June 2, 1964 H. E. KARKUT 3,135,005

COMBINED PAINT PUMP AND ROLLER APPLICATOR

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Fig. 1

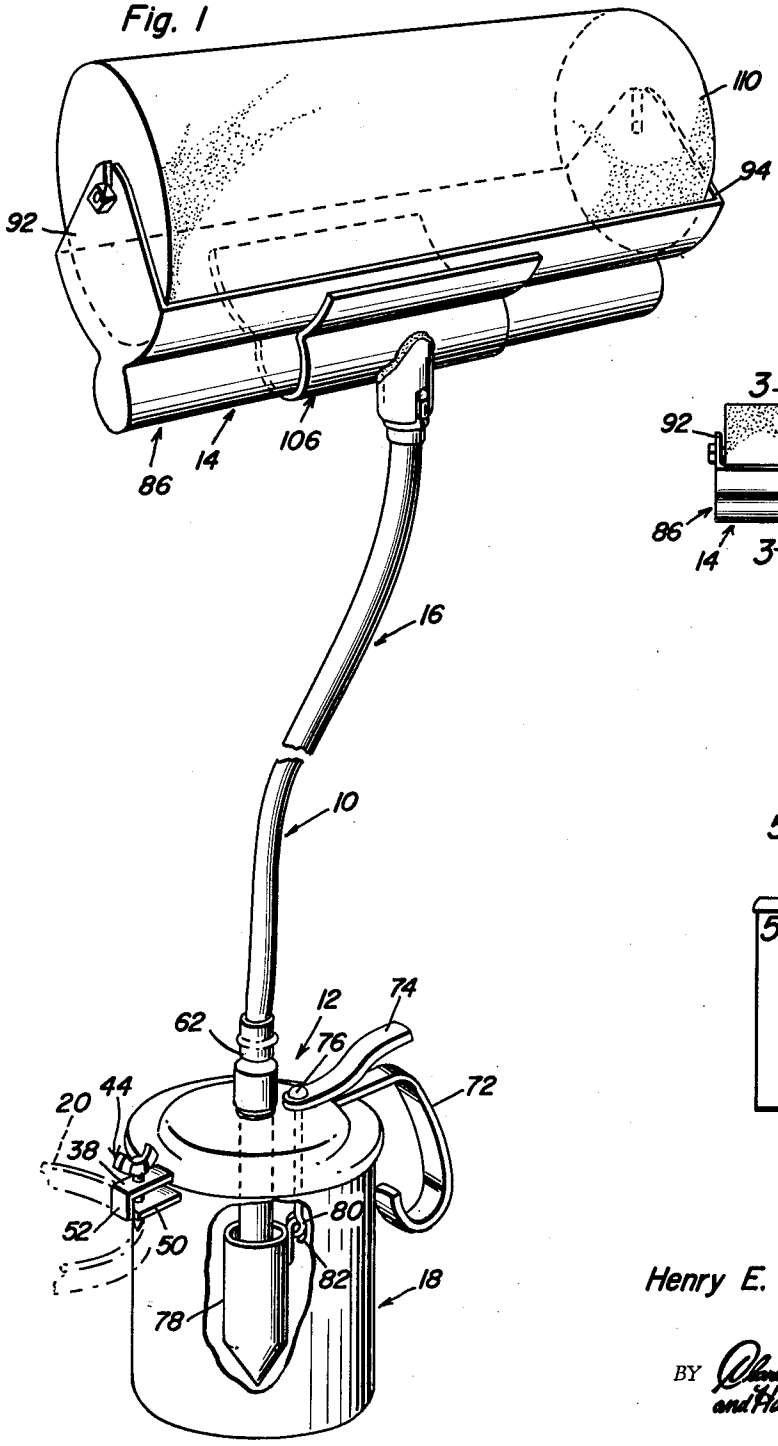
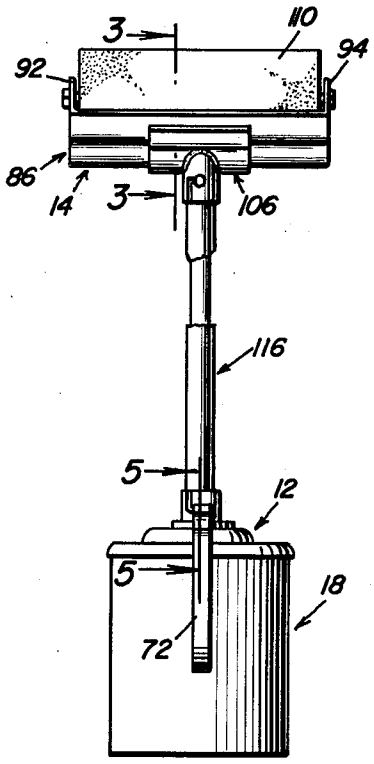


