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DUST COLLECTOR

Filed July 8, 1927

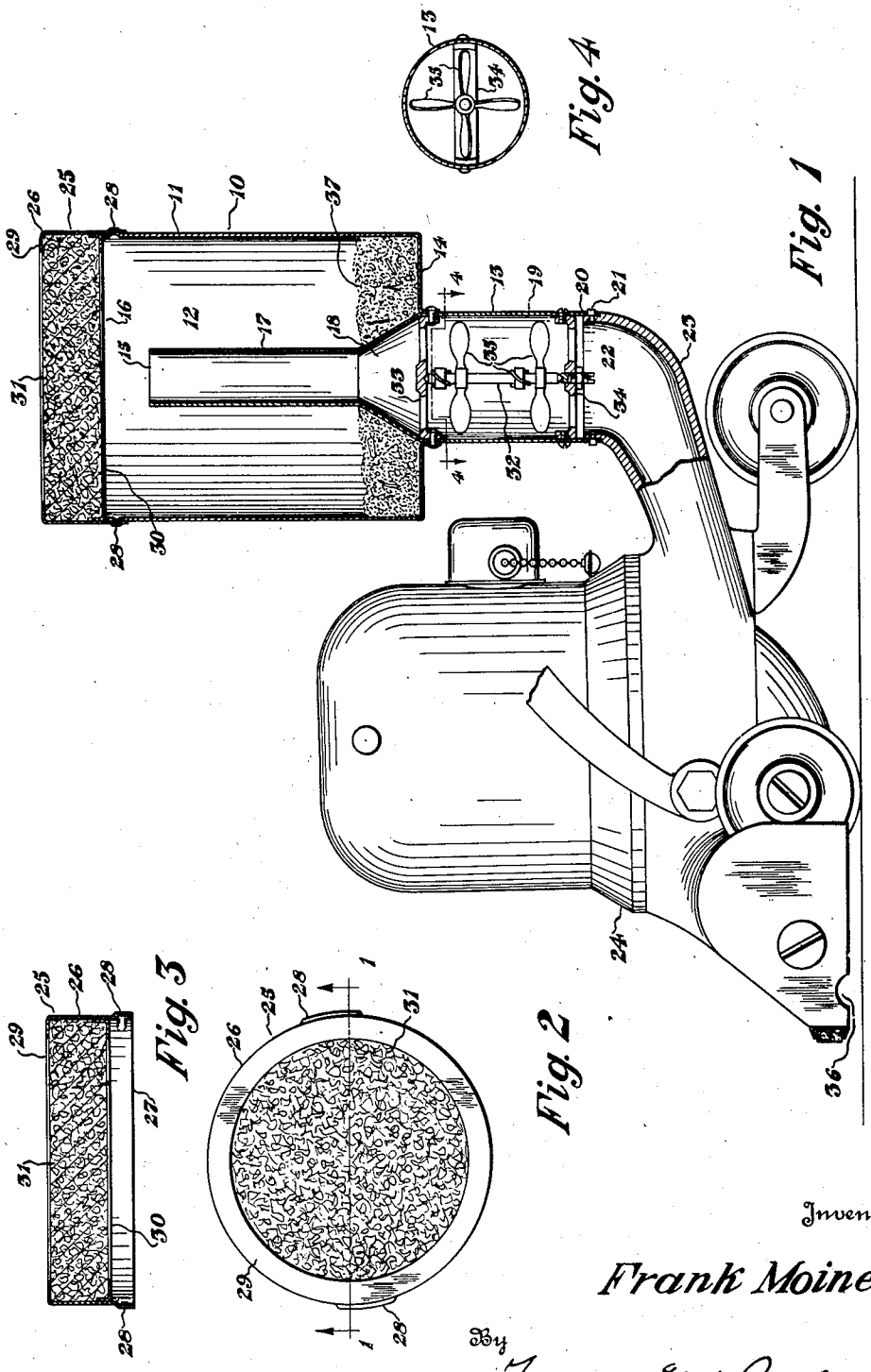


Fig. 4

Fig. 1

Fig. 3

Fig. 2

Inventor

Frank Moinett

By Frease and Bond Attorneys

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FRANK MOINETT, OF CANTON, OHIO

DUST COLLECTOR

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The invention relates more particularly to dust collectors for portable suction sweepers which usually are supplied with relatively large fabric bag dust collectors which are relatively inconvenient to handle and empty, due to their large size and the tendency of their inner and outer surfaces to become dirty, and are furthermore unsanitary because of the passage of germ laden dust therethrough, and the deposit of the dust and germs in the bag fabric.

