Oct. 21, 1941. E. F. MARTINET 2,259,855

SUCTION CLEANER DUST BAG OPENING CONSTRUCTION

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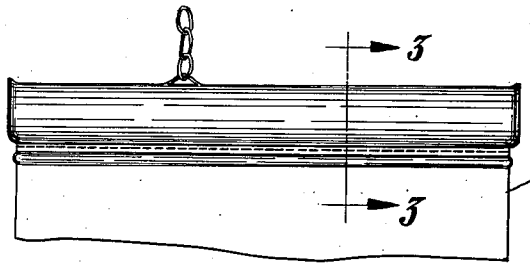


Fig. 2

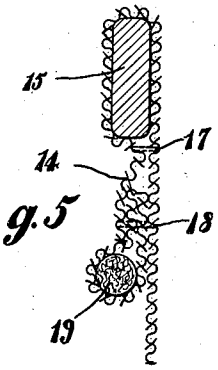


Fig. 5

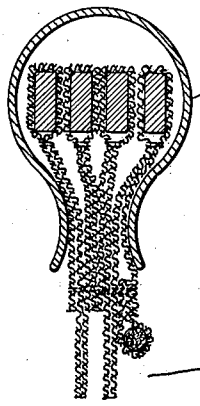


Fig. 3

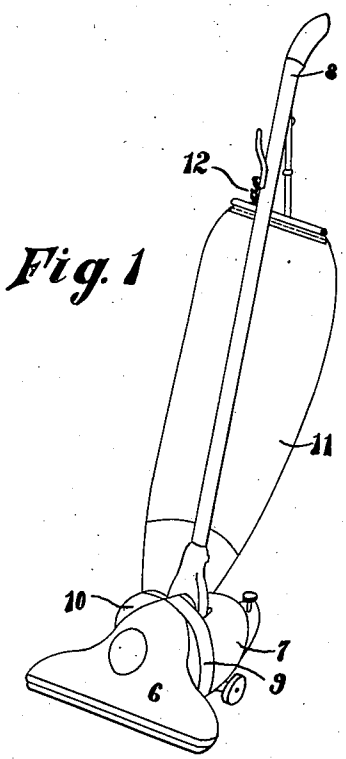


Fig. 1

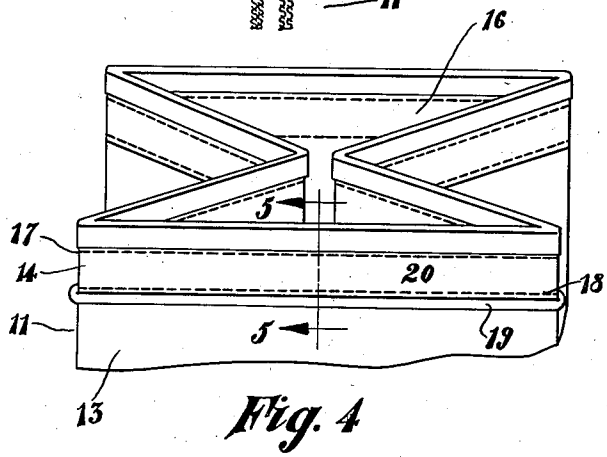


Fig. 4

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SUCTION CLEANER DUST BAG OPENING CONSTRUCTION

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Application September 10, 1938, Serial No. 229,362

2 Claims. (Cl. 150—6)

The invention relates to dust bags for suction cleaners, and more particularly to the construction of the opening for emptying the contents of the cleaner; and constitutes improvements upon the construction shown in the O. C. Willis Patent No. Re. 17,852.

In the construction shown in said Patent No. Re. 17,852, the fabric dust filtering walls terminate at their upper ends in a hem within which a collapsible frame or hem thickening members are located, and when the same is collapsed, a clip engages the bag walls below the hem to close the emptying opening. As shown in said patent, the hem is turned inwardly.

An inturned hem at the emptying opening of a suction cleaner dust bag is, however, not desirable because it forms a shallow pocket extending entirely around the mouth of the opening where dust and dirt can collect and where the emptying of the accumulated matter in the dust bag can be retarded upon emptying the dust bag.

Moreover, the efficiency of the dust bag is dependent somewhat upon the completeness and tightness with which the emptying opening is closed by the clamp; and a tight closure of the suction cleaner dust bag opening may be rendered more complete and efficient if the clamping occurs along the hem as distinguished from below the same.

However, the mere provision of an outturned hem to eliminate the dirt collecting pocket of an inturned hem is not desirable or satisfactory because such a construction usually presents a frayed cut cloth edge, which is unsightly in appearance; and the mere extension of a hem below the collapsible or thickening members within the hem does not necessarily provide for a more completely clamped closure, because the clamp by following the path of least resistance may readily engage below an extended hem.

I have discovered that these difficulties may be overcome by providing an extended outturned hem so constructed as to define a channel between the edge of the hem and the reinforcing means within the hem for the reception of the clamping means whereby the inturned dust catching hem is eliminated, whereby many thicknesses of cloth are provided where the clamping means is engaged and whereby the appearance of a cleaner dust bag is considerably improved.

It is therefore a general object of the present invention to improve the emptying opening construction of a suction cleaner dust bag.

It is a further object of the present invention to provide a suction cleaner dust bag with an emptying opening formed by an outturned hem within which hem reinforcing means are located.

