

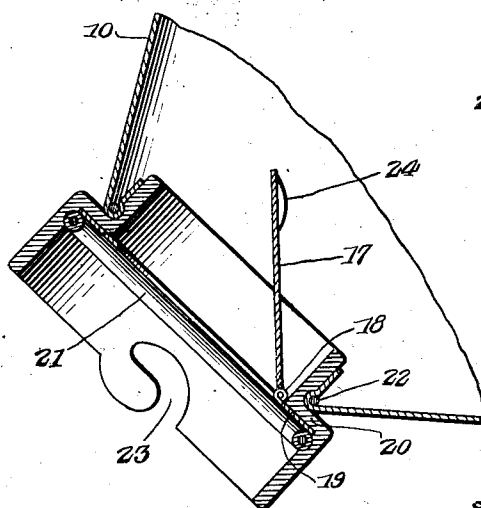
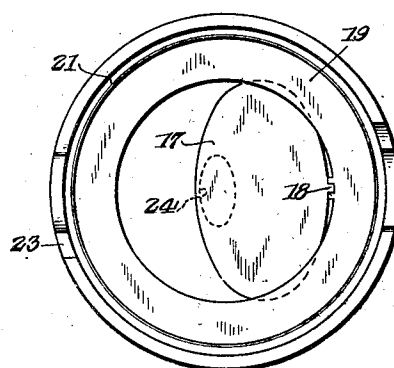
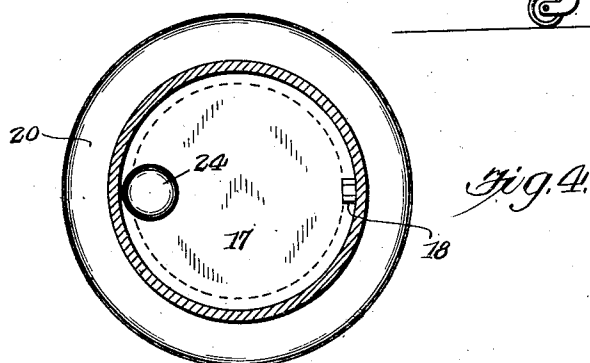
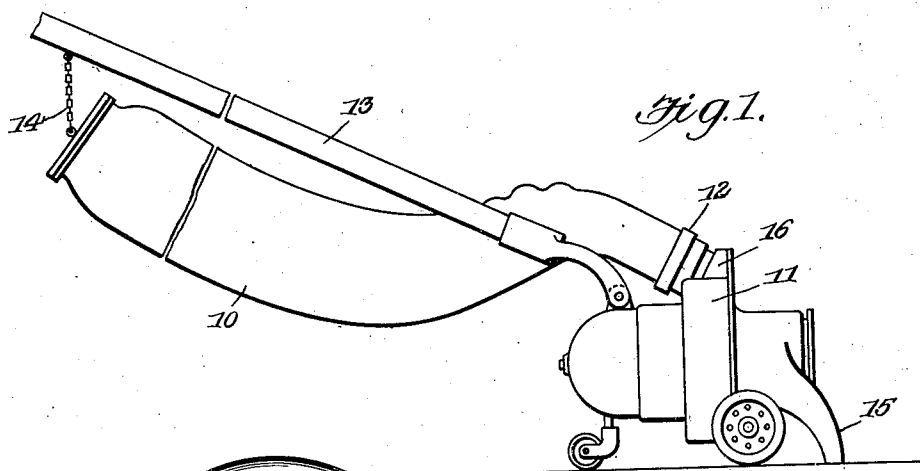
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VALVE FOR VACUUM CLEANER DUST BAGS

Filed April 16, 1929



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VALVE FOR VACUUM-CLEANER DUST BAGS

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This invention relates to improvements in mechanical sweeping and cleaning apparatus and particularly to a closure for the inlet end of the bag adapted to retain the dust and foreign material collected by the apparatus.

In devices of this character, such as the ordinary vacuum cleaner, the receptacle is made from suitable fabric that permits air to pass therethrough with relative freedom, while retaining the dust, lint, and foreign material, within the bag, until such time as it is desired to empty the latter. However, it is most important that the refuse passing into the bag with the air shall not be permitted to return to the fan or other vacuum producer. Moreover, it is important that the flow of air shall be relatively as unimpeded as possible, regardless of the presence of any closing means for preventing such return of the collected dust and refuse.

