Jan. 3, 1933. E. A. GARTHA 1,892,982

AIR FILTER

Filed Sept. 17, 1931

Fig. 1.

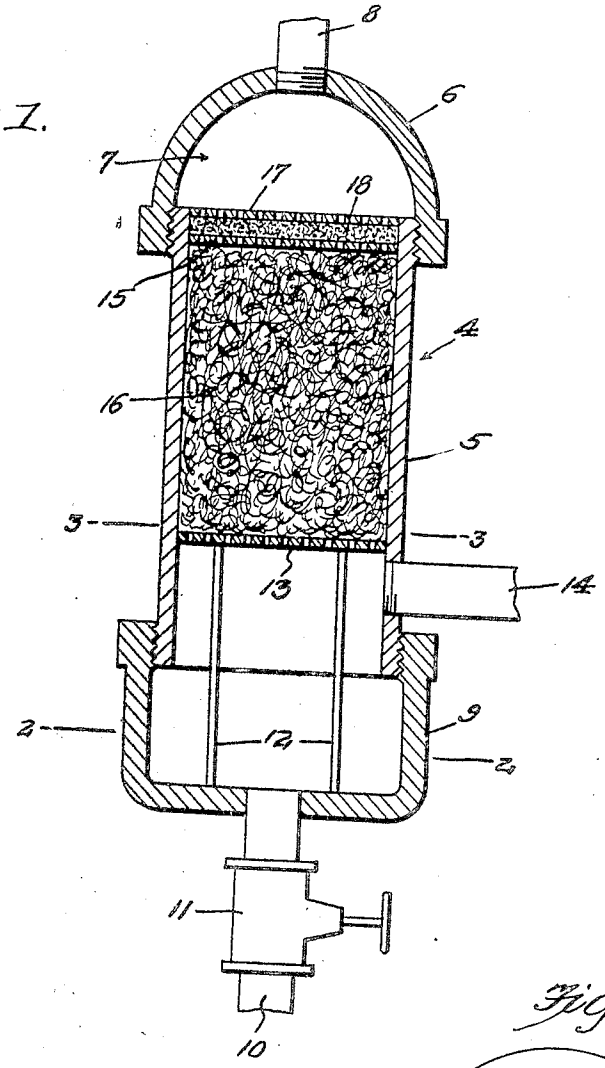


Fig. 2.

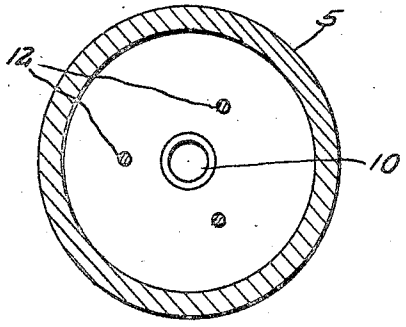
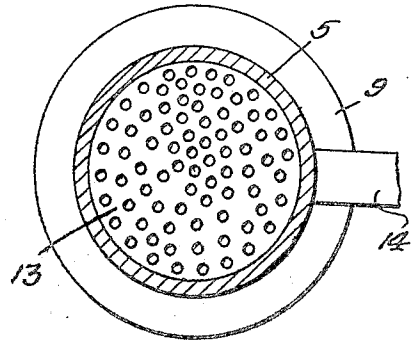


Fig. 3.



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UNITED STATES PATENT OFFICE

EDWARD A. GARTHA, OF DETROIT, MICHIGAN

AIR FILTER

Application filed September 17, 1931. Serial No. 563,450.

This invention relates to an improved air filter designed to intercept the passage of air through a supply line leading to a paint applicator and spray guns used for applying enamel, lacquer, and the like to painted surfaces.

This filter is constructed to provide substantially pure dry air to spray machines, said air being free from scale, moisture, oil, and other detrimental ingredients.

I am aware of the fact that various kinds and types of filters and screens have been employed for this purpose. Therefore, the present invention is intended as a structural contribution to the art regarded as an improvement when contrasted with similar known prior art and marketed structures.

My primary aim is to generally improve upon filters of this class by providing one which is efficient in performance, positive and dependable in action, and what is believed to be a mechanical achievement in this particular line of endeavor.

In the drawing:

Figure 1 is a view in section and elevation disclosing the general arrangement developed in accordance with the present invention.

Figures 2 and 3 are horizontal sections on the lines 2—2 and 3—3 respectively of Figure 1.

The filter is generally denoted by the numeral 4 and its body comprises a tubular shell 5 threaded at its upper end to accommodate a dome-like cap 6 defining an air accumulating and discharge chamber 7. Attached to the crown portion of this dome is the clean air conducting pipe 8 which is intended to convey the clean dry air to the spray gun or machine as the case may be.

A cup-like receptacle 9 is connected with the lower threaded end of the tubular body and this functions as a trap. Attached to the bottom of the trap is a sediment drain pipe 10 having a regulating valve 11. Rising from the cap and extending up into the shell are supporting rods 12 which maintain the apertured disk 13 in place. This disk is disposed in the shell at a point above the place where the air delivery pipe 14 connects to the body. There is a similar apertured disk 15 fitted in the upper end of the shell and compressed cotton 16 is packed firmly between these two disks. Then, too, there is a topping disk 17 disposed in vertically spaced superposed position above the disk 15 and between these two disks is a quantity of steel wool. These two disks 15 and 17 together with the interposed steel wool provide the bottom of the chamber 7, said disks being securely fastened to the wall of the shell or body 5.

One feature of the invention is the fact that the air is drawn or taken in from the side of the body 5 allowing the moisture and water to drop from the air into the trap. In this way the apertured disk 13 constitutes a baffle. In addition, the dirt which accumulates in the air also falls to the bottom of the trap. Whatever dirt and moisture may pass through the apertures in the disk 13 and enters the cotton, is absorbed by said cotton. By compelling the air to pass through the apertured disks, cotton filler and steel wool filler, the extraneous particles are practically removed from the air so that it is dry and pure when conveyed through the pipe leading to the spray machine.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawing. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size, and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

An air filter comprising a tubular open-ended body, a receptacle attached to the lower end thereof and defining a sediment collecting and draining trap, a valved drain pipe connected with the bottom of said receptacle, an air delivery pipe connected to the side of the body above said receptacle, a dome-like cap on the top of said body, a dry clean air pipe connected to and leading from said cap, and filtering means supported in the

body above the air delivery pipe, and comprising a pair of closely spaced upper apertured disks located in the upper end of the tubular body and having steel wool located between them, and a third apertured disk disposed just above said air delivery pipe, filtering material placed between the third disk and the lower disk of the pair of disks, and rods extending upwardly from the bottom of the trap and engaging the lower disk for supporting the same.

In testimony whereof I affix my signature.

EDWARD A. GARTHA.