Dec. 25, 1956 T. MITCHELL 2,775,481

PAINT SPRAY DEVICE

Filed Oct. 2, 1953 3 Sheets-Sheet 1

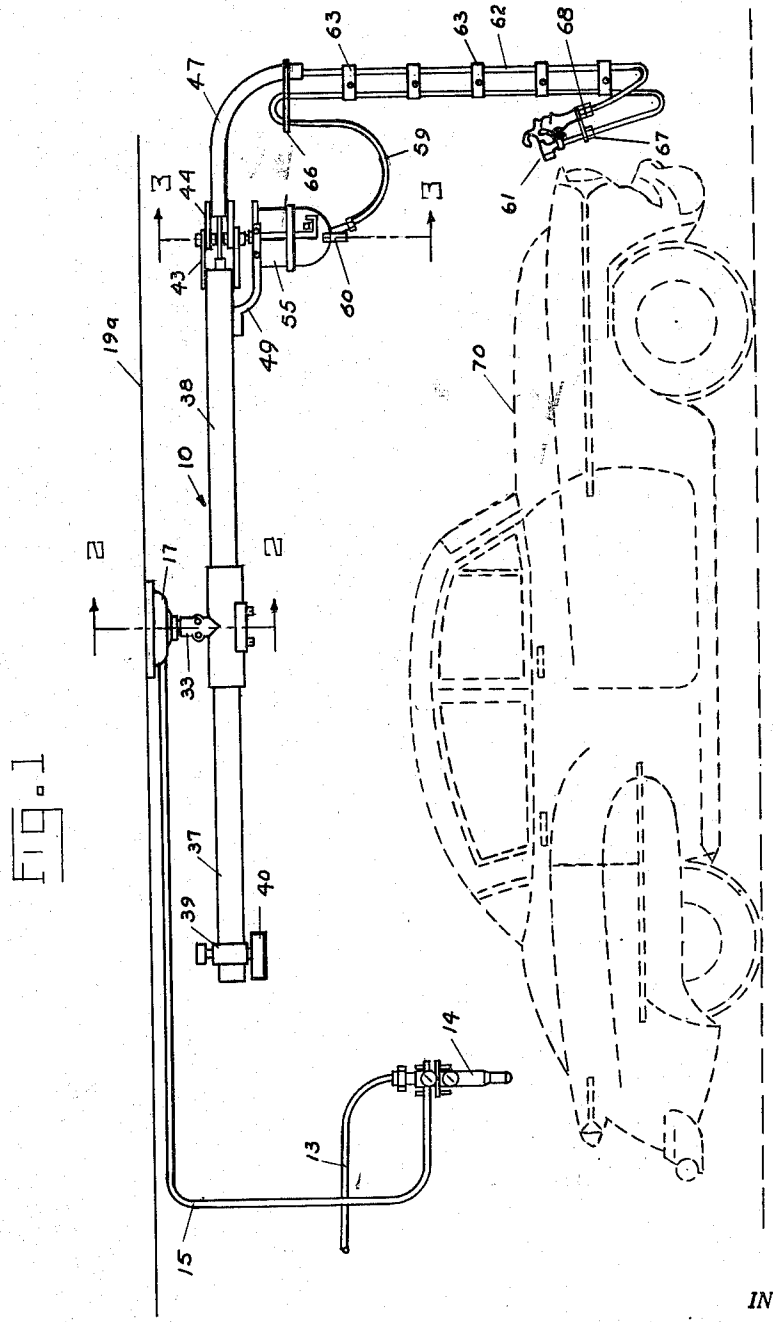


FIG. 1

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