The objects of the present improvements are to provide an encased dust collector of relatively small and convenient size and adapted to be handled and emptied easily and without dirtying the hands of the operator, and which shall be sanitary and adapted to be sterilized.

These objects are attained by a construction and arrangement which may be described in general terms as including for a dust collector and the like, a preferably metallic container comprising a dust collecting chamber, an inlet duct therefor adapted for connection with a dust delivering means such as the exhaust side of a suction sweeper fan, and there being preferably a plurality of propellers in the inlet duct, and an air passing and dust retaining filter closure for the dust collector chamber, preferably made of a material having a plurality of indirect duct passageways therethrough such as sponge rubber.

A preferred embodiment of the invention is illustrated in the accompanying drawing forming part hereof, in which

Figure 1 is a fragmentary elevation view of a suction sweeper equipped with one of my improved dust collectors, the dust collector and portions of the sweeper being illustrated in longitudinal cross section as on line 1—1, Fig. 2;

Fig. 2, a detached top plan view of the improved dust collector;

Fig. 3, a detached sectional view of the same similar to Fig. 1; and

Fig. 4, a horizontal sectional view thereof as on line 4—4, Fig. 1.

Similar numerals refer to similar parts throughout the several views.

The improved dust collector indicated generally at 10 includes a preferably metallic container 11 comprising a dust collecting chamber 12. A longitudinally extending inlet duct 13 for the container extends through the bottom wall 14 thereof and the open top end 15 of the inlet duct terminates adjacent the upper open end 16 of the container.

The inlet duct 13 is preferably of reduced cross section within the container 10, as at 17, and enlarges therein as at 18 and extends in enlarged cross section beyond the outside of the bottom wall 14 as at 19, and the lower open end 20 of the duct is provided with a removable bayonet joint connection as at 21 with the upper open end 22 of the dust outlet duct 23 of the portable suction sweeper 24 of any well known design.

For the upper open end 16 of the container 11, an air passing and dust retaining filter closure 25 is provided and includes a cylindric side wall 26 provided at its lower open end 27 with bayonet joint connectors as at 28 for connection with the open upper end 16.

The upper end of the cylindric side wall 26 is provided with an inwardly directed peripheral flange 29, and spaced therebelow an inwardly directed peripheral angle flange 30 is secured as by welding upon the inside of the cylindric wall 26, the flanges 29 and 30 forming a seat for the air passing and dust retaining filter disk 31 made of a material, preferably sponge rubber, having a plurality of indirect duct passageways therethrough.

For slowing down the passage of dust through the inlet duct 13 a shaft 32 axial with the inlet duct is mounted therein for rotation as by means of a suitable upper bearing bracket 33, and a suitable lower bearing bracket 34 secured to the walls of the inlet duct; and a plurality of propellers 35 are spaced and secured upon the shaft and have their blades preferably at right angles to each other, whereby a flow of air through the duct will cause the propellers to rotate which propeller will slow down the flow of dust through the inlet duct.

The dust outlet duct 23 of the sweeper 24

is in communication with the nozzle 36 thereof and through which dust and dirt laden air is drawn into the suction sweeper and is passed therethrough into the dust outlet duct 23 from which it enters the inlet duct 13 of the improved dust collector 10, passing therethrough and entering the collecting chamber 12 adjacent the filter closure 31 which permits the exhaust flow of air but deflects the dust and dirt back into the collector chamber 12 where it settles as indicated at 37.

When the chamber 12 is filled with dirt and dust, the same may be emptied therefrom by removing the collector from the sweeper and by removing the filter closure 25 from the container 11 and emptying the dust and dirt out of the container, after which the container may be thoroughly sterilized by hot water, chemicals or the like.

I claim:

1. A dust collector for suction sweepers and the like, including a container comprising a dust collecting chamber, said container being open at the upper end, an inlet duct for the container adapted for connection with a dust delivering means, said inlet duct extending into the chamber, a propeller in the inlet duct, and a sponge rubber closure forming the sole closure for the upper open end of the container.

2. A dust collector for suction sweepers and the like, including a container comprising a dust collecting chamber, said container being open at the outer end, an inlet duct for the container adapted for connection with a dust delivering means, said inlet duct extending into the chamber, a propeller in the inlet duct, and a filter closure forming the sole closure for the outer open end of the container.

In testimony that I claim the above, I have hereunto subscribed my name.

FRANK MOINETT.