(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 809 963 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.12.1997 Bulletin 1997/49

(51) Int Cl.[6]: **A47L 9/14**

(21) Application number: **97850078.3**

(22) Date of filing: **13.05.1997**

(84) Designated Contracting States:
DE FR GB SE

(30) Priority: **29.05.1996 SE 9602065**

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(54) Vacuum cleaner dust bag

(57) A dust bag comprising a flat, tube-shaped work piece of air-permeable material having two diametrically opposite folds (16) which are folded inwardly. The work piece is flattened in the plane of the folds, and the end parts (17,18) of the work piece are, at each side of said plane, folded about 180° and fixed against the outside of the work piece to thereby form an opening (14) between the folds (16) through which dust-laden air is directed into the bag.

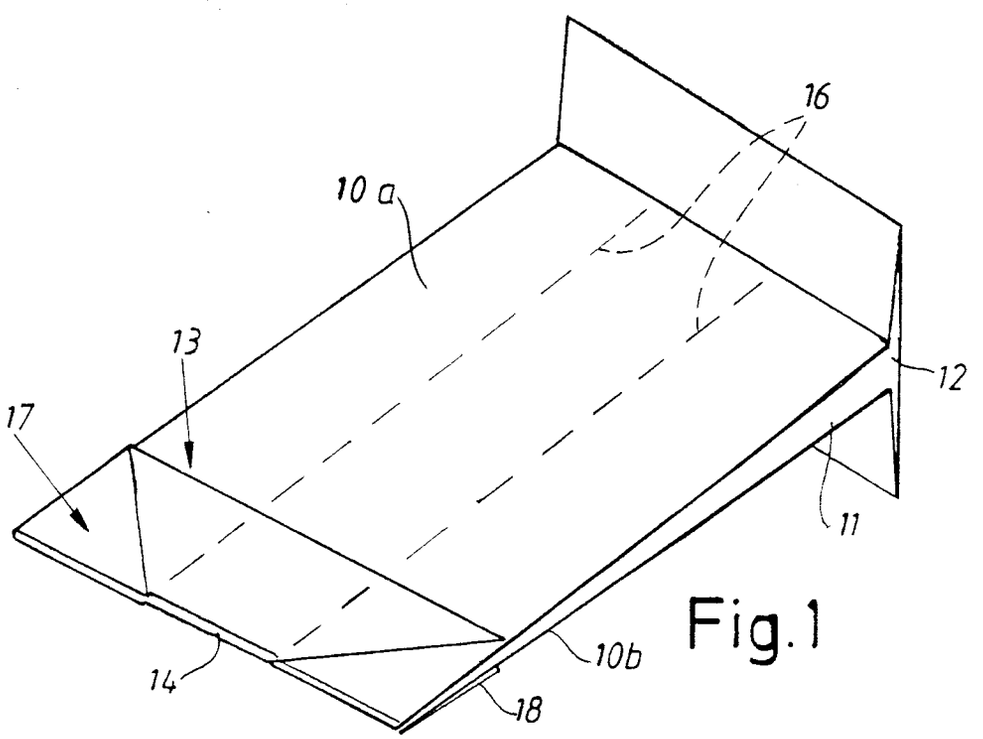

Fig.1

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Description

The invention relates to a vacuum cleaner dust bag having a flat, tube-shaped work piece of air-pervious material having two diametrically opposite folds which are folded inwardly.

Dust bags of the above-mentioned type are previously known, and are usually provided with a cardboard or plastic plate covering the inlet opening of the bag. The plate rests on a seat in the vacuum cleaner and has a central opening. The central opening is usually fitted or covered with a rubber sealing membrane having an opening. The inlet sleeve of the vacuum cleaner is inserted into the bag through the sealing membrane opening when the cover of the dust bag chamber is closed.

Dust bags of the aforementioned-type usually work satisfactorily, but are rather complicated to manufacture and, hence, expensive for the consumers. Therefore, there exists a need in the art for a less expensive dust bag having a simplified method of manufacture.