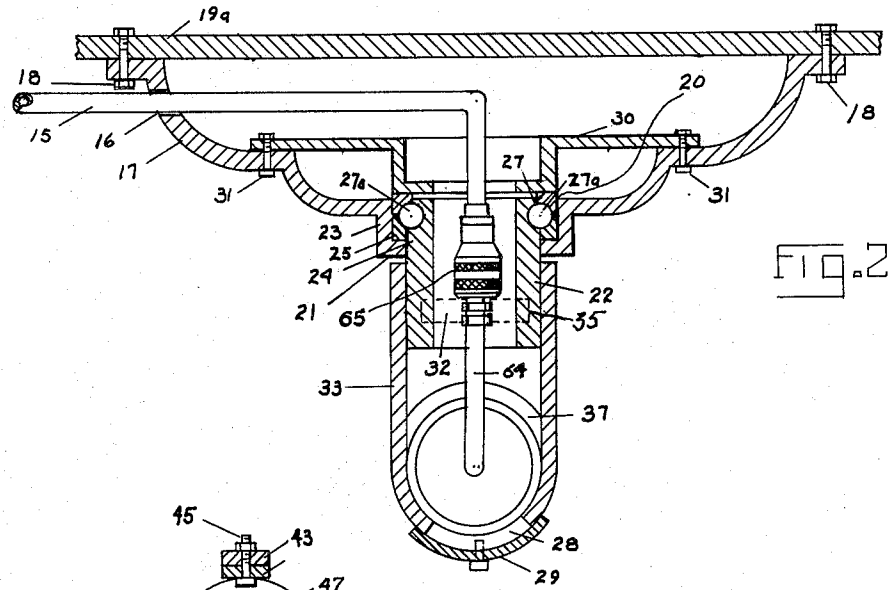


FIG. 2

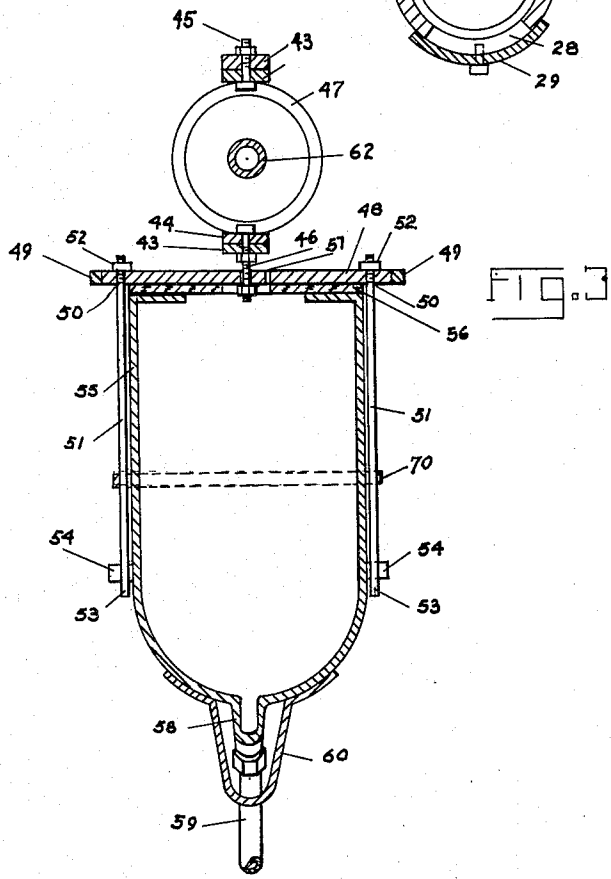


FIG. 3

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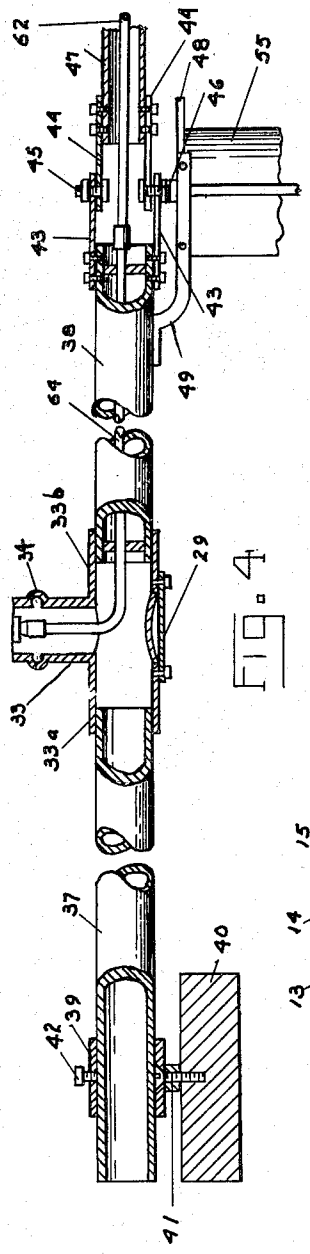


