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(54) **Spray gun holder**

(57) A holder (10) suitable for supporting a paint spray gun (11) either on a workbench or on a wall, such as a wall of a spray booth. The spray gun holder (10) is vacuum formed or otherwise moulded from a paint and solvent resistant plastic and has a cylindrical cavity (14) which is shaped to receive and protect the nozzle end of the spray gun (11). When the holder (10) is used with a spray gun (11) having a top mounted paint cup (23), the cavity (14) preferably is disposed at an angle to vertically orient the paint cup (23) when the gun holder (10) is placed on a horizontal surface, such as a workbench, to facilitate filling the paint cup (23). The holder (10) has a raised rim (24) forming a tray to protect the work surface when filling the paint cup (23). The cavity (14) in the gun holder (10) may hold a volume of solvent for cleaning paint from an air cap (29) on the spray gun (11) while the gun is supported on the workbench. When the gun holder (10) is mounted on a vertical wall, the cavity (14) is angled upwardly from the horizontal to retain a spray gun (11). the gun holder (10) also may be used to support and protect a new spray gun (11) in packaging during shipping.

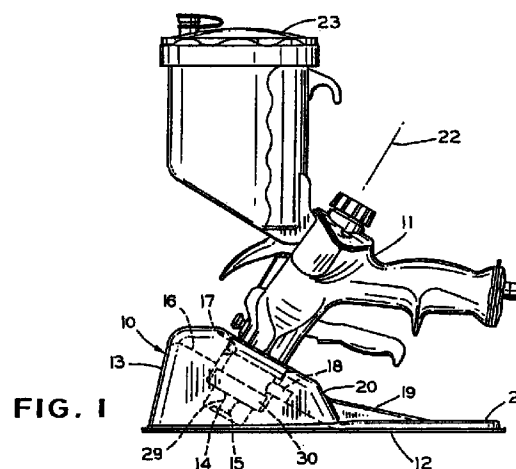


FIG. 1

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Description

This invention relates to spray guns and more particularly to a holder for supporting a spray gun either above a horizontal surface such as a workbench or a table top or from a vertical surface such as a wall of a paint spray booth.

When spray painting, the painter often has to set the spray gun down between spraying operations. Many prior art paint spray guns are provided with a hook which extends above the gun body for hanging the spray gun in a spray booth when the gun is not in use. In an automotive refinishing spray booth, the painter may use several spray guns for alternately applying different colours and types of paint, such as primer, coloured paint and a clear top coat. However, not all spray guns have a hook for hanging. Some spray guns which are used, for example, in automotive body repair shops have the paint cup mounted above the gun body for feeding the paint to the gun by gravity. Spray guns with a top cup may not have a hook for hanging. If they are provided with a hook, the paint cup may be tilted at an angle that does not permit easy opening and refilling the paint cup while the gun is hanging from the hook. Further, when a top cup gun is being filled with paint, there has been no protection against spills.

When a spray gun is used over a long period of time such as over an eight hour work shift, paint can accumulate on a nozzle assembly including an air cap and may eventually adversely affect operation of the spray gun. The painter may clean the exterior of the front end of the spray gun including the nozzle assembly by dipping the front end of the gun into paint solvent. There has been no convenient way of holding a spray gun with its front end submersed in solvent to dissolve accumulated paint from the gun. Further, when the gun is initially removed from the solvent, there has been no convenient way to collect drips and spills.

It would be useful for a painter to have a spray gun holder which may be placed on a workbench for holding a spray gun when it is not in use. For painters using top cup spray guns, it also would be useful to have a spray gun holder which supports the spray gun on the workbench with the paint cup vertically oriented to facilitate filling the paint cup. Further, it would be useful to include some structure for protecting the workbench from spilled paint and drips, while filling the top mounted paint cup. While painting, it would be useful to have a spray gun holder which can be mounted on the side of a spray booth wall to serve as a holster for holding a spray gun when it is not in use.

An aim of the present invention is to provide an improved paint spray gun holder which facilitates the holding of the spray gun when servicing and refilling it.

According to the present invention there is provided a holder for a spray gun having a nozzle assembly at a front end, characterised in that the holder comprises a flat edge adapted to abut a supporting surface, an integral section extending to one side of the flat edge, and a

cylindrical cavity formed in the extending section and adapted to receive and hold the front end of a spray gun, the cavity having an axis of less than 90° to the flat edge.

