

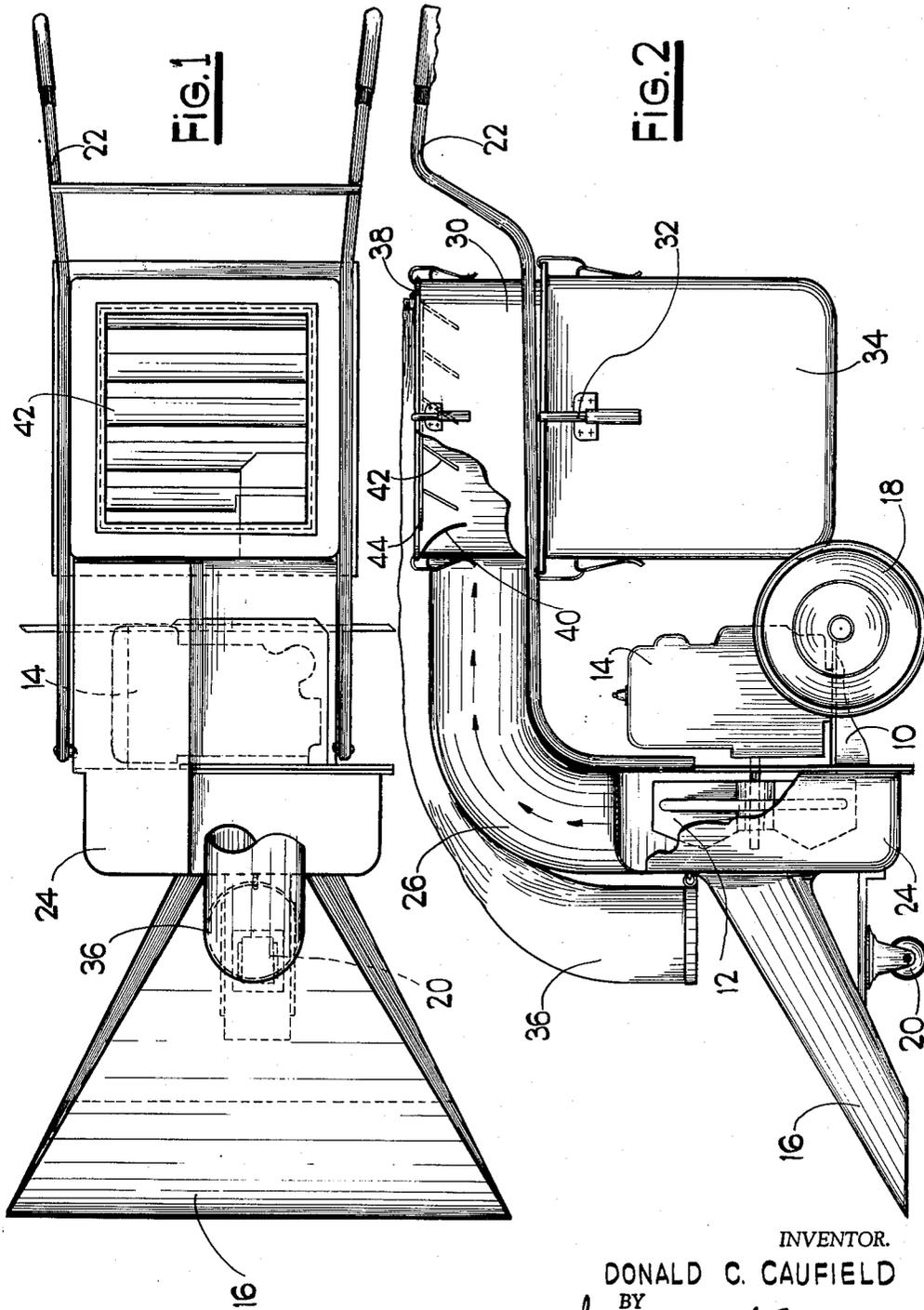
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SURFACE CLEANER

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SURFACE CLEANER

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1 Claim. (Cl. 15—353)

This invention relates to a floor, sidewalk or other flat surface cleaner provided with a motor driven suction impeller.

More particularly the invention relates to a cleaner of the motor-driven vacuum type having a metal receptacle detachably attached to the discharge conduit for the impeller and also having a detachably attached fabric bag attached thereto.

One feature that is important is that the intake conduit for the impeller at the forward end of the cleaner has an elongated narrow opening closely adjacent the surface to be cleaned, the discharge conduit of the impeller extending above the impeller and then horizontally rearward of the cleaner.

Another feature that is of advantage is that the discharge conduit ends in a horizontal frame member having its upper and lower surfaces open to form attaching surfaces for the depending metal receptacle and a foraminous receptacle attached to the upper rim of the frame.

Another object of the invention is to provide baffles or louvres in the open frame member discharge conduit to guide small metal or other relatively heavy articles picked up by the impeller into the depending metal receptacle and to permit dust and small particles to be blown into the fabric receptacle.