Fig. 2



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Fig. 3

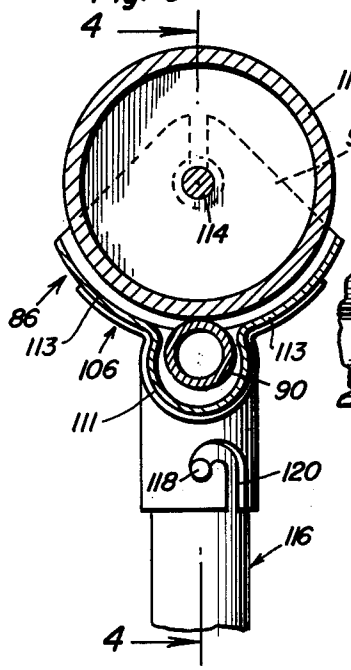


Fig. 4

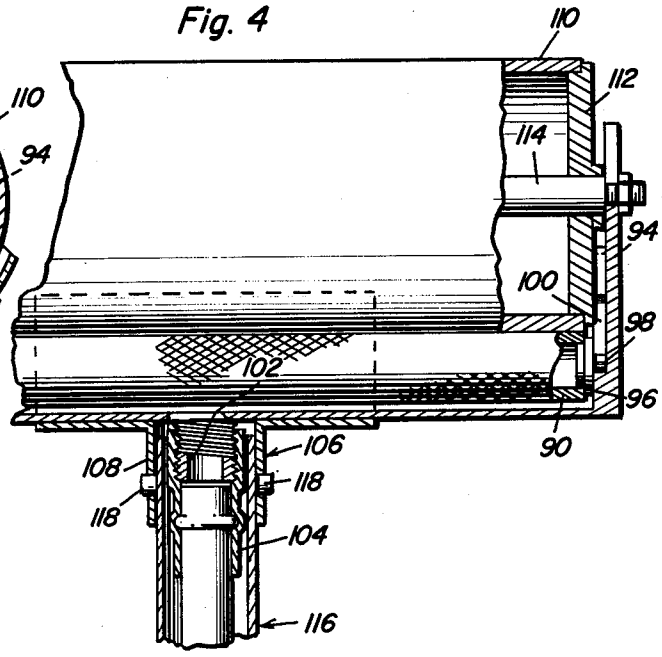


Fig. 5

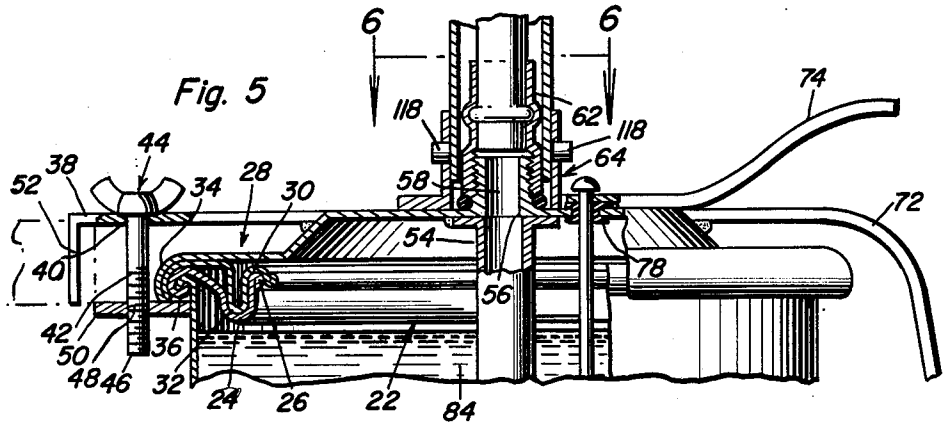
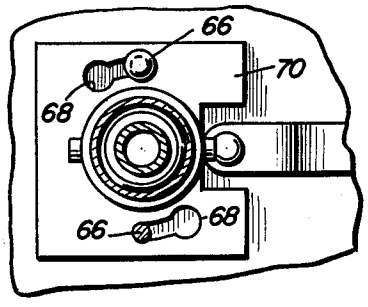