The invention is directed to a spray gun holder which is capable of being placed on a horizontal top of a workbench or table for holding a paint spray gun and also may be mounted on a vertical wall such as a wall of a spray booth for holding the spray gun. In both applications, the air hose may be left attached to the spray gun while the gun is placed in the holder. The spray gun holder is vacuum formed or otherwise moulded from a durable paint and solvent resistant plastic such as polyethylene and has a generally rectangular flat edge which may be supported on a workbench or positioned against a wall. An angled cylindrical cavity is formed in a section which extends to one side of the holder edge for receiving the nozzle end of the spray gun. The cup may be disposed at an angle which vertically orients the paint cup on a top cup spray gun when the spray gun is supported on a table or workbench to facilitate filling the paint cup. A raised rim extends at least part way around the perimeter of the gun holder to define a tray for catching any paint spills or drips. The cavity may hold a small volume of solvent for cleaning external surfaces of the air cap while the gun is supported on the workbench. When the spray gun holder is mounted on a wall of a paint spray booth, the cavity is disposed at a slightly upwardly directed angle to securely retain the spray gun. The gun holder may be used with other packaging to support and protect a new spray gun during shipping.

An embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is a side elevational view of a spray gun holder according to the invention shown supporting a top cup paint spray gun above a horizontal surface; Fig. 2 is a side elevational view of the spray gun holder of Fig. 1; Fig. 3 is a top plan view of the spray gun holder of the invention; and Fig. 4 is a cross sectional view as taken along line 4-4 of Fig. 3.

Referring to Figs. 1 and 2 of the drawings, a paint spray gun holder 10 is illustrated according to a preferred embodiment of the invention for supporting a spray gun 11. The spray gun holder 10 is vacuum formed or otherwise moulded from a tough paint and solvent resistant material such as polyethylene. Preferably, the spray gun holder 10 is formed from low cost recycled material. In Fig. 1, the spray gun holder 10 is illustrated in a horizontal orientation as occurs when a flat edge 12 is supported on a horizontal surface such as the top of a workbench or a paint mixing table (not shown). In Fig. 2, the spray gun holder 10 is illustrated in a vertical orientation as occurs, for example, when the holder 10 is secured to a wall of a paint spray booth (not shown).

An enlarged upstanding section 13 extends from the flat edge 12 of the spray gun holder 10. A cylindrical cavity 14 is formed in the section 13 for receiving a front end 15 of the spray gun 11. The cavity 14 is sufficiently large to easily receive the spray gun end 15, while remaining sufficiently close to the dimensions of the spray gun end 15 to provide support for the spray gun 10. A groove 16 cuts through an upper portion 17 of the cavity 14 to receive a projection 18 on the spray gun end 15 which may be a paint cup or hose fitting, or a plugged opening, or a paint flow valve, for example. When the spray gun 11 has such a projection 18, the projection 18 and the groove 16 cooperate to prevent the spray gun 11 from rotating in the gun holder 10. A pair of rails 19 extend from an end 20 of the section 13 towards an end 21 of the gun holder 10. The rails 19 provide strength and rigidity to the gun holder 10, while keeping the needed material thickness at a minimum.

The axis 22 of the cylindrical cavity 14 (and also the axis of the spray gun 11 when it is retained in the cavity 14) is disposed at an angle to the flat edge 12 which is preferably less than 90°. The illustrated paint spray gun 11 has a top mounted paint cup 23 which is disposed at an angle of 30° to the spray gun axis. By forming the cavity axis at an angle of 60° to the flat edge 12, the paint cup 23 will be oriented on a vertical axis when the flat edge 12 is horizontal. Holding the paint cup 23 on a vertical axis facilitates filling the paint cup 23. It will be appreciated that the actual angle of the axis 22 can be optimized for various spray gun designs by providing the axis 22 at an angle relative to the flat edge 12 such that the sum of the axis angle and the angle of the top paint cup relative to the axis of the spray gun barrel equals 90°. This will assure that the paint cup 23 will be vertically oriented when the holder 10 supports the spray gun 11 on a horizontal surface. Accordingly, if a top mounted paint cup 23 were modified to extend at an angle of 40° to the axis of the spray gun barrel, the axis 22 of the cylindrical cavity will be at 90° minus the 40° or at 50° to the flat edge 12 to provide a vertical orientation to the paint cup 23 when the spray gun is supported in the holder 10.

