

Aug. 21, 1951

G. W. HOLT, JR

2,564,845

DISPOSABLE BAG FOR VACUUM CLEANERS

Filed March 7, 1946

4 Sheets-Sheet 1

Fig. 1.

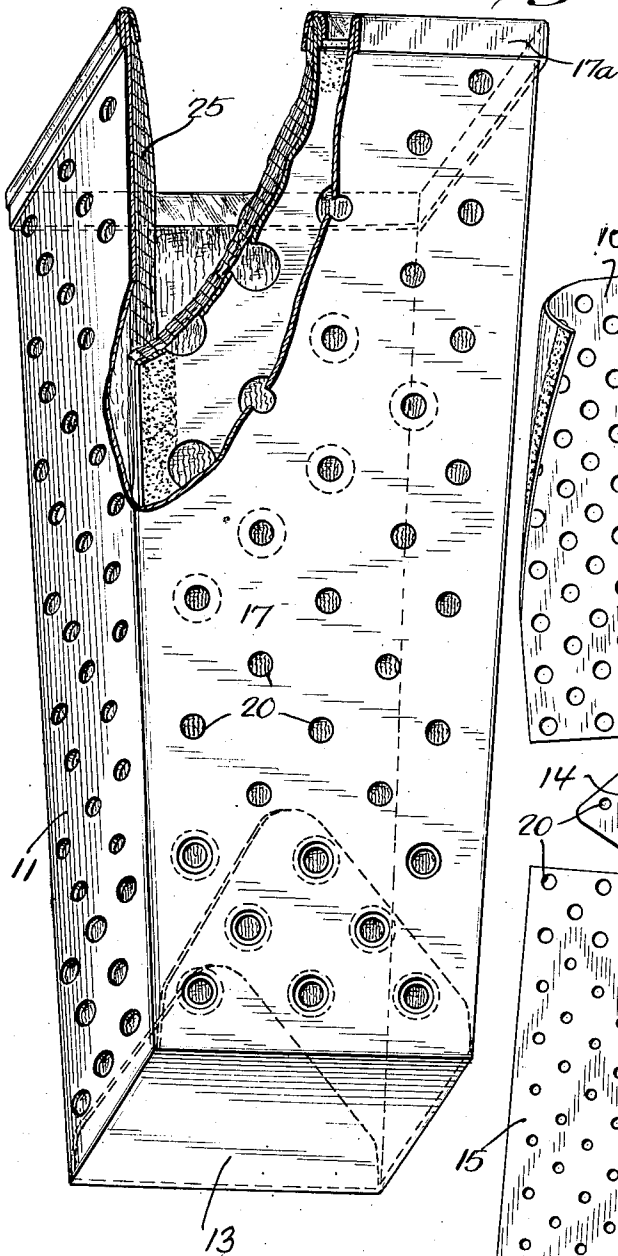
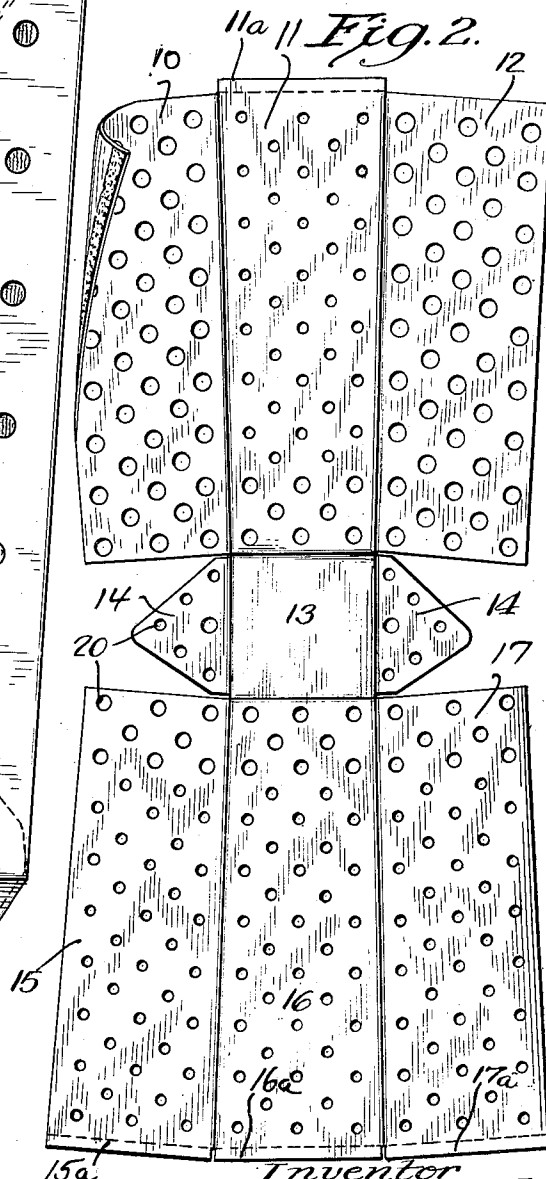