Fig. 4

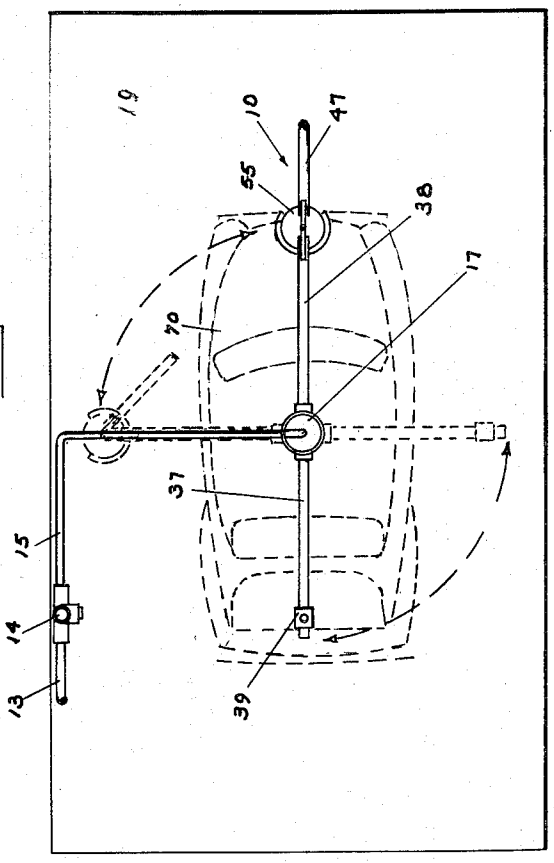


Fig. 5

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PAINT SPRAY DEVICE

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2 Claims. (Cl. 299—58)

This invention relates generally to paint spray devices and is more particularly directed to an overhead support for a paint spraying machine.

The present paint spray devices are provided with a spray gun to which is connected a pair of hoses, one hose extending to a source of air under pressure and the other hose to a container of paint, lacquer and the like. Other spray devices are of a cup gun type which provides a source of paint mounted on the gun itself. In painting large objects such as an automobile it necessarily follows that the hoses must be of sufficient length to permit the spray gun to reach all portions of the article being painted. When those portions nearest the sources of air pressure and paint are being sprayed, the excess lengths of hoses become a nuisance and a hazard, compelling the operator thereof to stop his work and adjust the hoses in order that they do not become kinked or entangled with themselves or with the article being painted, and also that the hoses do not come into contact with the freshly painted surfaces of the article being painted. Furthermore, as the operator moves along the article being painted, the hoses are dragged along the floor and any dust thereon is raised into the atmosphere where it later settles on the freshly painted surfaces to mar same. In the cup gun type spray device, the operator has to carry the added weight of about one quart of paint during the spraying operation. This additional weight is objectionable to the operator, and when painting a large item such as a car, the operator must stop at intervals to refill the paint container.

Therefore, it is a principal object of the present invention to provide an overhead support for a paint sprayer, which support is mounted for pivotal movement thereof to permit ready access to all portions of an object being painted.

A further object of the present invention is the provision of a paint sprayer machine characterised as above which is simple in construction and operation.

A still further object of the present invention is to provide a paint sprayer machine which eliminates the need of providing same with excess lengths of hoses in order to permit the spraying of portions of an article furthermost from the sources of air pressure and paint.

A still further object of the present invention is the provision of a paint sprayer described hereinbefore which eliminates the necessity of the operator thereof to stop at intervals during the spraying operation to refill the paint container of a cup type paint gun and to adjust the hoses as he moves from one portion of the article being sprayed to another and also the danger of spreading dust into the atmosphere by the movement of excess hoses.

With these and other objects in view, the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings, forming a part of the present specification with the understanding, however, that the invention is not confined to any strict conformity with

the showing of the drawings, but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a side elevational view of a paint spray machine embodying my invention with a motor vehicle shown in dotted lines.

Figure 2 is a sectional view taken along the line 2—2 of Figure 1.