The angle of the axis 22 is of minor importance when the spray gun holder 10 is mounted on a vertical wall, as in Fig. 2. Preferably, the angle is less than 90° and the holder 10 is positioned with the upper portion 17 of the cavity 15 directed generally upwardly. Thus, when the spray gun 11 is inserted into the cavity 14, it will be angled in a slight downward direction and will be retained in the cavity 14 through gravity.

Figs. 3 and 4 show details of the spray gun holder 10. A raised rim 24 extends at least partially around the perimeter of the holder 10 including along the end 21 and adjoining sides 25 and 26 to define a tray 27 for collecting any paint spilled while filling the paint cup 23. As best shown in Fig. 4, the cavity 14 has a slightly smaller diameter lower end 28 which receives an air cap 29 (Figs. 1 and 2) on the spray gun end 15 which forms a part of a nozzle assembly. The air cap 29 is held on the spray gun by a retaining ring 30. The retaining ring 30 seats against

a step 31 in the cavity 14 adjacent the smaller diameter end 28. The air cap 29 will be suspended in the lower cavity end 28 without touching the sides of the cavity end 28. While the spray gun holder 10 is supported with the edge 12 horizontal, a suitable paint solvent may be placed in the lower cavity end 28 for dissolving paint accumulation on the air cap 29. Any excess or spilled solvent will flow down the groove 16 and collect in the tray 27 for easy clean up. It will be noted in the drawings that the cavity 14 also may have an angled or chamfered edge 32 to facilitate inserting the spray gun end 15 into the cavity 14.

Dimples 33 and 34 or holes are centered in opposite ends 21 and 35 of the spray gun holder 10. Nails or screws (not shown) may be driven through the dimples 33 and 34 for securing the spray gun holder 10 to a vertical wall, such as a spray booth wall. It will, of course, be appreciated that additional dimples or holes may be provided if an additional number of fasteners is desired.

The above described spray gun holder 10 has a number of advantages over prior art spray gun holders. It is easily used either on a bench or wall mounted. When it is wall mounted, holding the spray gun 11 from the front end 15 makes it easy to hang and remove the gun with a single motion, unlike spray guns which are hung from a top hook. When filling a top mounted paint cup, the spray gun holder 10 has an integral spill tray to catch any paint spills and drips. Further, the spray gun holder 10 may be designed to hold the top mounted paint cup vertical to facilitate filling. Finally, the spray gun holder 10 may be shipped with a new spray gun and used to support the spray gun in a shipping carton.

It will be appreciated that various modifications and changes may be made to the above described preferred embodiment of paint spray gun holder 10. Although the holder has been illustrated holding a top cup type of paint spray gun, it will be appreciated that it may be used with other types of paint spray guns. When the holder is mounted on a vertical surface it may be used to hold spray guns having a bottom suction feed or pressure feed paint cup or to hold a spray gun in which the fluid is fed through hoses connected to a remote pressure feed fluid source. Removal of fluid and air hoses is not necessary to support the spray gun in the holder 10.

Claims

1. A holder (10) for a spray gun (11) having a nozzle assembly at a front end (15) characterised in that the holder (10) comprises a flat edge (12) adapted to abut a supporting surface, an integral section (13) extending to one side of the flat edge, and a cylindrical cavity (14) formed in the extending section (13) and adapted to receive and hold the front end (15) of a spray gun, the cavity (14) having an axis of less than 90° to the flat edge (12).

2. A spray gun holder (10) as claimed in Claim 1, characterised in that the holder is moulded from polyethylene.
3. A spray gun holder (10) as claimed in Claim 1, characterised in that the flat edge (12) defines a perimeter, and further including a raised rim (24) extending at least partially around the perimeter to define a tray for retaining fluid spills.
4. A spray gun holder (10) as claimed in Claim 3, characterised in that the cavity (14) has a closed bottom adapted to receive a paint solvent for cleaning at least a portion of the exterior of a nozzle assembly on a spray gun (11) supported by the spray gun holder (10).
5. A spray gun holder (10) as claimed in Claim 3, characterised in that it further includes a pair of spaced reinforcement rails (19) extending from the section (13) towards an end (21) of the gun holder (10).
6. A spray gun holder (10) as claimed in Claim 5, characterised in that the cavity (14) has a chamfered open end for receiving the front end of a spray gun (11).
7. A spray gun holder (10) as claimed in Claim 1, characterised in that the flat edge (12) is adapted to be supported on a horizontal surface and adapted to be mounted on a vertical wall, and further including means (33, 34) for receiving fasteners for securing the spray gun holder (10) to a vertical wall.