Fig. 2.



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4 Sheets-Sheet 2

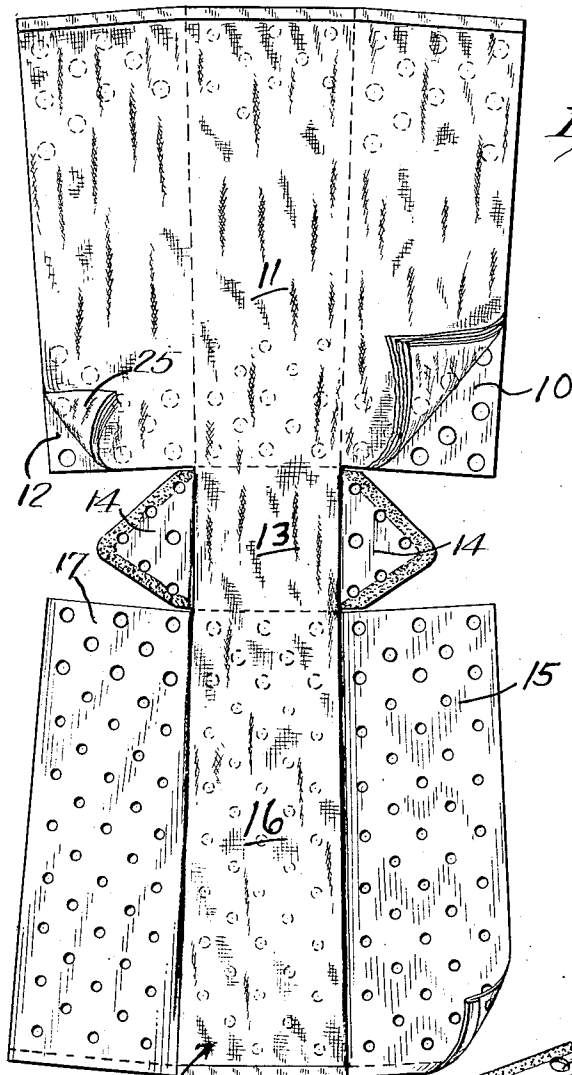
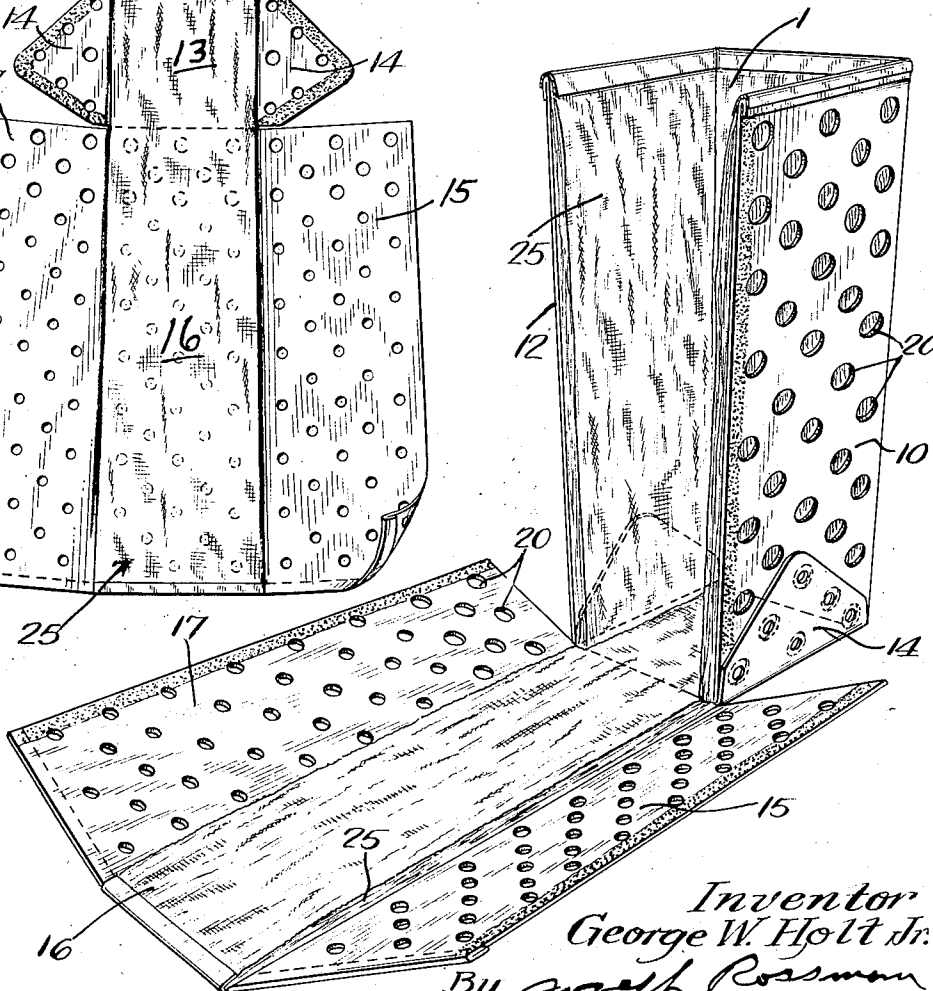