Moreover, it is an object of the present invention to provide a suction cleaner dust bag with an emptying opening construction in which a channel is provided within the confines of the hem for the reception of clamping means for closing the opening.

And finally, it is an object of the present invention to eliminate the prior art difficulties and achieve one or all of the aforesaid desiderata in a convenient and inexpensive manner by a suction cleaner dust bag construction which has a distinctive and attractive appearance.

These and other objects may be obtained by the dust bag constructions, arrangements, combinations, sub-combinations, improvements, parts and apparatus which comprise the present invention, the nature of which is set forth in the following general statement, a preferred embodiment of which, together with its mode of construction and operation is set forth in the following description, and which is particularly and distinctly pointed out and set forth in the appended claims forming part hereof.

The nature of the improvements of the present invention may be described in general terms as including in a suction cleaner dust bag, fabric dust filtering walls forming the dust bag and provided with an outlet opening, the fabric walls being provided with an outturned hem surrounding the outlet or emptying opening, reinforcing means located within the hem, stitching along the hem spaced from the hem edge securing the reinforcing means within the hem at the opening edge or mouth, a second stitching spaced from the first stitching and located at the hem edge, piping or thickening means provided at the second stitching, the bag walls being collapsible at the emptying opening, a clamp for said collapsed opening, and the hem reinforcing means and spaced hem edge thickening means defining a channel for the reception of the clamping means for closing the collapsed opening.

By way of example, an embodiment of the present improvements is illustrated in the accompanying drawing forming part hereof, in which—

Figure 1 is a perspective view of a suction cleaner equipped with the improved dust bag construction;

Fig. 2 is a fragmentary view, upon an enlarged scale, of the upper end of the dust bag held with its sealing clamp;

Fig. 3 is an enlarged transverse section thereof, taken on the line 3—3, Fig. 2;

Fig. 4 is a fragmentary perspective view of the upper end of the bag partially opened; and

Fig. 5 is a transverse sectional view taken on the line 5—5, Fig. 4.

Similar numerals refer to similar parts throughout the various figures of the drawing.

In Fig. 1, a usual type of suction cleaner is shown, including a nozzle 6, a motor housing 7, an operating handle 8, and a fan housing 9 having an outlet member 10 to which a dust bag generally indicated at 11 is detachably connected. The dust bag 11 may be supported by any usual means as at 12, from the handle 8.

Referring more particularly to Figs. 2, 3, 4 and 5, the dust bag 11 includes fabric walls 13 formed with an outturned hem 14 forming a collapsible opening within which hem is located preferably a collapsible frame 15 such as shown in the O. C. Willis Patent No. Re. 17,852, whose collapsible members may be folded within the compass of two opposing principal members as the emptying opening 16 defined by the hemmed edge is closed. The collapsible frame 15 need not, however, be a metal hinged frame, but may constitute cardboard strips, or extra pieces of cloth, or cord, for the purpose of reinforcing the hemmed walls at the edge of the opening 16.

The hem 14 is preferably stitched at 17 adjacent to reinforcing means 15 and the edge of the hem is spaced from the stitching 17 by being stitched through the fabric hem as at 18 at a zone spaced from the stitching 17. A thickening is provided for at least a portion of the hem edge as by securing piping 19 by the stitching 18 so as to define a channel at 20 between the reinforcing means 15 and the thickening means 19.

When the bag walls are collapsed, the infolding portions of the hem 14 fold between the outer clamp engaging portions of the hem 14 (Fig. 4) so that the hemmed edge may be clamped by a closure clamp such as designated at 21, supported by the suspending means 12; and referring more particularly to Fig. 3, the clamping engagement of the clamp 21 with the collapsed bag walls engages in the channel 20.

Thus, in the form of the invention shown in the drawing, due to the fact that the clamping is along the hemmed edge, eight thicknesses of fabric are engaged by the clamping means, which enables the springiness of that number of thicknesses of fabric to provide an effective, adequate, and completely closed clamped opening.

Referring more particularly to Fig. 5, due to the fact that the hem is outturned, there is no ledge or recess presented on the inside of the bag for catching dust and dirt as the bag is being emptied.

Having now described the features of the invention, the construction, operation and use of a preferred form of the same, and the advantages and results obtained by the use of the same, the new and useful parts, elements, combinations, constructions and devices, and their reasonable mechanical equivalents obvious to those skilled in the art, are set forth in the appended claims.

I claim:

1. In a suction cleaner dust bag, fabric walls provided with an outturned hem forming an emptying opening, reinforcing means within the hem, stitching adjacent to the reinforcing means, a second stitching spaced from the first named stitching and located at the hem edge, and piping secured by said second stitching defining with said reinforcing means a channel for the reception of a closure clamp.

2. In a suction cleaner dust bag, fabric walls provided with an outturned hem forming a collapsible emptying opening, said hemmed walls having infolding portions folded between outer clamp engaging portions when collapsed, reinforcing means within the hem, stitching through the fabric hem spaced from said reinforcing means and located at the hem edge, thickening means at said hem edge defining with said reinforcing means a channel, said hemmed walls when collapsed presenting eight thicknesses of fabric along said channel between the outer surfaces of said clamp engaging portions, and a closure clamp engaging said eight thicknesses of fabric to provide a completely closed clamped opening.

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