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2,818,936

SUCTION CLEANER FILTER BAGS

Filed Feb. 21, 1955

2 Sheets-Sheet 1

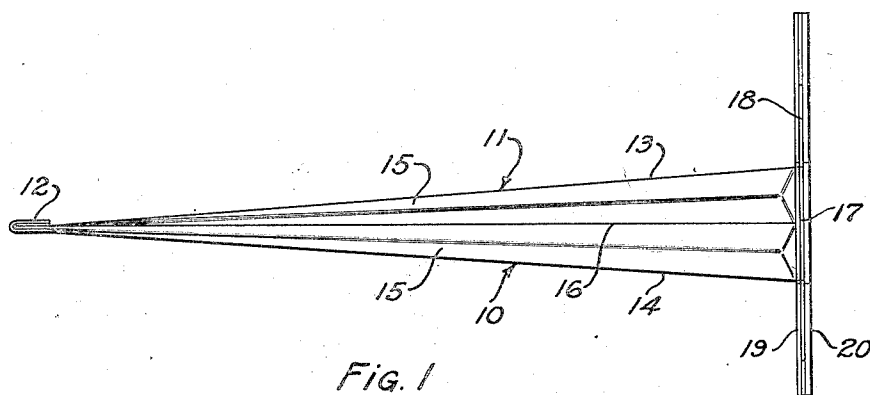


Fig. 1

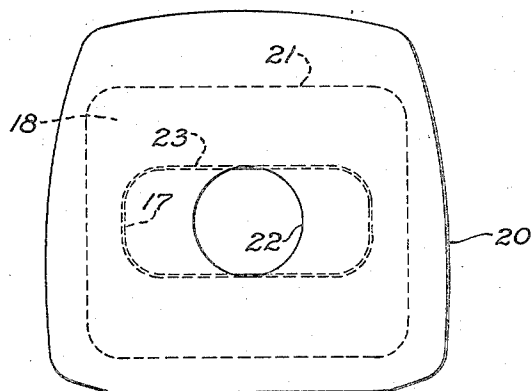


Fig. 2

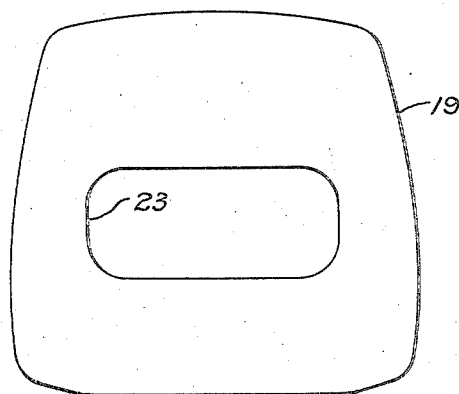


Fig. 3

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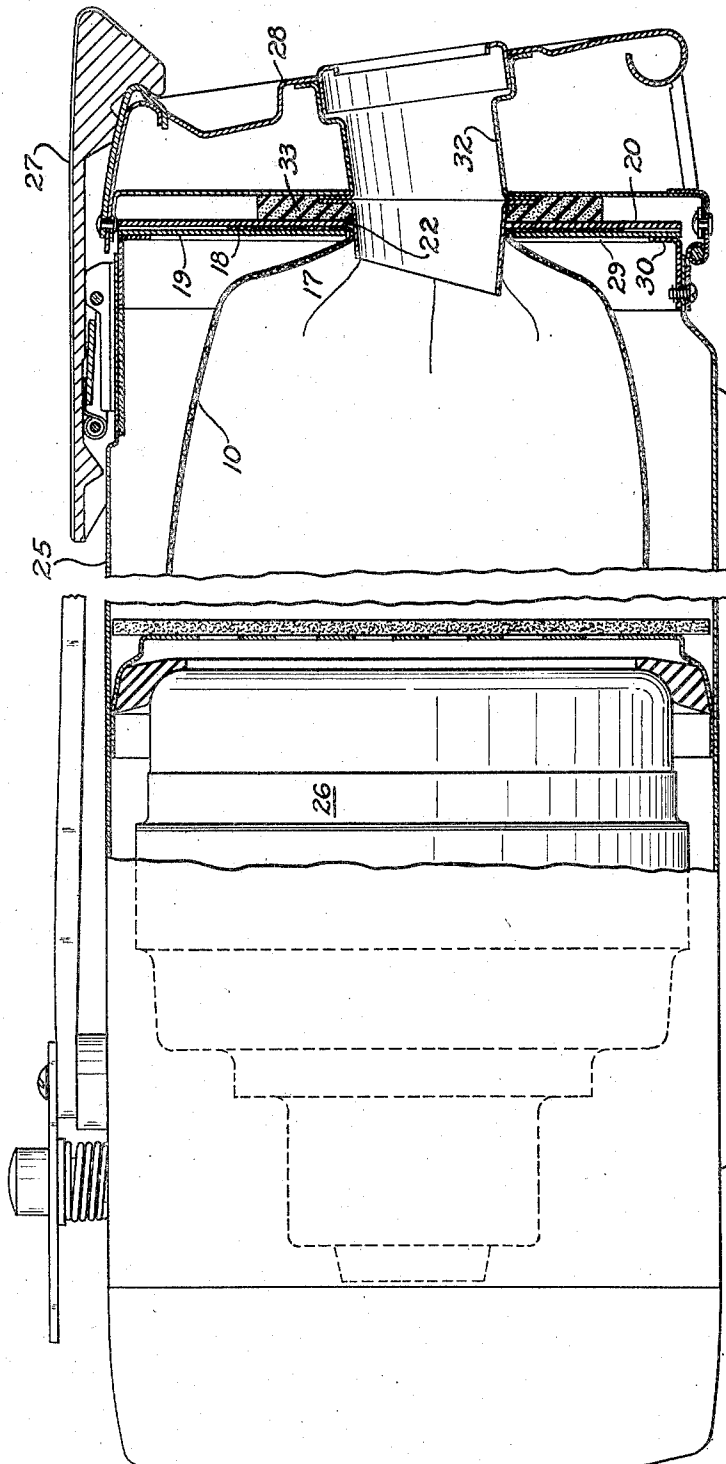