Fig. 3.

Fig. 4.



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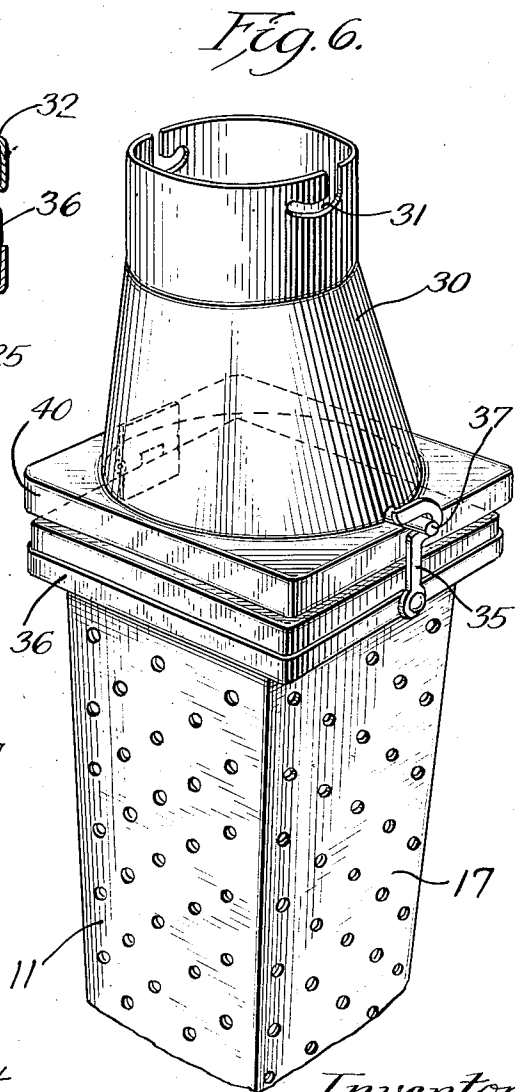
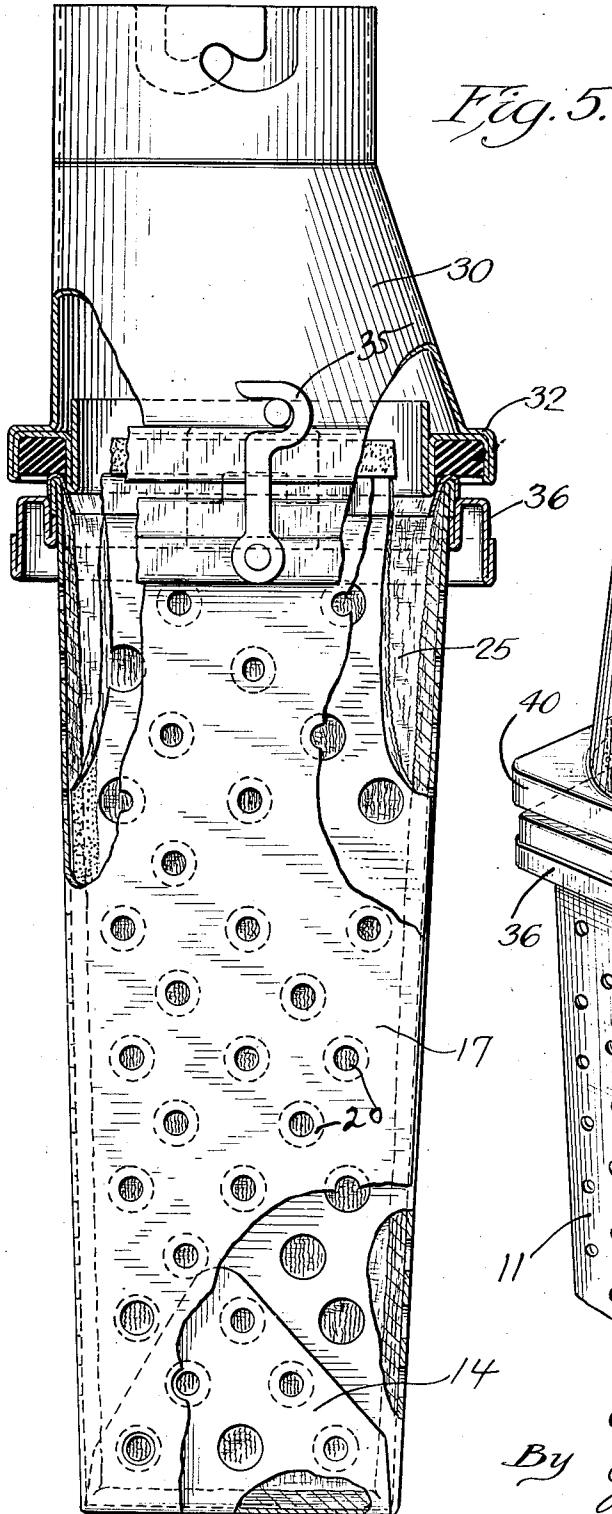
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DISPOSABLE BAG FOR VACUUM CLEANERS

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4 Sheets-Sheet 3



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DISPOSABLE BAG FOR VACUUM CLEANERS

Filed March 7, 1946

4 Sheets-Sheet 4

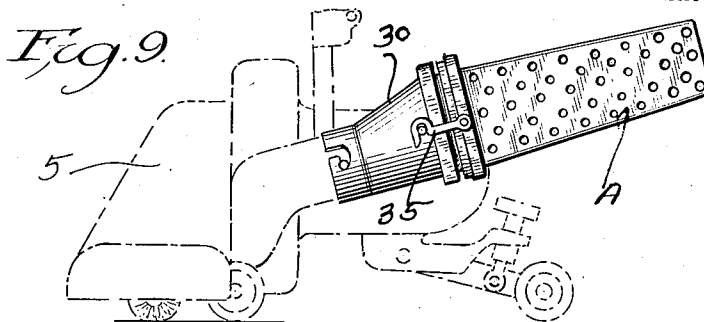


Fig. 7.