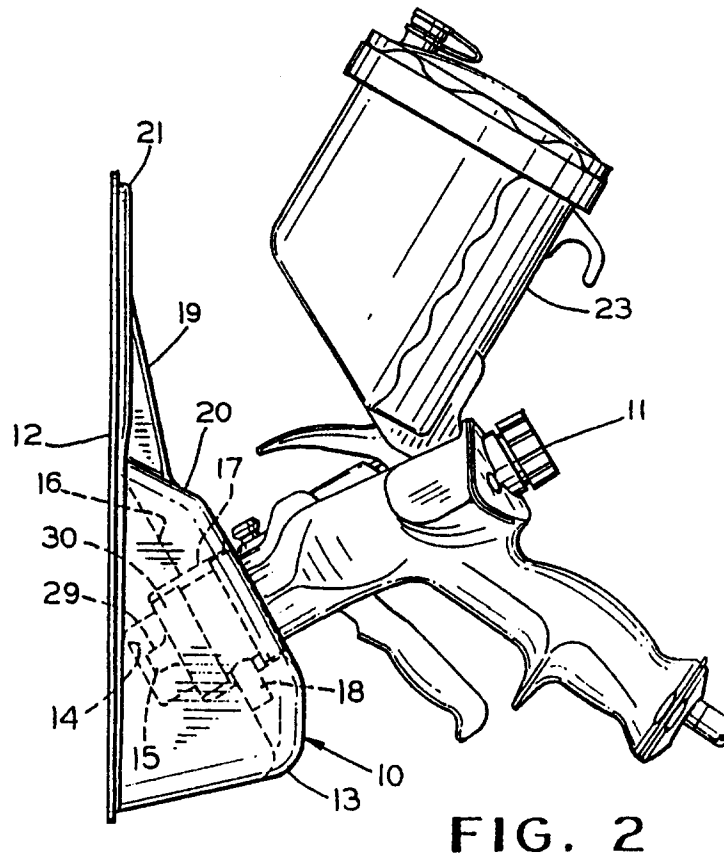
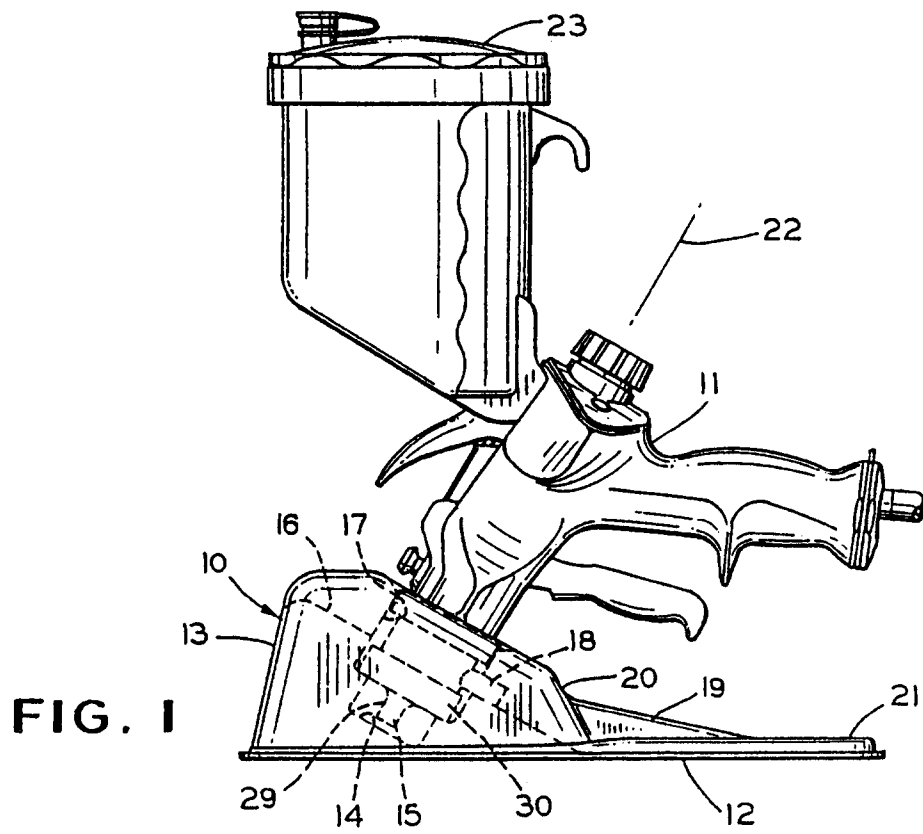
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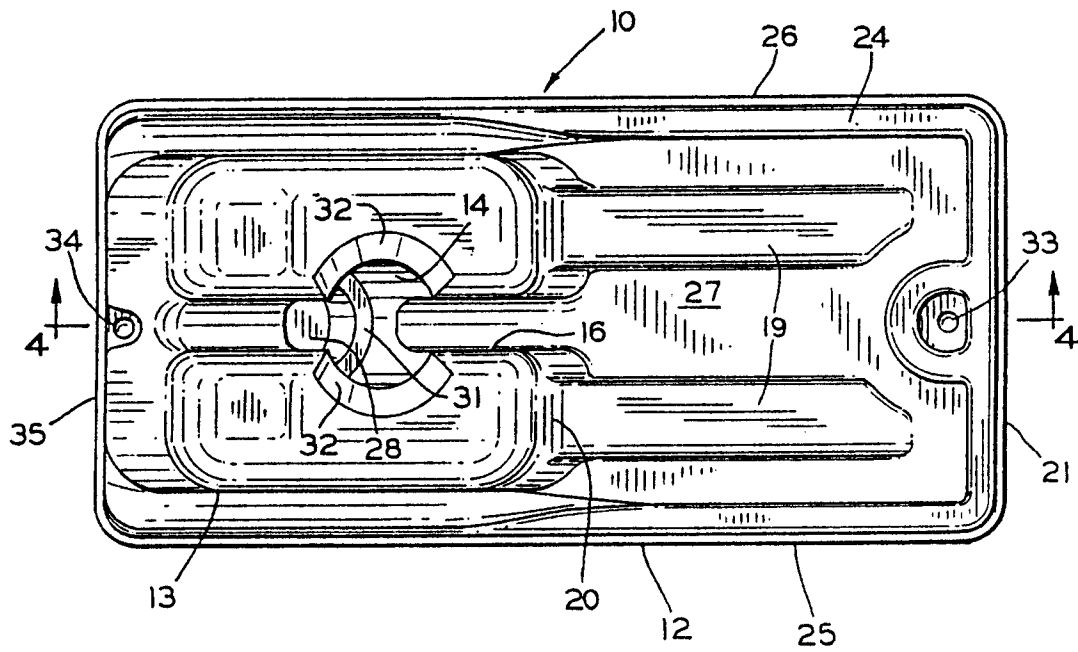