Fig. 6



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3,135,005
COMBINED PAINT PUMP AND ROLLER APPLICATOR

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This invention relates to a novel and useful combined paint pump and applicator which is specifically adapted to provide a means whereby a supply of paint from a paint can may be continuously supplied to a paint applicator thereby eliminating the necessity of a painter having to intermittently stop his work in order to replenish the supply of paint on whatever type of applicator he may be using.

The combined paint pump and applicator of the instant invention includes a substitute closure wall which is specifically adapted to be utilized as a closure for a conventional form of paint can in lieu of the closure cover normally provided therefor. The closure wall of the instant invention includes pump means projecting laterally from one side thereof which is adapted to be immersed in the paint within the paint can closed by means of the closure wall. The closure wall also includes means for forming a fluid tight seal between the open end of a paint can and the closure wall and means for removably securing the cover wall to the open end of a paint can whereby the loss of paint will not occur if the paint can is upset. The pump carried by the closure wall includes an inlet at the end of the pump assembly remote from the cover wall and an outlet opening through the outer face of the closure wall. A paint applicator is provided and includes a paint reservoir and a flexible conduit is utilized to communicate the paint reservoir of the paint applicator with the outlet of the pump assembly carried by the closure wall.

The reservoir of the paint applicator is constructed in a manner whereby paint may be automatically dispensed therefrom upon the use of the paint applicator to apply paint on a surface which is to be painted.

The paint applicator includes an opened top reservoir provided with an inlet which is communicated with the outlet of the pump assembly by means of a flexible conduit. A transfer roller is rotatably supported from the reservoir for movement about a substantially horizontally disposed axis and has at least the lower end portion thereof disposed below the liquid level of the reservoir. An application roller is also rotatably supported from the axis. The axis of rotation of the application roller is disposed above the axis of rotation of the transfer roller and the application roller is disposed in rolling contacting relation with the transfer roller.

The combined paint pump and applicator also includes a rigid sleeve like handle which may be telescopingly engaged over the flexible conduit utilized to communicate the outlet pump assembly with the reservoir of the applicator and is provided with means on opposite ends for releasable engagement with the portions of the applicator and closure wall disclosed about the reservoir inlet and the pump assembly outlet. In this manner, the handle may be utilized to form a handle rigidly interconnecting the closure wall of the paint pump and the reservoir of the paint applicator.

The main object of this invention is to provide a combined paint pump and paint applicator constructed in a manner whereby the applicator will be continually supplied with a source of fresh paint thereby eliminating the need for a painter to intermittently interrupt his work in order to replenish the supply of paint on his applicator whether it be a paint brush or a paint roller.

A further object of this invention, in accordance with the immediately preceding object, is to provide a paint pump which may be readily secured to conventional types of cans in which paint is now being commercially sold.

Still another object of this invention is to provide a sleeve-like handle which may be utilized as a handle and to rigidly interconnect the paint pump and applicator when desired.

A final object to be specifically enumerated herein is to provide a combined paint pump and paint applicator which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device that will be economically feasible, long lasting and relatively trouble free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the combined paint pump and applicator of the instant invention showing the manner in which the paint pump assembly may be removably secured to a conventional form of paint can and with a roller type of applicator being illustrated;

FIGURE 2 is a side elevational view of the embodiment illustrated in FIGURE 1 on somewhat of a reduced scale and illustrating the manner in which a rigid sleeve-like handle may be telescopingly engaged over the flexible conduit utilized to connect the paint pump with the applicator and be utilized as a handle for rigidly interconnecting the paint pump and the applicator, parts of the rigid sleeve-like handle being broken away;

FIGURE 3 is a somewhat enlarged fragmentary vertical sectional view taken substantially on the plane indicated by section line 3—3 of FIGURE 2;

FIGURE 4 is a fragmentary vertical sectional view taken substantially upon the plane indicated by the section line 4—4 of FIGURE 3;

FIGURE 5 is an enlarged fragmentary vertical sectional view taken substantially upon the plane indicated by the section line 5—5 of FIGURE 2; and

FIGURE 6 is a fragmentary horizontal sectional view taken substantially on the plane indicated by the section line 6—6 of FIGURE 5.

