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F. RIEBEL, JR

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VACUUM CLEANER

Filed July 27, 1929

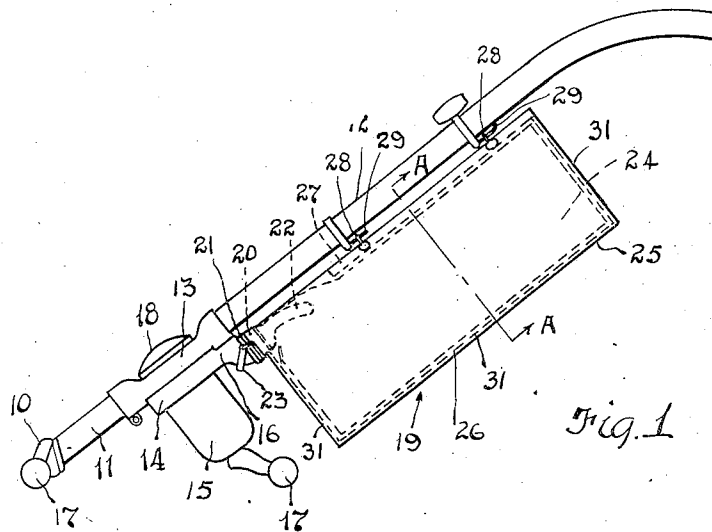
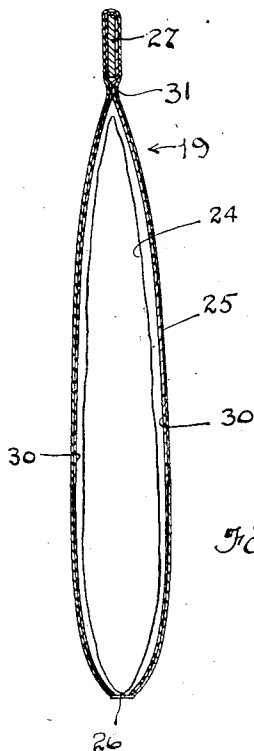
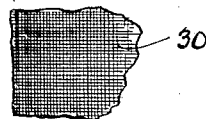


Fig. 3.

Fig. 2

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VACUUM CLEANER

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The present invention, relating, as indicated, to suction cleaners, has more particular reference to the dust collecting and/or air filtering systems of such cleaners, and its primary object, broadly stated, is to provide certain improvements in dust collecting and/or air filtering systems of the type which consist of a porous paper member in association with an outer confining member.

Dust collecting and/or air filtering systems of the type in question are recognized as being highly satisfactory and well adapted to their intended functions, but it is found that in cases the outer confining member does not afford sufficient protection to the paper member with which it cooperates. In other words, such paper member is liable to become damaged if its confining member as usual consists of cloth and if such cloth, as is sometimes the fact, does not function to sufficiently resist and properly distribute the tearing or puncturing tendencies to which it is subjected. This invention, with a view to obviating these objectionable features of the present constructions, contemplates interposing between such paper member and its confining member a layer of some such material as haircloth, the object being to provide a buffer element which will be adapted to more effectively opposing and distributing such tearing and puncturing tendencies.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims; the annexed drawing and the following description setting forth in detail certain structure embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a side elevational view of a suction cleaner which embodies the present improvements; Fig. 2 is a section which was taken along the line A—A of Fig. 1; and Fig. 3 is a plan view of a fragment of the protecting material shown in Fig. 2.

For purposes of illustration, my invention is here shown in association with a suction

cleaner which consists of a floor tool 10, a lower handle 11, an upper handle 12, an intermediate valve casing 13, a fan chamber 14, a motor housing 15, a discharge tube 16, and the supporting wheels 17. A valve 18 is so arranged in the casing 13 that cleaning air may be drawn through either the lower handle 11 or the upper handle 12. Such air in either case is finally discharged through the tube 16 and into the filtering and collecting unit 19. This unit has an inlet opening which is provided with a pipe 20, and this pipe has an outer end which forms a coupler 21 and an inner end which forms a deflector 22. The coupler 21 is adapted for being secured in alignment with the discharge tube 16 by means of a clamp 23, and the deflector 22 is adapted for telescoping with the inlet neck of the inner porous paper bag 24. Such bag is removably positioned within an outer fabric or cloth bag 25, and this latter bag is provided with a zipper closed opening 26 through which such inner bag can be inserted and removed. At its upper edge, the outer bag 25 is provided with a reinforcing strip 27 which serves to stiffen such edge and to also provide a suitable anchorage for the loops or eyes 28, these eyes being adapted for removably engaging with the handle hooks 29.

When associated with the unit 19, my present improvements may advantageously consist of a lining for the outer bag 25, and as here shown such lining constitutes a third bag 30 which is permanently secured within such outer bag, the two being similarly folded about the reinforcing strip 27 and having their margins secured together and about such strip by the rows of stitches 31, the neck part of such outer bag being inwardly turned and bound about the inlet tube and such liner simply having an opening in encircling relation to the connection so formed. The exact arrangement of this protecting layer (which as before stated is made of some such relatively stiff and resistant material as haircloth) may vary according to the particular character of the assemblage of the outer and inner bags, and in cases such outer bag may be dispensed with and the ordinary inter-

mediate layer relied upon to afford protection to the inner bag.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the structure herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

10 I therefore particularly point out and distinctly claim as my invention:—

1. A suction cleaner bag assembly comprising an outer fabric bag having an opening in a longitudinal edge, an intermediate
15 lining of relatively stiff strain resistant fabric secured to the region of said outer bag defining said opening, and in substantial contact with the inner surface of said outer bag, and an inner dust collecting bag of porous paper
20 supported and confined by said outer bag and lining.

2. A suction cleaner bag assembly comprising an outer fabric bag having an opening in a longitudinal edge, an intermediate
25 cloth lining secured to the region of said outer bag defining said opening, and in substantial contact with the inner surface of said outer bag, and an inner dust collecting bag of porous paper supported and confined by
30 said outer bag and lining.

3. For use in a vacuum cleaner, a normally flat porous paper dust collecting bag, a normally flat fabric bag confining said paper bag, rigid means reinforcing the upper longitudinal edge of the fabric bag, means
35 secured to said reinforcing means for suspending the same from a vacuum cleaner handle, and coacting slide fastener devices on the lower longitudinal edge of the fabric bag,
40 defining between them a mouth for reception of the paper bag.

4. A suction cleaner bag assembly comprising an outer fabric bag having an opening defined between adjacent longitudinal
45 edges thereof, an intermediate lining of relatively stiff strain resistant fabric secured to said bag along a line adjacent one of said edges, and in substantial contact with the inner surface of said bag, and an inner dust
50 collecting bag of porous paper supported and confined by said outer bag and lining.

Signed by me, this 23rd day of July, 1929.

FREDERICK RIEBEL, JR.

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