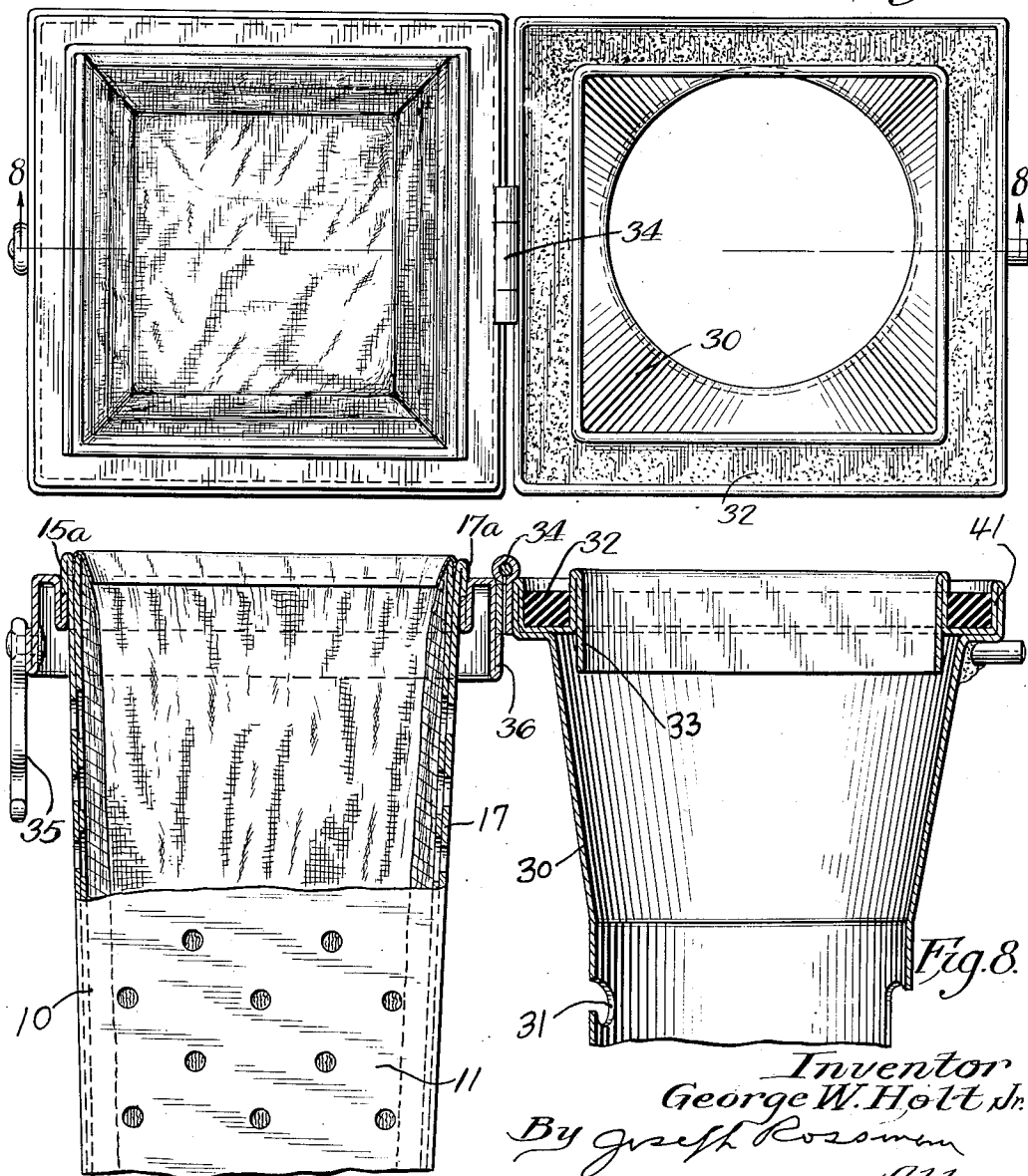


Fig. 8.