The present invention provides a filter or dust bag which is manufactured in a simple way from a single material and which, by suitable folding operations, provides an opening for an inlet sleeve of the vacuum cleaner.

In accordance with the present invention, a dust bag is formed from a flat, tube-shaped work piece of air-pervious material. The work piece has two diametrically opposed inward folds. The work piece is flattened in a plane of the folds. End parts of the work piece, at each side of said plane, are folded about 180°. The end parts are fixed against an exterior of the work piece and define an opening between the folds through which dust-laden air is introduced into the bag.

These and further features of the present invention will be apparent with reference to the accompanying drawings wherein:

FIG. 1 is a perspective view showing a bag according to the present invention;
FIGS. 2a-2c show a top plan view, side elevational view, and an end elevational view of a part of a work piece for the bag;
FIGS. 3a-3c show a top plan, side elevational, and end elevational view of a part of the work piece after a first folding operation; and
FIGS. 4a-4c show a top plan, side elevational, and end elevational view of a part of the finished bag.

With reference to the drawings, a bag comprises a front side 10a and a rear side 10b with intermediate folded parts 11, a bottom 12 which at the major part of the surface comprises two or more layers, and a front part 13 which is reinforced and has an inlet opening 14. The bag is manufactured from an air-pervious material, preferably porous paper.

The bag is manufactured from a flattened hose or tube-shaped work piece 15 which is provided with two opposite, inwardly-folded parts 11, the folds being denoted 16 (FIGS. 2a-2c). One end of the bag work piece 15 is folded in a conventional way to form a bottom 12 with several layers, while the other end is folded so as to provide the reinforced front part 13 with the inlet opening 14, as will be described hereafter with reference to FIGS. 2a-4c.

Thus, the work piece is folded along a line (A) denoted by the dash-dotted line in FIG. 2a. The part 17, which is to the left of the plane through the folds 16, is folded to the left in FIG. 2b, whereas the part 18, which is placed to the right of the plane, is folded to the right. After having been bent or folded 90°, the parts 17 and 18 are positioned as shown in FIGS. 3a-3c, wherein the outer portions of the folded parts 11 form triangular areas 19. The parts 17, 18 and areas 19 cooperate to define an intermediate slot which serves as an opening 14. The parts 17, 18 are then further bent or folded 90° to the position shown in FIGS. 4a-4c, and are fixed to the sides 10a, 10b of the work piece, preferably by gluing.

Preferably the depth (D) of the folded parts 17, 18 is generally the same as the length (L) of the folded edge area.

Claims

1. A dust bag for a vacuum cleaner, comprising a flat, tube-shaped work piece of air-pervious material having two diametrically opposite folds (16) which are folded inwardly, **characterized** in that the work piece is flattened in a plane of the folds, and end parts (17,18) of the work piece, at each side of said plane, are folded about 180° and fixed against an exterior of the work piece and thereby form an opening (14) between said folds (16) through which dust-laden air is directed into the bag.

2. A dust bag according to claim 1, **characterized** in that a depth (D) of the folds (16) when the bag is flattened is generally identical to a length (L) of the folded end parts (17, 18).

3. A dust bag according to claim 1, **characterized** in that the opening (14) is at a first end of the bag and a second, opposite end (12) of the bag is closed, said second end (12) comprising several layers.

