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[54] **SPRAY-GUN CLEANERS**

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[52] **U.S. Cl.** **134/88;** 134/102; 134/109; 134/171; 134/182; 134/201

[51] **Int. Cl.**[2] **B08B 3/00;** B08B 9/00

[58] **Field of Search** 134/84, 88, 92, 102, 94, 134/104, 109, 171, 172, 182, 134/183, 201; 401/137

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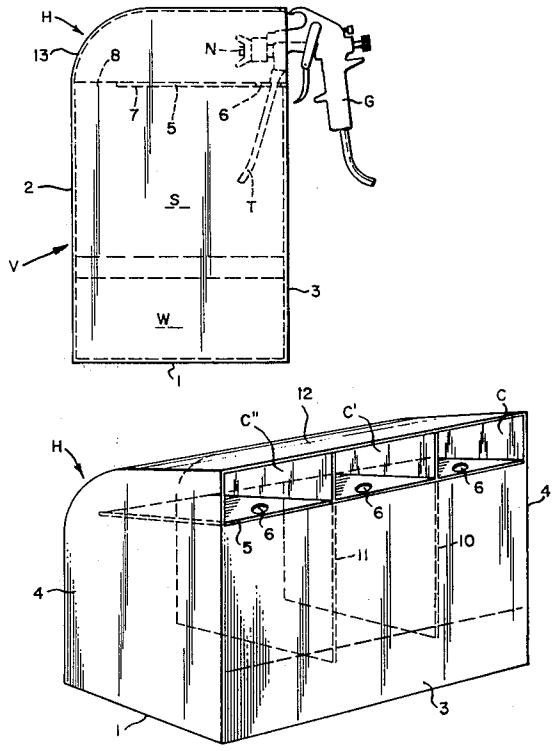
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[57] **ABSTRACT**

An arrangement for cleaning paint spray-guns by use of a small tank or vat with a confining hood at its top which is divided into a plurality of laterally disposed compartments by means of vertical partitions which extend downwardly from the top of the tank into a body of liquid chemical solvent or thinner, which floats above a body of water at the bottom of the tank. The partitions extend through the body of solvent and partially into the mass of water. A horizontal cover or shelf at the top of the tank separates the main portions of the hood compartments therefrom, leaving a communicating passage between each tank and hood compartment at the rear end of the latter. An opening in the shelf at the front thereof in each compartment permits an operator to insert the suction tube of the spray-gun into successive compartments for scavenging the spray-gun with successively cleaner masses of solvent as the gun is directed towards the rear of the hood, without discharging the paint impurities and thinner into the atmosphere. The impurities drop to the bottom of the tank into the body of water, for periodic removal, with or without the cleaning solvent.