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UNITED STATES PATENT OFFICE

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DISPOSABLE BAG FOR VACUUM CLEANERS

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2 Claims. (Cl. 183-51)

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This invention relates to suction cleaners and more particularly to an air filter carton construction therefor.

An object of this invention is to provide an improved carton filtering device for suction cleaners, popularly referred to as vacuum cleaners.

The invention relates to a filter construction having the general appearance of a carton and provided with a filtering medium attached within the carton for receiving dust and dirt collected by the cleaner, said filter carton being adapted to be attached to the discharge nozzle of the cleaner so as to retain the dirt but permit the air to escape through the carton, said carton being readily removable from the vacuum cleaner and disposable.

The invention also relates to means for attaching the filter carton to the vacuum cleaner by means of a suitable attachment device which serves to retain and attach the carton to the vacuum cleaner when in use.

According to the present invention a paper carton is provided having an inner filter lining made of suitable material which is adapted to be fitted on the discharge type of a vacuum cleaner in order to collect and retain therein dirt and dust discharged in the air and at the same time permitting the air to escape through openings provided in the carton while retaining the dirt within the carton. The paper filtering carton element is of a very simple preformed construction and provided with a filter lining which assembly can be readily attached to the cleaner and discarded when filled with dirt, and replaced at a very low cost.

These and other objects of the invention will be apparent from the following description and drawings wherein,

Figure 1 is a perspective view of my filter carton element, partly in section, to show the construction thereof,

Figure 2 is a plan view of the blank from which the filter carton is made,

Figure 3 is a plan view of the inside face of the carton blank having a filter lining attached thereto,

Figure 4 is a perspective view of the filter carton in partially set up and glued condition,

Figure 5 is a side view, partly in section, of the filter carton retained in an attachment device,

Figure 6 is a perspective view of the filter carton retained in the attachment device in closed position,

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Figure 7 is a plan view showing the attachment device in open position,

Figure 8 is a sectional view taken on lines 8-8 of Figure 7, and

Figure 9 is a side elevational view of a vacuum cleaner having the carton attachment device and filter carton retained in position on the vacuum cleaner.

Referring to the drawings the filter element is made preferably of a carton construction utilizing a blank illustrated in Figure 2 suitably cut and scored to provide a front panel 11, a rear panel 16 and hinged side panels 12 and 17, hinged respectively to panels 11 and 16, and hinged side panels 10 and 15 hinged to the same panels at the opposed vertical edges thereof. A bottom panel 13 is provided having hinged ear portions 14 at the lateral sides thereof. A suitable filter medium, preferably made of cellulose wadding, soft crepe paper wadding, hair, excelsior or like material which will act as a filter and retain dirt and dust, is suitably adhered to the inner face of the carton blank in the relation shown in Figure 3 so as to cover the front and rear panels and the pair of side panels 10 and 12, the side panels 15 and 17 preferably not having a lining thereon.

The carton blank is provided with a series of perforations or openings 20 of suitable dimension which are located at regular intervals on all the panels in order to permit air to escape therefrom when the carton is in use on the vacuum cleaner.

In making the filter carton from the blank described the front wall 11 and rear wall 16 are folded at right angles to the bottom 13. Flaps 14 are then folded up and adhered to the corresponding overlapped portions of panels 10 and 12. Side panels 17 and 15 are then folded over the panels 12 and 10, respectively, and adhered thereto. Panels 11, 15, 16 and 17 are provided with corresponding collar portions 11a, 15a, 16a, and 17a, respectively, which are adapted to be folded outwardly on the carton in order to form a collar portion. This collar portion at the upper open end of the carton serves to position and support the carton within a retaining sleeve of an attachment device that is adapted to be affixed to the discharge pipe or opening of a vacuum cleaner. The externally folded collar portions are preferably adhered by adhesive to the corresponding adjacent wall portions upon which they are folded so as to form a rigid collar portion. The completed filter carton as illustrated in Figure 1 will thus be provided with a continuous inner filter lining 25 upon the inte-

rior thereof and the carton walls being perforated will permit air to pass through said filter lining and out of the carton through the openings 20.

