April 4, 1961 P. MAYERCHAK 2,978,186

MIST AND PAINT SAVER

Filed Aug. 20, 1958

FIG. 1

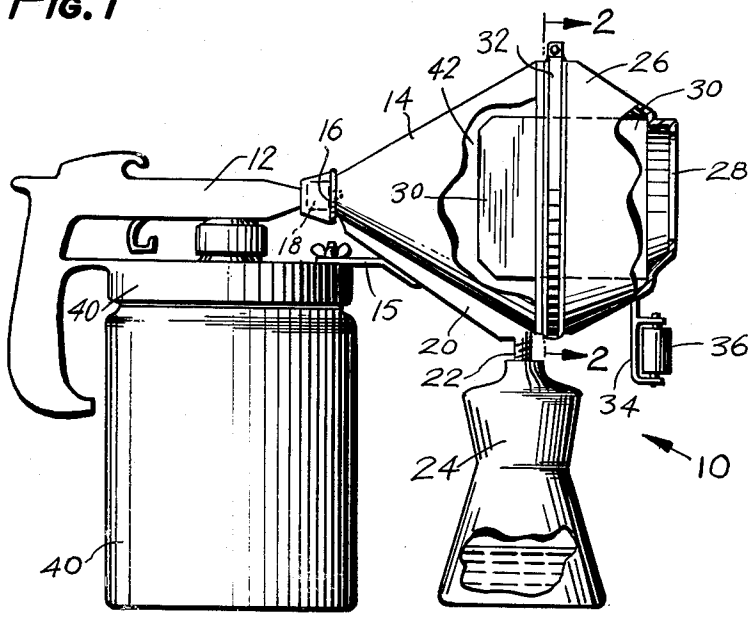



FIG. 2

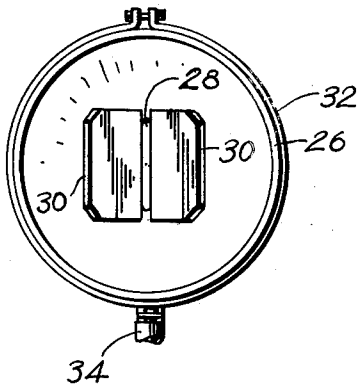
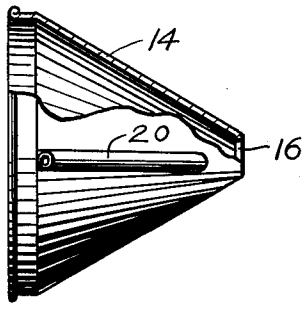



FIG. 3




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# MIST AND PAINT SAVER

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4 Claims. (Cl. 239—103)

This invention relates to spray equipment and more particularly to an accessory for pressure spray guns.

It is an object of the present invention to provide a device for conserving the mist and coating material that is ordinarily sprayed into the atmosphere by conventional spray guns, much of which ordinarily is wasted when it does not impinge upon the article being coated.

Another object of the present invention is to provide a mist and paint saver of the above type that can be readily applied to any conventional pressure spray gun and which will conserve a substantial amount of the material ordinarily dispelled by the gun.

Other objects of the invention are to provide a mist and paint saver bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawing, in which:

Figure 1 is a side elevational view, with parts broken away, of a mist and paint saver made in accordance with the present invention in operative association with a spray gun;

Figure 2 is a transverse cross sectional view taken along line 2—2 of Figure 1; and

Figure 3 is a top plan view, with parts broken away, of a main body member forming a part of the present invention.

Referring now more in detail to the drawing, an accessory 10 for pressure spray guns made in accordance with the present invention is shown to include a hollow substantially conical main body member 14 having an inlet opening 16 at one apex end that receives the nozzle 18 of the spray gun 12 upon which it is secured by a releasable bracket 15 integrally secured at one end to the main body member 14 and at the opposite end to the removable cover 40 of the supply container 40. A duct member 20 extends downwardly from the inlet circular opening 16 of the conical main body member 14 along the lower inside surface thereof and terminates in a downwardly depending fitting 22 that empties into the interior of an excess coating material collection receptacle 24 attached to the lower end thereof.

A hollow truncated conical member 26 is secured to the main body member 14 in base to base relationship by means of an annular tension band 32. The forward end of this truncated conical member 26 is provided with a circular end wall with a vertical slot 28 that provides communication between the interior of the compartment 42 formed by the main body member and the hollow truncated conical member, and defines a discharge outlet through which the spray is directed, said end wall having slot 28 therein being substantially greater in diameter than said inlet opening 16, and said slot 28 being greater in length than the diameter of said inlet in said main body member.