Bearing these facts in mind, the present invention contemplates the provision of a closure for the inlet end of the dust bag, such closure consisting of a pivotally mounted valve that is removably secured in the inlet end of the bag and which is moved to open position with the greatest of freedom by suction created within the bag at all times during operation of the apparatus. For this reason, the valve is made comparatively light while at the same time it is of sufficient weight to insure its being automatically closed or moved to its closed position upon cessation of the operations of the apparatus or in the absence of suction within the bag.

With these and other objects in view, the invention consists of certain novel details of construction and combinations and arrangements of parts, all as will be hereinafter more fully described and the novel features thereof particularly pointed out in the appended claims.

In the accompanying drawings,—

Figure 1 is a view in side elevation, partially broken away, of a portable vacuum cleaner and its associated dust receptacle.

Fig. 2 is a vertical section through the connector and dust bag with the valve in open position.

Fig. 3 is an end view of the connector with the valve open.

Fig. 4 is a plan view partly in section of the connector looking in the opposite direction from Fig. 3, and showing the valve closed.

As is well understood, the dust bag 10 is attached at its inlet end to the apparatus 11 by a connector 12 and its rear end is suspended from the handle 13 by a chain or the flexible connection 14. This is the usual construction in the commercial portable vacuum cleaner now on the market, comprising a fan for drawing dirt and refuse by suction through a nozzle 15 and directing it through the outlet nozzle 16 of the apparatus into the fabric dust bag 10. In order to prevent refuse once carried into the bag from returning to the fan, a closure is provided for the inlet end of the bag for that end which is attached to the connector 12. As shown more fully in Fig. 2, this closure for the inlet end of the bag consists of a flap valve 17 detachably secured at said inlet end, said valve being pivoted to open inwardly into the bag so that it will be opened by suction of air passing through the bag and free to close automatically or by gravity upon cessation of the operation of the apparatus in the absence of suction.

Preferably, said valve is pivoted at 18 on a ring 19 that is clamped in the connector 12 between the interior shoulder 20 formed on said connector and a washer 21. It might be added that the dust bag 10 is secured to the connector by the clamping ring 22. As will be understood, the connector 12 is attached to the outlet nozzle 16 of the apparatus by a pin (not shown) engaging in the bayonet slot 23. While the valve 17 is comparatively light so as to facilitate its being opened by suction within the bag, it is preferred that it be counterweighted as at 24 or at the edge of the valve remote from its pivot 18. Usually, after the dust bag has been filled to its normal capacity it is emptied by opening it at its end which is suspended from the handle of the apparatus, but it will be appreciated that with the present invention this procedure may not necessarily be followed as the valve 17 can be easily and quickly removed by removing the washer 21 and it can, of

course, be replaced with the same facility after the bag is emptied of the refuse contained therein.

What I claim is:

- 5 1. The combination of a dust bag connector, means for attaching a dust bag to said connector, and an inlet valve for said bag removably secured in said connector, said valve being automatically movable to its closed position in the absence of pressure in the connector.
- 10 2. The combination of a dust bag connector, having a central bore, means for attaching a dust bag to said connector, a washer in said central bore, and an inlet valve for said bag detachably secured between said washer and connector.
- 15 3. The combination of a dust bag connector having a central bore, means for attaching a dust bag to said connector, a washer in said central bore, a ring clamped between said washer and connector, and an inlet valve for said dust bag pivoted on said ring member.
- 20 4. The combination of a dust bag connector having a central bore, means for attaching a dust bag to said connector, a washer in said central bore, and a pivotally mounted inlet valve for said dust bag removably secured between said washer and connector.
- 25 5. The combination of a dust bag connector, having a central bore, means for attaching a dust bag to said connector, a removable washer in said central bore, a ring member secured between said washer and connector,
- 30 an inlet valve for the bag pivoted on said member, and a counterweight on said valve at a point remote from the pivotal center of the latter.
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