With the above and other objects in view the invention may include the features of construction and operation set forth in the following specification and illustrated in the accompanying drawing.

In the accompanying drawing annexed hereto and forming a part of this specification I have shown the invention embodied in a manually movable vehicle having an internal combustion engine driven impeller, but it will be understood that the invention can be otherwise embodied, and that the drawing is not to be construed as defining or limiting the scope of the invention, the claims appended to this specification being relied upon for that purpose.

In the drawing:

Fig. 1 is a plan view of a floor cleaner made in accordance with the present invention and Fig. 2 is a side elevation partially broken away of the cleaner shown in Fig. 1.

In the above mentioned drawing, there has been shown but one embodiment of the invention which is now thought to be preferable, but it will be understood that changes and modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

Referring more in particular to the figures of the drawing, the cleaner comprises a frame or truck 10 supporting a motor driven impeller 12, the motor 14 shown being shown as a small standard gasoline motor to which the impeller 12 is directly attached at its forward end for rotation on a horizontal axis. As the motor 14 and impeller 12 are, or may be, of any standard types further description is not thought necessary. It will suffice to state that the impeller 12 when rotated at high speed provides a strong suction in its intake conduit 16 sufficient

to pick up loose articles on the surface being cleaned. The truck 10 is provided with a pair of wheels 18 for supporting the weight of the cleaner. Also, preferably a small wheel 20 may be mounted on the frame or truck 10 directly below the intake conduit 16. The truck 10 terminates at the rear in a pair of horizontally extending handles 22 by which the cleaner may be moved and guided.

On the truck or frame 10 is a small platform on which is mounted the motor 14, the one shown being a standard form of gasoline motor to the mainshaft of which extending forwardly therefrom is directly attached the hub of the impeller 12. As shown the impeller is of the open blade type and is mounted for rotation at high speed, about a horizontal axis.

The impeller 12 is enclosed within a housing 24 having intake conduit 16 and a discharge conduit 26. The intake conduit 16 as shown extends forwardly from the impeller housing 24 and downwardly so that its forward edge is closely adjacent the surface over which the cleaner is traversed. The forward end of the intake conduit is greatly widened and the walls form a narrow elongated front opening closely adjacent the surface being cleaned.

The discharge conduit 26 for the impeller 12 inclines upward and then extends horizontally toward the rear of the cleaner. The forward part of this conduit extends over the top of the impeller housing 24 to which it is attached. The rear portion of the discharge conduit extends beyond the impeller housing 24 and is in the form of an open frame 30 having the vertical walls only, the upper and lower surfaces being entirely open. To the lower edge or rim of this frame 30 is attached detachably by suitable clamps 32 a depending metal receptacle 34. To support the open frame of the discharge conduit the side walls of the open frame may be attached to the bars forming the handles 22 which in addition aid in supporting the metal receptacle.

To the upper edge or rim of this open frame 30 is attached a flexible somewhat porous textile or fabric bag 36. This bag 36 as shown in its deflated condition extends forward over the discharge conduit 26 and has its closed forward end attached as shown to a portion of the impeller housing 24. This bag 36 may have its open end clamped against the upper edge of the open frame 30 of the discharge conduit by means of a metal rim 38 fitting the shape of the rim of the open frame 30. Clamps of any form may be used to detachably attach the rim 38 and bag 36 to the frame 30.

To deflect metal and other articles picked up by the impeller 12 a curved baffle member 40 extending transversely of the open frame 30 is mounted within the forward upper part of the open frame. Any articles striking this baffle will be forced downward into the metal receptacle 34. In addition to this curved baffle 40 there are a series of deflector strips 42 provided extending transversely of the open frame 30. By means of these deflector strips or louvres only dust and other particles can reach the fabric bag 36 with the current of air from the impeller 12.

Preferably the curved baffle member 40 and the deflecting strips or louvres 42 may be mounted in fixed position in a metal plate 44 fitting within the opening in the frame 30. Also the plate 44 may be retained removably in position by the clamping rim 38 for the fabric bag.

I claim as my invention:

A surface cleaner having a portable body member, a rotatable blower therein, a motor for rotating said blower, an intake conduit therefor extending to adjacent the surface on which said cleaner is movable, a discharge conduit leading from said blower and terminating in a frame having upper and lower horizontal rim portions defining opposite openings, a receptacle detachably

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mounted on and depending from said lower horizontal rim portion, a foraminous flexible bag detachably attached to the upper horizontal rim portion of said frame and a plate removably disposed on said upper horizontal rim portion at the entrance to said bag, said plate comprising a plurality of transversely extending louvers and a curved downwardly extending baffle member adjacent the entrance of said discharge conduit into the frame, whereby said baffle member and louvers successively deflect heavy debris downwardly into said receptacle and the spaces between said louvers permit passage of dust-laden air into said bag for filtering.

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