Referring now more specifically to the drawings the numeral 10 generally designates the combined paint pump and applicator of the instant invention which includes a pump assembly generally referred to by the reference numeral 12, an applicator generally referred to by the reference numeral 14 and a flexible conduit generally referred to by the reference numeral 16 utilized to communicate the outlet of the pump assembly 12 with the reservoir of the applicator 14.

With attention now directed to FIGURES 1, 5 and 6 of the drawings it will be noted that a conventional form of paint can is generally designated by the reference numeral 18 and includes a removable closure cover 20 which is removably secured over the open end of the can 18 when the latter is sold. The paint can 18 includes a partial annular top wall generally referred to by the reference numeral 22 and it will be further noted that the partial top wall 22 includes an annular sealing and drip channel 24 and a sealing lip 26. The closure cover 20 includes an inner channel and outer lip portion (not shown) which may be sealingly engaged with the inner lip 26 and outer channel 24 of the partial top wall 22. However, the pump assembly 12 includes a substitute closure wall generally referred to by the reference numeral 28 and the substitute closure wall defines an inner channel 30 and an intermediate downwardly projecting sealing

lip 32 which may be sealingly engaged with the inner lip 26 and outer channel 24 of the partial top wall 22. In addition, the closure wall 28 includes an outermost annular lip portion 34 which may be snapped over the outer retaining lip 36 of the can 18. The cover wall 28 is provided with at least one mounting flange 38 which is apertured as at 40 and has secured therethrough the shank portion 42 of a headed fastener 44. The lower threaded end portion 46 of the fastener 44 is threadedly engaged through an aperture 48 formed in a retaining lug 50. It will be noted from FIGURE 5 of the drawings that the threaded engagement of the fastener 44 with the retaining lug 50 secures the cover wall 28 to the upper open end of the can 18. If it is desired, the retaining lug 50 may be provided with an outermost upturned flange for sliding engagement with the downturned flange 52 and the inner end of the retaining lug 50 may also be provided with an upturned flange whose free end is adapted for engagement with the lip 36. In this manner, the retaining lug 50 may be utilized to form a tighter engagement between the cover wall 28 and the partial top wall 22 of the can 18.

The pump assembly 12 includes an outlet conduit 54 whose upper end is secured about the outlet opening 56 formed in the cover wall 28. An outlet fitting 58 is secured to the outer face of the cover wall 28 in a convenient manner and one end of the flexible conduit 16 is secured to the fitting 58 by means of a coupling 62. In addition, a tubular mounting coupling generally referred to by the reference numeral 64 is secured to the outer face of the cover wall 28 by means of a pin and slot connection defined by headed pins 66 carried by the cover wall and keyhole slots 68 formed in the mounting plate 70 of the mounting coupling 64.

From FIGURE 1 of the drawings it may be seen that the cover wall 28 is provided with a carrying handle 72 and with a movable actuator 74 operatively connected to an operating shaft 76 at its upper end. The operating shaft 76 passes through a grommet 78 secured through the cover wall 28 and is connected to the pump actuator 74 at its lower end by means of an eye portion 80 formed on the lower end of the rod 76 with which a hooked portion 82 carried by the actuator 78 is engaged. Thus, upon depression of the outer end of the movable actuator 74, the paint 84 within the can 18 may be pumped upwardly through the outlet conduit 54 and into the inlet end of the flexible conduit 16.

From FIGURE 1 of the drawings it may be seen that the applicator 14 includes an open top reservoir generally referred to by the reference numeral 86. A transfer roller 90 is rotatably supported between the opposite ends 92 and 94 of the reservoir 86 by means of end caps 96 disposed in opposite ends of the roller and provided with stub axles rotatably received in vertical slots 100 formed in the end walls 92 and 94. It will be further noted that the reservoir 86 includes an inlet neck 102 which is externally threaded and has the upper end of the flexible conduit 16 secured thereto by means of a coupling 104 similar to coupling 62. Additionally, it will be observed that a mounting coupling generally referred to by the reference numeral 106 includes a tubular portion 108 disposed about the inlet neck 102. The paint level within the reservoir 86 is sufficient to immerse at least the lower portion of the transfer roller 90 in the paint within the reservoir 86.

