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VACUUM CLEANER BAG ARRANGEMENT

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The invention relates to a novel arrangement of carrying a dust collecting receptacle on a portable vacuum cleaner unit and of delivering the dust to such receptacle from the pumping device.

An object of the invention is to provide means particularly designed for use on the ordinary portable household vacuum cleaner, which will permit the delivery of dust from the pump to the collecting bag, without the necessity of forcing the dust through all the dirt already collected in the bag, whereby the high back pressure or resistance set up to the flow, and the extreme agitation of the particles in the bag caused by such operation, with the resultant impairment of the suction of the pump and the penetration and escape of the smaller dust particles through the walls of the bag, will be substantially entirely eliminated.

Another object of the invention is to provide arrangement of the character described which may be readily applied to existing types of portable cleaners.

A further object of the invention is to design the parts so that the appearance and utility of the cleaner when equipped with my arrangement will be substantially the same as cleaners now on the market.

A still further object is to provide an arrangement of the character described in which the conduit for delivering the dust to the bag may be incorporated as a part of the cleaner handle.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a front view of a portable vacuum cleaner designed in accordance with my invention.

Figure 2 is a side view of the cleaner shown in Figure 1, with parts broken away and shown in section.

As illustrated in the drawing, the arrangement of my invention is designed to be incorporated with the ordinary type of portable household vacuum cleaner in which as here shown includes a unit 5 supported on rollers 6 and comprising a pump 7 with a motor 8 affixed to the rear side thereof. A suction nozzle is provided at the front side of the pump while the outlet connection 9 of the pump is preferably disposed adjacent a side edge thereof.

Arranged to be supported, as shown in Figure 1, by the handle 23 which is pivotally connected to the unit 5, is a receptacle or bag 13 into which the dust or dirt particles drawn through the pump are arranged to be deposited and collected. The bag, as is customary, is constructed of a porous material so that the air which is drawn through the pump with the dirt may readily escape through the walls of the bag while the dirt particles are retained within the bag. In the bags of this type as previously constructed, the open or intake end was disposed at the bottom and connected thereat directly to the outlet of the pump. With the intake thus located at the bottom of the bag the air and dirt entering the bag had to pass through all the dirt previously collected therein and settled over the intake. In this manner the dirt contents of the bag during the operation of the cleaner were maintained in a high state of agitation and at the same time offered considerable resistance to the admission of the air and dust to the bag as well as the free discharge of the air through the bag walls. In accordance, however, with my invention the intake to the bag is at the top so that the air and dust entering the bag does not necessarily disturb the previously admitted dirt which has settled to the bottom or closed end of the bag, and therefore no agitation of the dirt and impediment to the free flow of air and dust to the bag is caused.

With my arrangement as shown in Figures 1 and 2, the outlet connection 9 of the pump is connected by means of a flexible conduit 24 with a conduit 21 which is formed as a part of the handle 22 of the cleaner. A return bend 26 is formed as an extension of the conduit 21 at the top thereof provides for connection of the conduit to the top of the bag and is arranged to insure a free flow of air from the conduit to the bag. Preferably the attachment between the bag and bend is such as to permit the ready removal or replacement of the bag when it is desired to empty the bag of the dirt collected therein. A snap fastener 18 or the like may be used for attaching the lower end of the bag to the unit or handle. Preferably the conduits 21 and 24 as well as the return bend 26 is formed of a non-porous material so that the air will be prevented from passing through the walls thereof and the dust entrained before reaching the bag. It will be understood that the conduit 24, as well as the bag, is flexible so that the former will not interfere with the free movement of the handle. A suction nozzle is provided at the front side of the pump while the outlet connection 9 of the pump is preferably disposed adjacent a side edge thereof.
It will now be clear that the means of my invention is well adapted to the accomplishment of the objects hereinbefore referred to.

I claim:

1. A vacuum cleaner of the character described, a portable pump unit provided with a dust outlet, a handle pivotally carried by said unit for propelling and guiding same, a portion of said handle intermediate the ends thereof being of tubular cross section, a flexible conduit connecting the lower end of said portion to said outlet, the upper end of said portion being outwardly and downwardly curved from the axis of said handle, and a dust receiving bag removably secured at its upper end to the upper end of said portion and being detachably secured at its lower end to said unit.

2. A cleaner comprising, a pump unit provided with a dust outlet, a handle pivotally mounted on said unit for moving and positioning same, a portion of said handle intermediate the ends thereof being of tubular construction, a flexible conduit connecting said portion to said outlet, and a dust receiving bag secured to said portion.

3. A cleaner of the character described comprising, a pump unit provided with a dust outlet, a handle pivotally mounted on said unit for moving and positioning same and being formed over a portion of the length thereof to provide a conduit, means for flexibly connecting one end of said conduit to said dust outlet, and a dust receiving bag connected to the other end of said conduit.

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