5 Claims, 4 Drawing Figures



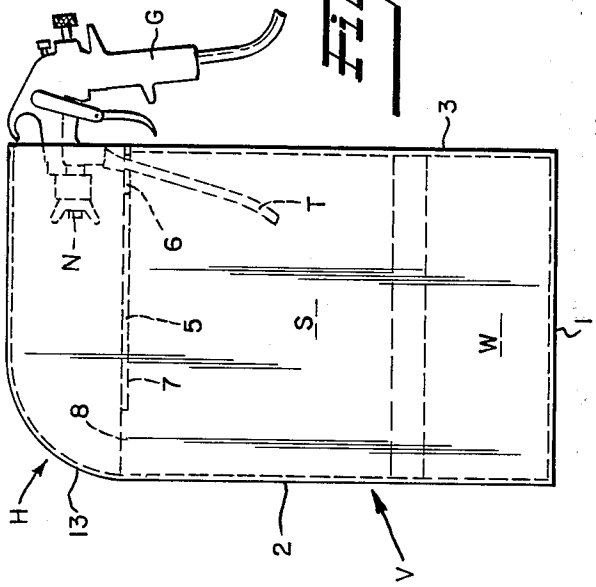


Fig. 4

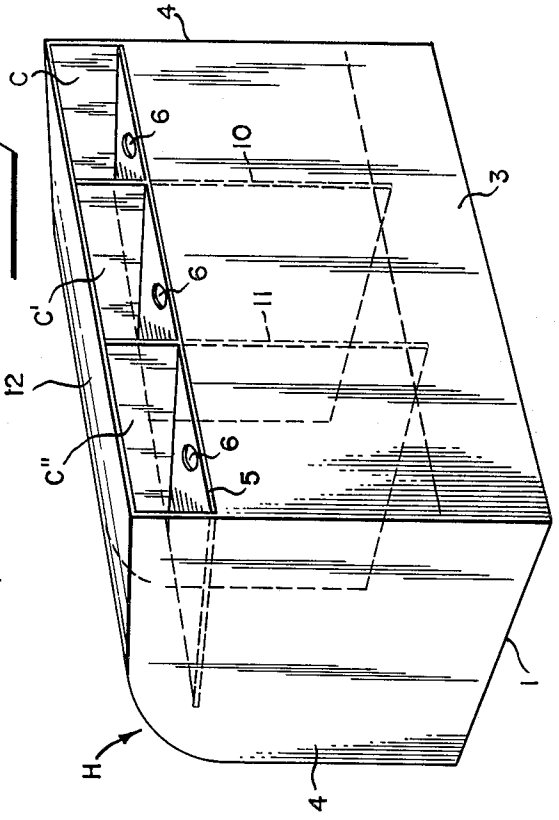


Fig. 1

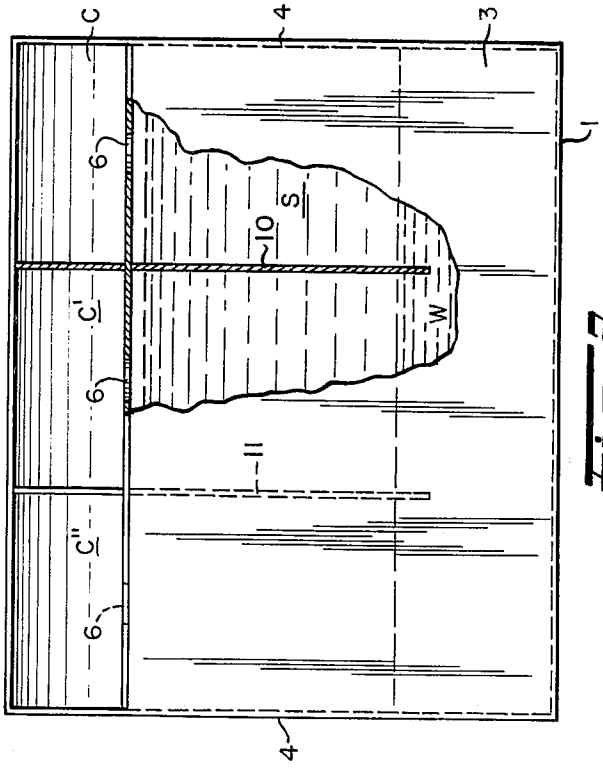


Fig. 2

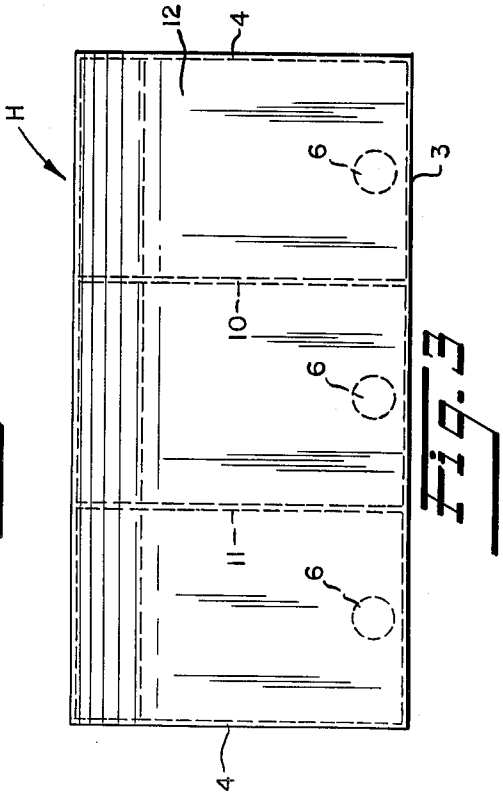


Fig. 3

SPRAY-GUN CLEANERS

This invention relates to an arrangement for cleaning paint spray-guns which is simple in construction and in operation.

It is the object of the present invention to provide a rugged shop tool of low cost for operation wherever paint spray-guns are used, for example, in automobile repair and paint shops, so that the spray-guns may be cleaned quickly and effectively to permit their continuous use for spraying paints of different colors without objectionable mixing or variation of the latter.

It is a further object of the invention to provide a compact paint spray-gun cleaner installation which occupies a minimum amount of space in a shop, and which permits the spray-guns to be cleaned without harmful effects to the operators, and with the most efficient and economical utilization of the cleaning solvents.

It is a further object of the invention to provide a paint spray-gun cleaning apparatus which minimizes fire and environmental hazards.

Other objects and purposes will appear from the detailed description of the invention following hereinafter, taken in conjunction with the accompanying drawings, wherein

FIG. **1** is a perspective view of a preferred embodiment of the spray-gun cleaner in accordance with the invention;

FIG. **2** is a front elevation of FIG. **1** with part of the front wall broken away to illustrate the interior thereof;

FIG. **3** is a top view of FIG. **2**; and

FIG. **4** is a left end view of FIG. **3** with a spray-gun in position for cleaning in accordance with the invention.

The drawings illustrate a spray-gun cleaner installation which consists essentially of a tank or vat V with a superposed hood H.

The unit is preferably formed of sheet metal, having a bottom **1**, back and front walls **2** and **3**, respectively, and end walls **4**. The top **12** of the hood merges with the back wall **2** by way of a curved portion **13**. A cover or shelf **5** extends transversely from the upper edge of the front wall **3** and extends to a rear edge **7** which is displaced from the back wall **2**, by the open passage **8**. Vertical partitions **10** and **11** extend from the top wall **12** downwardly through the hood and into the tank for most of its depth, which serves to subdivide both the hood and the tank into three compartments C, C′ and C″. The cleaner unit may be subdivided into a lesser or greater number of compartments.

