2. A paint applicator as set forth in claim 1 wherein said locking means comprises lug means extending outwardly from said front surface for engaging said backing plate.

3. A paint applicator as set forth in claim 1 wherein said backing plate includes a pair of second ends, and wherein said locking means comprises lug means for effectively interlocking said first and second ends to maintain said backing plate on said frame plate.

4. A paint applicator as set forth in claim 3 wherein each of said side edges includes a tapered portion proximate said first ends to permit said channel flanges proximate either of said first ends to be squeezed together to bow said backing plate away from said front surface.

5. A paint applicator as set forth in claim 4 wherein said lug means comprise first and second lugs extending outwardly from said front surface proximate said first ends for bracketing said second ends to thereby block movement of said backing plate in opposite directions parallel to said side edges.

6. A paint applicator as set forth in claim 5 including means for mounting said handle means on said frame plate for pivotal movement about an axis extending substantially perpendicularly to said rear surface, and means for locking said handle means in any selected position.

7. A paint applicator as set forth in claim 6 including means for mounting said handle means for pivotal movement about an axis extending substantially parallel to said rear surface.

8. A paint applicator comprising a frame plate having a front surface and a rear surface, pad means mounted on said front surface, handle means extending outwardly from said rear surface, mounting means for mounting said handle means for pivotal movement about an axis extending substantially perpendicularly to said rear surface, and locking means for positively locking said handle means in a selected position including an annular rim located outwardly from said rear surface and having a plurality of circumferentially spaced radially extending keyways severally opening to the outer periphery of said rim, and a slide member extending diametrically across said rim and guided thereby and also by said handle means for movement only transversely of said axis and including a key member for entering into and withdrawing from the radially outer end of any one of said keyways.

7

9. A paint applicator as set forth in claim 8 including means on said slide member for holding said key member in and out of engagement relative to said keyways.

10. A paint applicator as set forth in claim 9 wherein said slide member includes opposite ends and is mounted for selective reciprocating movement on said handle means, and end means on the opposite ends of said slide member extending outwardly beyond said handle means for receiving forces to effect said reciprocating movement.

11. A paint applicator as set forth in claim 10 wherein said frame plate includes an aperture located within said annular rim, and wherein said mounting means includes connector means comprising shaft means extending through said aperture, head means on said shaft means for limiting penetration of said shaft means in one direction longitudinally into said aperture, said shaft means including a central portion journaled relative to said aperture, attachment means on said shaft means remote from said head means for attachment to said handle means, and first slot means in

8

said handle means for receiving said slide member.

12. A paint applicator as set forth in claim 11 wherein said connector means includes second slot means for receiving the central portion of said slide member.

13. A paint applicator as set forth in claim 12 wherein said key member is located at one end of said slide member.

14. A paint applicator as set forth in claim 12 wherein said slide member includes a portion which is of greater width than said first slot means for receiving said slide member with an interference fit to lock it in position.

15. A paint applicator as set forth in claim 8 wherein said mounting means comprises a first aperture in said handle means, a second aperture in said frame plate, shaft means extending through said first and second apertures, and spaced means on said shaft means for holding said handle means and said frame plate in assembled relationship.

* * * * *

25

30

35

40

45

50

55

60

65