

The invention relates to a dust filter bag for a vacuum cleaner with a holding panel which comprises a gasket-sealed opening for a pipe socket of a vacuum cleaner, wherein the opening is sealable from the outside with a separate sealing strip comprising an insertion region and is linked to the holding panel by means of a web laterally of its pivot region.

In a known dust filter bag of the kind described above (cf. registered documents of DE-U-9 016 939). In one embodiment of this known dust filter bag, a sealing element is connected by two lateral webs to an actuating flap. The sealing element comprises a resting edge with which it rests on the opening in the holding panel in the sealed state.

On the further state of the art, attention should also be drawn to the registered documents of DE-U-7 832 780 and to DE-A-2 356 732. The latter publication shows a handle on a dust filter bag which is intended to facilitate assembly on insertion of the dust filter bag in a vacuum cleaner. Finally, attention should also be drawn to the registered documents of DE-U-9 001 528, from which is known the construction of a separate outer insertion strip which is pivotable to seal the opening and can be inserted in the opening.

In the known dust filter bags, handling of the seal is often felt to be not yet satisfactory. There is also a need to be able to deal with the dust filter bag better after removal thereof from the vacuum cleaner, in a densely filled state.

Starting from the state of the art mentioned hereinbefore, a technical problem of the invention is posed to the effect of providing a dust filter bag which is designed more favourably for use.

This technical problem is solved for one thing with the subject of claim 1, wherein the aim is that the insertion region of the sealing strip is designed to extend on both sides of the web. For another, the technical

problem is solved with the subject of claim 2, wherein the aim is that there is formed a stirrup-shaped handle which receives the sealing strip in the interior of the stirrup and which is pivotably linked to the holding panel.

According to the instruction of claim 1, the insertion region is formed in the direction of pivoting on two opposed sections of the insertion strip, which can engage under the opening edge of the opening in the sealed state. This affords the possibility of mounting the sealing strip in the opening in form-locking relationship so as to favour handling. If only one web is formed, for example, at which the sealing strip is linked to the holding panel laterally of its pivot region, another insertion strip can even be formed opposite the region of attachment of the web to the sealing strip. In another embodiment it is provided that the sealing strip is linked to the holding panel by two webs. These webs may in each case be arc segment-shaped. They may furthermore and preferably be formed symmetrically to each other. It is also preferred such that an axis of symmetry passes centrally through the sealing strip. In connection with the insertion strip extending on both sides with respect to the web/webs, it is further preferred that one insertion strip which is located outside the arc of the webs is larger than the insertion strip which extends within the arc of the webs. The insertion strips preferably consist in each case of a circular region, which regions however are spaced apart from each other by a section of rectangular contour, preferably again such that the generally larger insertion strip described above (viewed together with the above-mentioned rectangular section) is on one side. In a further embodiment the invention also proposes that the sealing strip is connected to a handle by a tear-off web. In the delivered state, the handle is rigidly connected thereby to the sealing strip. On insertion of the dust filter bag in a vacuum cleaner, favourable handling results from the fact that the sealing strip can easily be held fast by the handle which is

larger, i.e. it extends further out. This is also due to the fact that the handle is larger than the webs of the sealing strip. Geometrically this is provided by the fact that the handle extends outside the arc of the webs. Further the handle can also preferably initially be attached so to speak to the holding panel on the working side by means of a bonding point or the like. As a result, on insertion of the dust filter bag it is not in any way necessary to take the handle into consideration or manipulate it separately. To seal the dust filter bag or the opening of the dust filter bag from the outside, after taking the dust filter bag out of the vacuum cleaner, the sealing strip can easily be pivoted into its sealed position with the relatively large handle. By pressing the sealing strip into the opening so that the insertion regions engage under the opening, separation of the tear-off web from the handle can then be achieved by simple pressure on the sealing strip. The handle which is preferably stirrup-shaped can then be pivoted back or simply pivoted up and serve as a carry handle for the dust filter bag sealed in this way. Here it also proved to be particularly advantageous that the handle and the web/webs of the sealing strip are pivotable about more or less the same pivot axis.

Below, the invention is further described with the aid of the attached drawings, which however show only a practical example. They show:

- Fig. 1 a perspective view of a dust filter bag;
- Fig. 2 a top view of the cover panel of the dust filter bag in the delivered state;
- Fig. 3 a top view according to figure 2 when the opening of the dust filter bag is sealed;
- Fig. 4 a cross-section through the cover panel of the dust filter bag according to figure 2, sectioned along the line IV-IV;
- Fig. 5 a cross-section through the cover panel of the dust filter bag according to figure 3, sectioned

along the line V-V.