Circular openings **6** are provided in the cover **5** in each compartment, adjacent to the front of the apparatus, to permit a spray-gun G to be inserted successively into the respective compartments, with the suction tube T of the gun projecting into one of the circular openings **6**, with the spray-nozzle end directed towards the curved wall portion **13** of the unit.

The tank is filled with a body of water W to a depth above the bottom edges of the partitions **10** and **11**, and a liquid chemical solvent or thinner S is poured into the container which floats above the water W, and which extends to a level slightly below the shelf **5**, so that in effect the container V and hood H are subdivided into a plurality of compartments having a common body of water at the bottom and masses of liquid solvent or thinner floating in each of the compartments above the body of water.

In order to clean a spray-gun quickly and efficiently, the spray-gun is inserted into the first hood C with its suction tube passing through the hole **6** in shelf **5** and penetrating the body of solvent or thinner. The paint in the gun is scavenged by directing it against the concavely curved rear portion of the hood, wherefrom the solvent and paint impurities drop through the passage **8** beyond the edge **7** of the cover to the mass of solvent in the first compartment C. After several discharges of the thinned paint in the spray gun, the latter is inserted into the hood C′ and the operation is repeated, which acts to further clean the interior of the gun with a cleaner body of the solvent, with the relatively fewer impurities dropping into the mass of solvent in the second compartment, and which eventually drops as sediment into the body of water W. The final cleaning of the spray-gun is executed in the third compartment C″ in the same manner as the two previous operations, so that the final cleaning results in a completely clean spray-gun which can be used with paint of an entirely different color, without any intermixture of color shades.

The mode of operation described above results in a tremendous saving of chemical solvent over the practices used heretofore where the solvent was sucked into the spray-gun from cups or jars and sprayed into the atmosphere. The desirability of the elimination of dangers from fire and toxic permeation of the atmosphere is obvious. Not only does the arrangement salvage all of the solvent for re-use, but the cleaning may be executed in a very short period of time. After a substantial period of use of the solvent the same may be disposed of, as by pouring off together with the water, and the container may be filled with a new batch of the materials.

The assembly in accordance with the invention, with no moving parts, may be fabricated at low cost and has a long operative life. The size thereof may be varied in dependence upon the size of the shop and the number of spray-guns which require cleaning in the operation thereof. Thus, an apparatus for a small paint shop may assume approximately the size of a breadbox, for example, **12** inches in length, **6** inches in width and **10** inches in depth, with a superposed hood of **4** inches.

Additional refinements may be applied to the installation if the quantity of solvent is large, and it is desired to effect savings in this area. Thus, the body of water with the paint sediment therein may be decanted by means of a petcock at the bottom of the tank, which may be fitted with sloping walls to permit this to be done more easily. Furthermore, the tank may be fitted with a sight-glass on the exterior, to render visible the interface between the body of water at the bottom and supernatant solvent above it.

Of course, the contours of the tank may be varied to adapt the apparatus to different needs. Also, in some shops, where the work is of a rough nature, a tank subdivided into two compartments may prove adequate to provide a single finishing flush after an initial rough scavenging. On the other hand, as stated above, more than three compartments may be provided for executing a larger number of cleanings with successively cleaner solutions. If desired, the dimensions of the compartments may be varied to accommodate different volumes of thinning liquids in the respective com-

partments, in which case it would be preferable to allot a larger volume to the first compartment C.

I claim:

1. An apparatus for cleaning paint-spray guns, comprising

a. a tank adapted to be supported on a bench or frame and constituted essentially by a closed container for receiving a body of water in the lower portion thereof with a supernatant layer of liquid chemical solvent in the upper portion thereof,

b. an enclosing hood across the top of the tank which is open at the front and closed at the rear whereat it merges with said container,

c. covering means at the upper portion of the tank above the level of the liquid solvent having openings adjacent to the front edge at the open end of said hood, said covering means terminating short of the rear of the hood and tank to provide a passage therebetween,

d. at least one vertical partition extending from the front to the back of said tank substantially from the top to a point above the bottom thereof, and below the interface between the water and supernatant chemical solvent, to divide the tank into a plurality of compartments with one of said openings in each compartment,

e. said openings in said covering means adapted to receive successively the suction supply tube of a spray gun for penetration into said body of solvent to enable the spraying of the residual paint in the gun into the compartment portions of the hood with progressively cleaner bodies of the solvent, which fall through said passage while the paint particles settle in the bottom of said tank in the body of water, for eventual removal.

2. An apparatus as set forth in claim 1, wherein the hood at the top of the container above the passage therebetween is curved concavely to direct the paint impurities and thinner downwardly.

3. An apparatus as set forth in claim 2, provided with two vertical partitions to divide the tank into three compartments.

4. An apparatus as set forth in claim 3, wherein the vertical partitions are spaced equidistantly with respect to the ends of the tank to divide the tank into compartments of equal volume.

5. An apparatus as set forth in claim 1, wherein the vertical partition in the tank extends upwardly into the enclosing hood.

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