Figure 3 is a sectional view taken along the line 3—3 of Figure 1.

Figure 4 is a detailed enlarged view of the rotatable support arms shown partly in section.

Figure 5 is a diagrammatic plan view of the device showing the various positions thereof while painting a vehicle in an enclosure.

Referring now to the drawings wherein like numerals are used to designate similar parts throughout the several views, the numeral **10** refers generally to a structure which is hereinafter explained in detail, pivotally mounted on a ceiling **19***a* of a stall or compartment **19** at approximately the central portion thereof. An inverted dome **17**, which is secured at its periphery to the ceiling **19***a* by means of a plurality of bolts **18**, is provided with a centrally disposed circular opening **20** having a depending flange **23** and an inwardly extending flange **21** at the lower portion thereof. Along the side wall of the inverted dome **17** there is a bore or opening **16** through which extends an air pressure hose **15** whose other end is connected to a conventional air pressure regulator **14**; the latter being connected to a source of air pressure (not shown) by means of a hose **13**.

Within the opening **20** in the inverted dome **17** there is mounted for rotatable movement a sleeve **22** provided with a groove **27** contained along its periphery at the upper end portion thereof. The groove **27** is of semicircular cross section as is that of a similar groove formed in an outer race **25**, in which grooves a plurality of ball bearings **27***a* are positioned to permit the rotational movement of the sleeve **22**. The race **25** which is supported by the flange **21** is constructed in two portions for assembling purposes, the upper portion being engaged by a locking disc **30** for securing the race **25** in position therein. The locking disc **30** is secured at its periphery to the dome **17** by means of a plurality of bolts **31**.

A T pipe connector **33** having its leg portions **33***a* and **33***b* disposed horizontally is fitted about the lower end portion of the sleeve **22** and secured thereto by means of a pair of keys **35** received by the keyways formed by slots **32** and **34** contained on the sleeve **22** and the connector **33** respectively. An opening **28** provided in the lower portion of the connector **33** to permit access to the inside thereof has a removable plate **29** covering the opening **28**. The leg portions **33***a* and **33***b* are threaded to receive elongated cylindrical members **37** and **38** respectively. The member or arm **37** has a slidable sleeve **39** mounted thereon, to which sleeve **39** there is secured a weighted member **40** by means of a bolt **41**. The sleeve is provided with a lock bolt **42** for securing the weighted member **40** at any desired position along the pipe **37**. The weighted member **40** functions as a counterweight to prevent any unbalanced effect on the rotatable sleeve **22**. At the free end of the arm **38** there is secured a pair of plate members **43** placed one above the other, each of which extends beyond the end of the arm **38**. A second pair of plate members **44** having its end portions overlapping those of the plate members **43** are pivotally mounted thereto by the pivot pins **45** and **46**. To the other end of each of the plate members **44**, a goose neck conduit **47** is bolted or otherwise secured.

The pivot pin 46 is secured at its lower end portion to a circular cover plate 48, which plate 48 is further secured to the arm 38 by means of a bifurated bracket 49 having its leg portions secured along the edge portions of the cover plate 48. At the periphery of the cover plate 48 there is provided a pair of oppositely disposed bores 50 which receive hanger bolts 51 provided with a nut 52 threaded at one end of each of the bolts 51 and a hooked portion 53 at the other ends thereof for engaging a pair of lugs 54 mounted on the side walls of a paint container 55. The paint container 55 is provided with an opening in the top wall thereof which communicates with a bore 57 in the cover plate 48, thereby permitting the ingress of air to the container 55. A gasket 56 is positioned between the top of the container 55 and the cover plate 48 for sealing the juncture thereof and a handle 60 is secured to the bottom portion of the container 55 to permit a person to grasp same securely in order to remove and replace the container for refilling same with paint and the like. The lowermost portion of the paint container 55 is provided with an outlet tube 58 whose free end is connected to a flexible hose 59. The hose 59 which is secured along its length to a bracket 66 mounted at the free end of the goose neck 47, extends downwardly and terminates at a position slightly above the floor level of the compartment 19 at which end a coupling 67 is mounted adapted to be connected to a conventional spray gun 61. A second flexible hose 62 has one end connected to the spray gun 61 by means of a coupling 68 and extends upwardly in parallel relation with the hose 59 by virtue of a plurality of clamps 63 secured to the hoses 59 and 62. The flexible hose 62 passes through the goose neck 47 and is connected at its end to a conduit 64 which extends through the arm 38 and into the T connector 33 where the conduit 64 is connected to a conventional quick disconnect connector 65 such as those manufactured by De Vilbiss adapted particularly for air hoses at automobile service stations. The quick disconnect connector 65 consists of a male and female portion which when connected together are adapted to rotate with relation to each other and permit the compressed air to flow therethrough without any leakage. The upper portion of the connector 65 is connected to the end of the hose 15 thereby permitting the air under desired pressure to flow from the regulator 14 through the hose 15, the quick disconnect connector 65, the hoses 64 and 62 to the spray gun 61.