It will also be noted that an application roller 110 is also rotatably supported from the opposite ends 92 and 94 of the reservoir 86 by means of end caps 112 which are rotatably journaled on an axle shaft 114 suspended between the end walls 92 and 94 of the reservoir 86. Further, it will be noted that the application roller 110 is disposed in rolling contacting relation with the transfer roller 90. Accordingly, upon rotation of the application roller 110 over the surface which is to be painted, paint will be transferred from the transfer roller 90 onto the application roller 110 and then onto the surface over which the application roller 110 is being rolled.

As can best be seen from FIGURES 3 and 4 of the drawings, the reservoir 86 includes a lower generally semicylindrical and upwardly opening section 111 which extends between the opposite ends 92 and 94 of the reservoir 86 and which includes upper longitudinal edge portions which diverge outwardly into upward divergent side walls 113 which also extend between the opposite end walls 92 and 94. It may be seen that the transfer roller 90 is almost completely enclosed within the lower section 111 which defines the paint receiving portion of the reservoir 86 and that the upper portion of the transfer roller 90 projects upwardly and outwardly of the lower section 111 and into the area defined between the side walls 113. The lower portions of the application roller 110 are disposed in the area defined between the side walls 113 and are disposed in rolling contacting relation with the upper portions of the transfer roller 90.

It may be observed from FIGURES 2 through 5 of the drawings that a removable, rigid and sleeve-like handle generally referred to by the reference numeral 116 is telescopingly engaged over the flexible conduit 16 and is provided with diametrically opposite pins 118 on opposite ends thereof which may be engaged in the corresponding J-shaped slots formed in the mounting couplings 64 and 106 in order to form a bayonet type of connection between the sleeve-like handle 116 and the mounting couplings 64 and 106. Thus, the handle 116 may be utilized to establish a rigid like handle interconnecting the pump assembly 12 and the applicator 14.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a paint can of the type having one open end and a removable closure cover for said open end engageable with the portions of said can defining said open end upon lateral movement of said closure cover longitudinally of and toward said open end, a combined paint pump and applicator means comprising a substitute closure wall for said open end having inner and outer faces and including means for forming a fluid-tight seal with said portions of said can and means for removably securing said closure wall to said open end, a pump assembly carried by said closure wall, projecting laterally outwardly of said inner face and including an inlet adjacent its outer end, an outlet opening through said outer face and actuating means for said pump assembly including an actuator disposed outwardly of said outer face whereby paint within said can may be pumped therefrom through said outlet, and a paint applicator having reservoir means in communication with said outlet, said paint applicator reservoir including an inlet, flexible conduit means removably communicating said reservoir inlet and said pump outlet, a removable rigid thin walled tubular handle loosely telescopingly engageable over said flexible conduit and including means on opposite ends releasably engageable with portions of said applicator and closure wall disposed about said reservoir inlet and pump assembly outlet for forming a rigid handle between said closure wall and said applicator reservoir means, said portion of said applicator engageable with said handle including a coupling mounted on said reservoir means encircling said inlet to which said flexible conduit is secured for communication with said applicator, said portion of said closure wall engageable with said handle including a coupling removably mounted on said closure wall about and encircling said outlet.

2. The combination of claim 1 wherein said reservoir

means includes an open top reservoir, a transfer roller rotatably supported from said reservoir for movement about a horizontally disposed axis with at least the lower portion of said transfer roller disposed below the liquid level of said reservoir, an application roller also rotatably supported from said reservoir for rotation about a horizontal axis disposed above the axis of rotation of said transfer roller and in rolling contacting engagement with the latter.

References Cited in the file of this patent

UNITED STATES PATENTS

864,953	Craig	Sept. 3, 1907
2,041,173	Fairchild	May 19, 1936
2,536,291	Kaitul	Jan. 2, 1951
2,785,425	Lenk	Mar. 19, 1957
2,928,113	Pedrow	Mar. 15, 1960
3,020,579	O'Connor	Feb. 13, 1962

FOREIGN PATENTS

843,007	France	Mar. 20, 1939
868,894	Great Britain	May 25, 1961
1,052,041	France	Sept. 23, 1953