FIG. 3

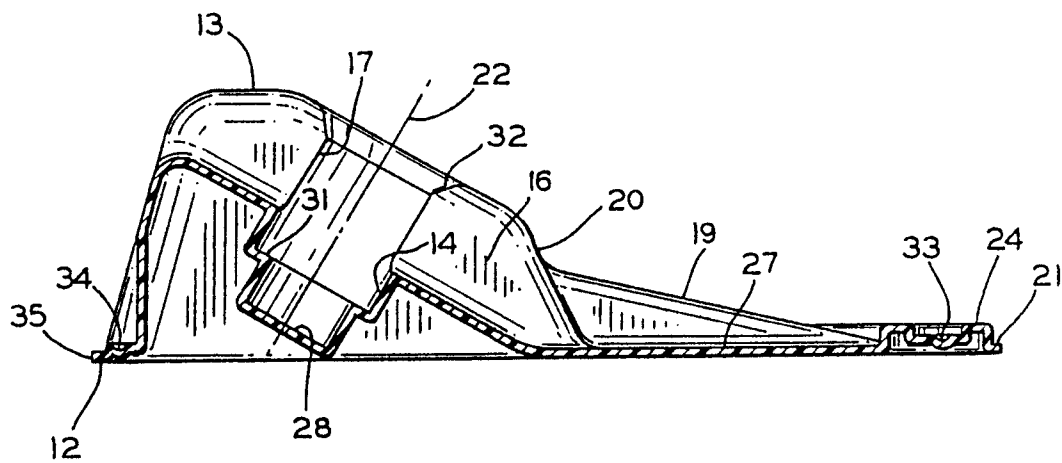


FIG. 4