FIG. 4

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1 Claim. (Cl. 183—51)

The present invention relates to dirt filtering bags adapted for use in suction cleaners.

An object of the invention is to provide a filter bag with a member having an opening which constricts the bag inlet to form a flared end for attaching the bag to the member. A further object is to provide a filter bag having the wall of its inlet projecting through an opening in a member for attachment thereto, and the member forming a mounting adapted to support the bag in a cleaner. Another object is to provide a filter bag having a pair of members one of which has an opening to receive the wall of the bag inlet and the other member having a port adapted to connect the bag inlet with a suction cleaner conduit. Other objects and advantages of the invention will become apparent from the following description and drawings wherein,

Figure 1 is a side view of a filter bag when deflated, Figure 2 is a front view of the bag,

Figure 3 is a view of the inner member which receives the bag inlet, and

Figure 4 is a broken view, partly in section, showing the bag arranged in a tank type cleaner.

The embodiment of the invention herein disclosed comprises a bag 10 having a body 11 formed of suitable dirt filtering material such as paper, and has a closed pinched end 12 from which extends top and bottom walls 13 and 14 respectively, separated by wedge shaped side walls 15—15 each having a plurality of pleats 16 which are extended when the bag is inflated.

The end of the body 11 is provided with a rectangular opening 17 terminating in a flared or flanged end 18 arranged between two end members 19 and 20 of relatively stiff paper, and the flange 18 extends laterally to the extent indicated by the dotted line 21 in Figure 2. The outer member 20 has an inlet 22 for connection with a suction cleaner conduit. The inner member 19 is provided with a substantially rectangular opening 23 lined by the wall of the bag opening 17, and the latter is centrally aligned with the inlet 22 and extends laterally therefrom as shown in Figure 2.

In assembling the bag body to the end members 19 and 20 a suitable adhesive is applied to the inner surface of the outer member 20 to secure the marginal edge of the bag flange 18 thereto. The large opening 23 in the inner member 19 is of such size relative to the cross sectional area of the bag when deflated that the member 19 is telescoped over the body portion 11 from the closed end 12 to the flared end 18. A suitable adhesive is also applied to the inner surface of the inner member 19 for attach-

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ment to the bag flange 18 and also the outer member 20. If desired a pressure or heat sensitive adhesive may be applied to the inner surfaces of the members 19 and 20 and pressure or heat applied to the outer surfaces of the two members to cement them together and secure the bag flange 18 therebetween.

The relatively large opening 23 in the inner member 19 provides a simple method of assembling the bag to the end members by moving the member 19 from the closed end 12 of the bag to the flared end 18. The large opening 23 also constricts the bag body 11 to determine the lateral area of the flange 18 and thus forms the size of the bag opening 17.

The bag 10 may be used in a suction cleaner of the type shown in Figure 4, comprising a cleaner casing 25 having a motor-fan unit 26 and a latch 27 for a pivoted end cap 28 closing the casing opening 29 defined by an annular flange 30. The inner member 19 of the bag is unattached to the bag body 11 laterally from its outer edge to the bag inlet 17 to provide a mounting area therebetween which is free of the bag, and as shown in Figure 4 the area adjacent the outer edge of the inner member 19 rests on the casing flange 30 to support the bag 10 in the cleaner. If desired the inner member 19 can extend inwardly of the peripheral edge of the outer member 20, whereby the latter may rest upon the casing flange 30 to support the bag. An inlet conduit 32 in the end cap 28 has a resilient gasket 33 which forms an airtight seal against the outer member 20 about the opening 22, and the end of the conduit 32 passes through the openings 22 and 17 into the bag 10 to deliver a dirt laden air stream thereto from the surface being cleaned.

While I have shown and described but one embodiment of my invention, it is to be understood that this embodiment is to be taken as illustrative only and not in a limiting sense. I do not wish to be limited to the particular structure shown and described but to include all equivalent variations except as limited by the scope of the claim.

I claim:

40 A filter bag adapted to be connected with a conduit conducting dirt laden air in a suction cleaner, comprising a bag body provided with a portion defining an entrance to the bag, a first member arranged in one plane and having an opening through which the bag marginal end projects, said opening being of less cross section than said body to flare said projecting marginal end along a surface of said member surrounding said opening, and a second plane member attached to said first member to secure said projecting flared end therebetween whereby said members are an integral part of the bag, said second member having an inlet of less size than said opening and communicating therewith and adapted to be connected with the cleaner conduit, one of said members having a marginal edge free of said body to provide a mounting flange adapted to be seated in the cleaner to support the bag therein.

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