A dust filter bag 1 with a cover panel 2 such as may be used particularly in an electric vacuum cleaner is shown and described, initially with respect to figure 1. Whereas the actual dust filter bag 3 is made of a flexible cellulose material, the cover panel 2 is usually formed perhaps from a stable cardboard material. In the cover panel 2 is formed an opening 4 into which, in the fitted state in the vacuum cleaner, a pipe socket of the vacuum cleaner is introduced. In the sealed position of the sealing strip 5 shown in figure 1, the latter is inserted in the opening 4 as performed after use of the dust filter bag 1 when the dust filter bag 1 is full.

As is evident in particular from figure 2 which shows the dust filter bag 1 as supplied, the sealing strip 5 is linked to the holding panel 2 laterally of its pivot region V. In detail this is accomplished by two webs 6, 7 which merge with the holding panel 2 and are pivotable along a fold line 10. The webs are arc segment-shaped in the practical example. Moreover they are designed symmetrically to each other. In general the sealing strip 5 is symmetrical to their centre line a.

The sealing strip 5 furthermore forms two insertion strips or insertion regions 8, 9 which extend on both sides of the webs 6, 7. Here "on both sides" means that the insertion strips 8, 9 extend on both sides of the region of connection of a web 7 or 6 to the sealing strip 5. The insertion strips 8, 9 are in each case semicircular or circle segment-shaped, but spaced apart from each other by a section 11 of rectangular contour. (The boundary lines of the region 11 have been included in the drawings for clarification; in actual fact these do not indicate either bending points or offsets or the like of the sealing strip 5. But of course such things may be present if occasion arises.)

Furthermore the sealing strip 5 is connected to a handle 13 by a tear-off web 12. The handle 13 is in

general stirrup-shaped. It surrounds the webs 6, 7 outside the arc indicated thereby. Due to the fact that the rectangular section 11 of the sealing strip 5 and another more or less semicircular region of the insertion strip 9 also extends outside the arc spanned by the webs 6, 7, a substantial gap is provided between the webs 6, 7 and the handle 13 or the upper region thereof which also extends in an arc segment shape. As a result, a relatively high leverage is provided in relation to the pivot axis 10 which coincides for the handle 13 and the sealing strip 5. In the region of the pivot axis 10, the lower webs of the handle 13 and the webs 6, 7 of the sealing strip 5 are however arranged more or less immediately adjacent to each other.

As can be seen in particular also from the sectional view according to figure 4, the actual bag 3 is connected to the cover panel 2 by a bonding means 14. In the practical example the cover panel 2 is moreover of two-layer construction, wherein the sealing strip 5 and the handle 13 are formed from the upper layer, perhaps by punching or cutting out. The lower layer 15 of the cover panel 2 is continuous, with the exception of the opening 4 which is in register in the upper and lower layers. Between the upper layer and the lower layer 15 of the cover panel 2 is furthermore mounted in the region of the opening 4 for example a rubber ring 16 which forms a sealing collar of the opening. This rubber ring 16 is also held underneath by the insertion strip 8 or 9 (cf. also figure 3).

The characteristics of the invention disclosed in the above description, the drawings and the claims may be important both individually and in any combination for the embodiment of the invention. All the characteristics disclosed are essential to the invention. The disclosure of the application hereby also includes in full the disclosure content of the associated/attached priority documents (copy of the prior application).



Patent claims

1. Dust filter bag (1) for a vacuum cleaner with a holding panel (2, 15) which comprises a gasket-sealed opening (4) for a pipe socket of a vacuum cleaner, wherein the opening is sealable from the outside with a separate sealing strip (5) comprising an insertion region (8, 9, 11) and is linked to the holding panel by means of a web laterally of its pivot region (V), characterised in that the insertion region (8, 9) of the sealing strip (5) is designed to extend on both sides of the web (6, 7).

2. Dust filter bag (1) according to claim 1 or according to the characteristics of the introductory part of claim 1, characterised in that there is formed a stirrup-shaped handle (13) which receives the sealing strip (5) in the interior of the stirrup and which is pivotably linked to the holding panel (2, 15).

3. Dust filter bag according to one or more of the preceding claims, characterised in that the sealing strip (5) is linked to the holding panel (2) by two webs (6, 7).

4. Dust filter bag according to one or more of the preceding claims, characterised in that the sealing strip (5) is connected to the handle (13) by a tear-off web (12).

5. Dust filter bag according to one or more of the preceding claims, characterised in that the handle (13) and the web/webs (6, 7) of the sealing strip (5) are pivotable about more or less the same pivot axis (10).

6. Dust filter bag according to one or more of the preceding claims, characterised in that the sealing strip (5) is linked to the holding panel (2) by the webs (6, 7) at a distance from the opening (4).



7. Dust filter bag according to one or more of the preceding claims, characterised in that the webs (6, 7) are circle segment-shaped.

8. Dust filter bag according to one or more of the preceding claims, characterised in that the insertion region (8, 9) consists of two circle segment-shaped regions which are spaced apart from each other by a section (11) of rectangular contour.