Guide means in the form of a pair of spaced apart rectangular shaped plates 30 are integral at one forward discharge end with the outlet defining portions of the hollow truncated conical member 26, such plates diverging rearwardly toward the inlet 16 at the rear apex end of the main body member 14 and the free ends thereof extending into the interior of said main body member 14 in axial alignment with the inlet opening 16. A bracket 34 depending from the front end of the truncated conical member 26 supports a roller 36 that may be rollably engaged with a guide member for providing an even coat during the spraying operation.

The operation of this device will now be readily understood. As the spray gun emits the stream outwardly through the nozzle 18, such is directed into the interior of the compartment formed by the main body member 14 and truncated conical member 26. The main part of the spray will be guided by the plates 30 outwardly through the outlet opening 28 in the end wall so as to impinge directly upon the article being coated. The remaining portions of the spray that would not pass through the opening 28 to impinge directly upon the article being sprayed are retained within the compartment 42 and conveyed downwardly through the duct 20 and drain type fitting 22 into the receptacle 24, such material being re-usable and later emptied back into the main supply container 40 of the spray gun having a removable cover. The substantial saving in spray material will greatly reduce the cost of the spraying operation, as well as prevent undue spraying of other objects not intended to be coated.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States is:

1. An accessory of the usual oppositely tapered form for removable attachment to the nozzle of a pressure type spray gun mounted upon a liquid supply container to be manually supported comprising, in combination, a hollow substantially conical main body member having a circular open base end and a circular inlet opening at the apex end thereof for receiving the nozzle of the spray gun, bracket means integrally secured at one end thereof to the exterior surface of said main body member and with the opposite end thereof to the removable cover of the supply container to which the spray gun is attached, a hollow truncated conical member having a circular open base end and secured to the open base end of said main body member in base to base relationship and defining a single compartment therewith and having oppositely tapered form walls and with a common longitudinal axis, said hollow truncated conical member having a circular end wall substantially greater in diameter than said circular inlet opening in said main body member and arranged normal to the longitudinal axis of said compartment, a vertical slot in said end wall of said truncated conical member, guide means of substantially rectangular configuration located in said single compartment for directing the spray from said inlet of the main body member to said vertical slot in said end wall, a drain pipe fitting depending from the lower portion of said single compartment, a collection receptacle mounted upon the lower end of said drain pipe fitting whereby excess spray material flows from said compartment into said collection retainer.

2. The combination according to claim 1, wherein said guide means comprises a pair of spaced apart substantially rectangular shaped plates integrally connected at their forward ends thereof to said circular end wall and adjacent the vertical edges of said rectangular shaped

slot therein defining integral portions of said truncated conical member and extending and diverging rearwardly toward said inlet opening and into the interior of the hollow main body member and said rectangular shaped slot being of greater length than the diameter of said circular inlet in said main body member.

3. The combination according to claim 2, wherein said hollow conical main body member comprises a straight duct extending downwardly and angularly from its apex end adjacent said circular inlet opening and extending toward the base end thereof and along the inside surface thereof and terminating adjacent the opening to said drain pipe fitting depending from said single compartment, said drain pipe fitting arranged solely with said main body member.

4. An accessory of coniform configuration of the usual oppositely tapered form for removable attachment to the nozzle of a manually supportable hand-held pressure type spray gun comprising, in combination, a spray gun including a nozzle, a hollow compartment shell with oppositely tapered ends longitudinally disposed in the path of the spray leaving said nozzle, said compartment shell comprising a substantially hollow conical main body member, said body member having a circular base opening and a circular inlet opening of relatively small diameter in the apex end thereof, a hollow truncated conical member having a circular base opening at one end and an end wall at its opposite end, said end wall of relatively large diameter compared with said inlet opening, a vertical spray discharge rectangular shaped



slot in said end wall of greater length than the diameter of said inlet opening, the circular base end portions adjacent said base openings of said members removably secured together by a tension band in contact therewith whereby both members have a common horizontal longitudinal axis extending therethrough, a pair of substantially rectangular guide plates vertically spaced apart and integrally secured at one end of each to said end wall and arranged on opposite sides of said vertical slot, said plates diverging and extending rearwardly from said end wall into the hollow central portion of said main member for directing the spray from said nozzle to said slot, a drain pipe fitting extending downwardly from the base end of said main body member, a collection receptacle attached to said drain pipe to receive such liquids from the spray that may be trapped therein, the space between said inlet opening and said discharge slot in said hollow compartment shell being relatively open.

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