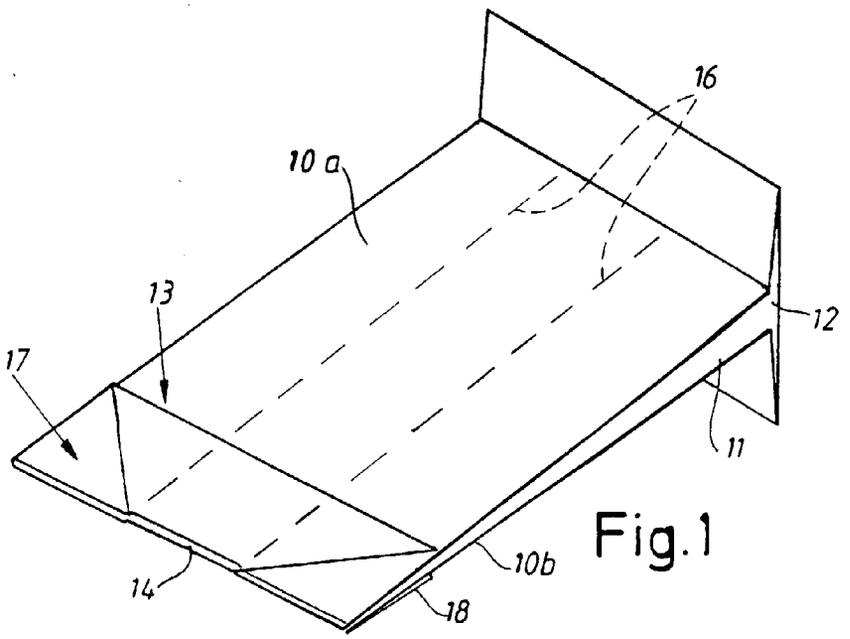

Fig.1

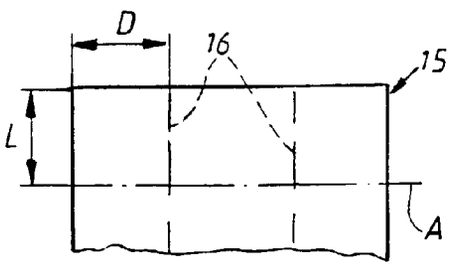

Fig.2a

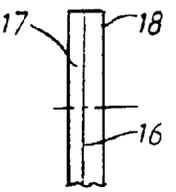

Fig.2b

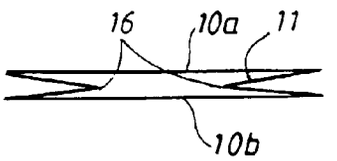

Fig.2c

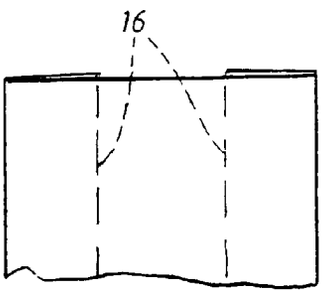

Fig.3a

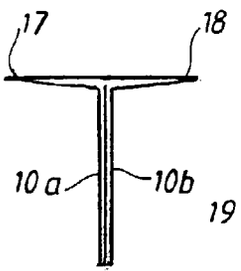

Fig. 3b

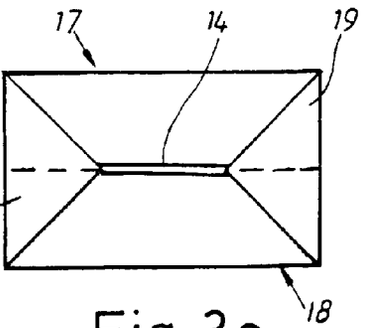

Fig. 3c

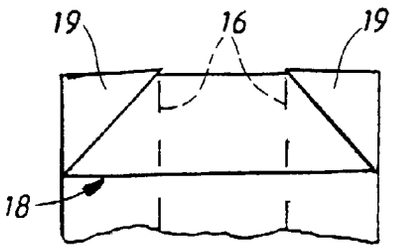

Fig. 4a

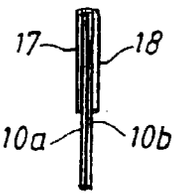

Fig. 4b

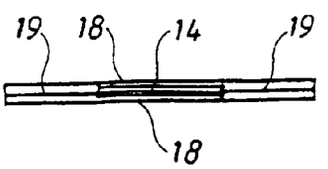

Fig. 4c