When it is desired to place the spray device in operation such as painting an automobile, the handle 60 is grasped and the nuts 52 on the hanger bolts 51 are unthreaded until the hooked end portions 53 become disengaged from the lugs 54 of the container 55 thereby permitting the container to be removed from its normal operating position. The paint container 55 is then filled with paint, lacquer and the like and then replaced to its operating position as shown in Figure 3. The counterweight 40 is adjusted if necessary, to balance the arms 37 and 38. The free ends of the hoses 59 and 62 are then connected to the spray gun 61. Now the pressure regulator 14 is adjusted to provide the spray gun 61 with the desired air pressure and when the spray gun is actuated the air pressure effects the spraying of paint and the like from the spray gun to the surfaces to be painted. The operator then proceeds to spray paint onto the surfaces of the automobiles; as he completes painting a surface, he moves along the vehicle to an unpainted portion and at the same time tugs on the vertically disposed hoses 59 and 62 with a sidewise motion causing the device to rotate about the support 17 so that the hoses 59 and 62 hang vertically adjacent to the operator. The lengths of the tubing arms 38 and 47 are such that when a vehicle is placed in position as shown in Figure 1, the hoses 59 and 62 will depend just beyond but in close proximity to the end portions of the automobile to permit the operator to spray those portions with ease and no inconvenience. When the operator is about to spray the side portions of the vehicle 70, he carefully pulls on the hoses 59 and 62 with a lateral motion causing the goose neck tubing 47 to pivot about the pins 45 and 46 in a direction toward the side wall of the vehicle 70 so that the hoses 59 and 62 now depend in close proximity to the vehicle 70 as shown by the dotted line position of the device in Figure 5.

It can be seen that while spraying all portions of the vehicle, the vertically depending hoses 59 and 62 extend downwardly in close proximity of the surface being sprayed at all stages of the spraying process without any excess lengths of hoses to contend with. The hoses 59 and 62 are of such length that they do not come in contact with the floor of the stall and yet permit the spraying of all portions of the vehicle. When the operator sprays the roof of the motor vehicle 70, the loop formed by the hoses 59 and 62 will be formed behind the operator who with the use of his free hand can maintain the hoses out of contact with the sprayed surfaces of the vehicle.

What I claim as new is:

1. An overhead support for a spray device comprising an inverted dome mountable on a ceiling, said dome having a substantially centrally disposed opening extending downwardly therefrom, a sleeve rotatably mounted in said opening, a T connector connected to said sleeve, said T connector having its leg portions extending substantially horizontally, an elongated tubular member secured at one end to one of said leg portions of said T connector, a first plate member mounted on the other end of said tubular member and extending therebeyond, a second plate member, a hinge pin pivotally mounting said first and second plate members, an arcuate tubular member having one end secured to said second plate member, an air pressure hose extending through said dome, said sleeve, said tubular member and said arcuate tubular member, said air pressure hose having means mounted at the free end thereof for connecting said hose to a spray device, a container secured to said elongated tubular member, said container having an outlet, a second hose having one end connected to said outlet and the other end terminating in juxtapositon with said free end of said air pressure hose and connecting means mounted on said other end of said second hose adapted to connect said hose to said spray device.

2. The structure as recited by claim 1 taken in combination with a further elongated member secured at one end to the other of said leg portions of said T connector and a weighted member movably mounted on said further elongated member.

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