In order to retain the filter carton on a vacuum cleaner 5 as illustrated in Figure 9 I provide a suitable attachment device made of sheet metal consisting of a lower retaining section 36 and a hinged upper retaining section 40. The upper section consists of a conical portion 30 having a slot 31 which is adapted to engage a retaining pin provided on the vacuum cleaner for bodily retaining same. The conical portion 30 is integrally formed with the upper section 40 and is provided with a channel portion 41 in which is retained a flexible gasket 32 made of soft rubber or similar material. The upper section of the attachment device is hinged on pintle 34 to the lower section which is also provided with a channel portion for receiving the upper collar portion of the filter carton. As shown in Figure 8, the channel portion is provided with a ledge which is adapted to engage the exposed free edge of the outwardly folded collar portions 11a, 15a, 16a, and 17a. The carton is thus supported and suspended upon the lower section 36. Upon hinging the upper section 40 into closed position on lower section 36 as shown in Figure 6, and locking hook 35 on pin 37, the two sections 40 and 36 will be securely locked together and the carton sealed within same without air leaking through the two retaining sections. When this carton retaining attachment is affixed to the vacuum cleaner in the position indicated in Figure 9 and air is blown through the conical section 30 it will pass into the inside of the carton and the air will be filtered through the inner lining 25 retaining any dust or dirt therein and permitting the air to escape through the openings 20 provided in the faces of the carton.

According to the present invention I provide filter cartons of a suitable convenient size so that they can be readily handled by the housewife and attached to the vacuum cleaner. These cartons can be readily disconnected from the retaining attachment previously described and when filled with dirt can be removed and discarded with the contents. The present invention eliminates the inconvenience and annoyance required previously in emptying and cleaning the usual cloth filter bags as no dust or shaking of the filter element is required. It is merely removed from the retaining sleeve and discarded, and a new clean filter carton is merely inserted in place.

It is to be understood that my invention is not necessarily restricted to the specific construction of the elements previously described. It is obvious that any suitable type of carton construction whether rectangular, cylindrical or any other shape could be readily employed for the same

purpose and provided with an inner filter lining. Suitable openings are provided in the outer wall portions of the carton or container so as to permit the air to escape from the interior outwardly thereof while retaining and filtering the dirt within the carton. Similarly, it is obvious that any suitable retaining sleeves or fastening means can be used for attaching the filter element to any suitable vacuum cleaner that may be used. Obviously the adapter or retaining means for the filter carton are necessarily constructed to fit and retain the particular type of filter element used, in position upon the vacuum cleaner so as not to permit any leakage of air at the connecting region.

It is intended to include in the appended claims the numerous modifications and variations of the construction embodying the principles of my invention herein disclosed.

I claim:

1. A disposable bag for use on vacuum cleaner comprising an open-end carton of polygonal cross-section having side walls and a bottom wall of paper board, said side walls having apertures therein, a liner for each of said carton walls of filter material and a strip of paper board folded over the edge of each side wall and overlying said liner whereby said liner is secured in said carton and whereby a rim is formed on the open end of said carton.

2. A disposable bag for vacuum cleaner comprising an open-end carton in the shape of a truncated-pyramid having four side walls and a bottom wall of paper board, said side walls having apertures therein, a liner for each of said carton walls of cellulosic crepe wadding, and a strip of paper board secured to and folded over the top edge of each side wall and overlying said liner whereby said liner is secured in said carton and whereby a rim is formed on the open end of said carton.

GEORGE W. HOLT, JR.

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