

May 5, 1936.

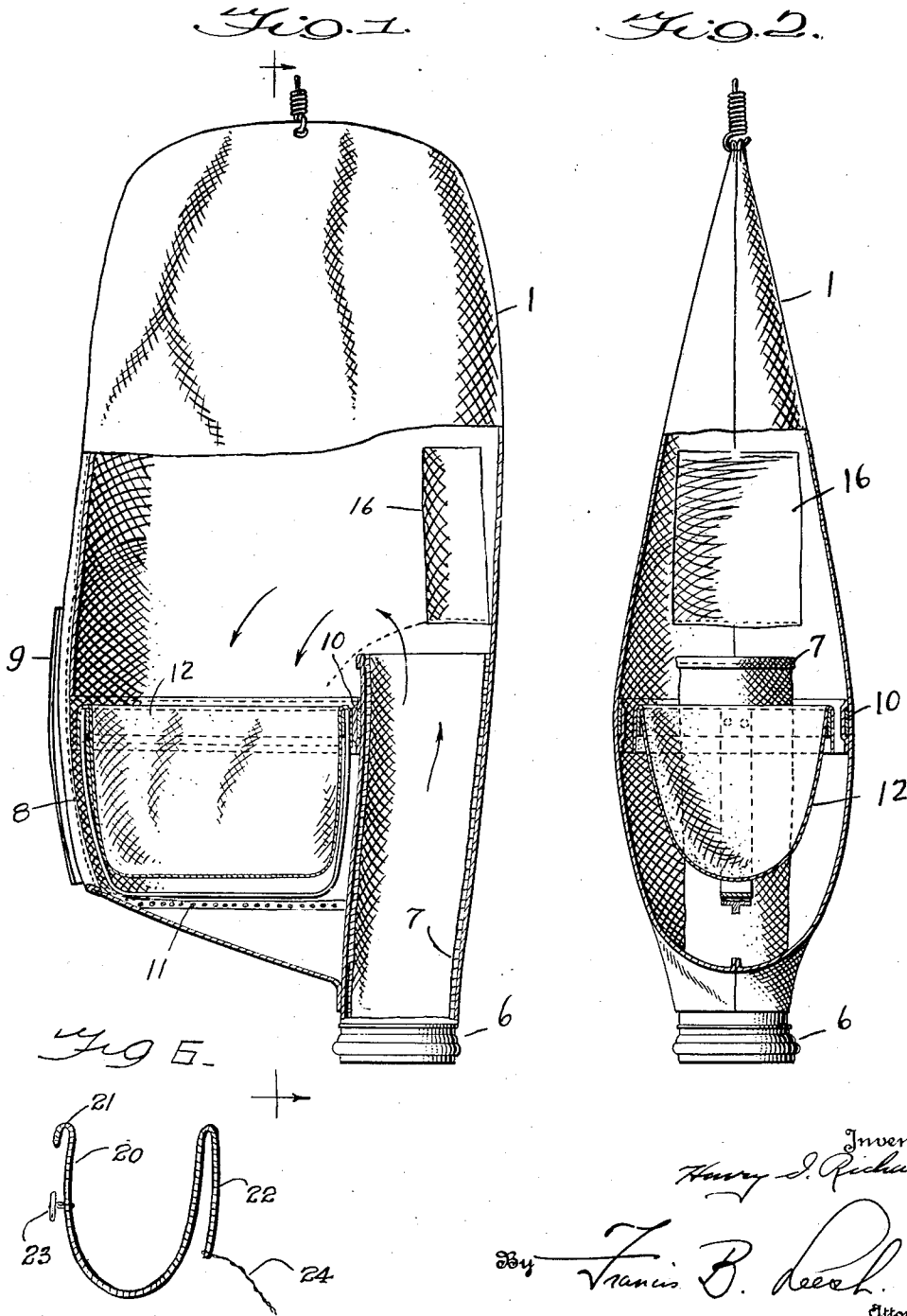
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VACUUM CLEANER DUST BAG

Filed Dec. 10, 1932

2 Sheets-Sheet 1



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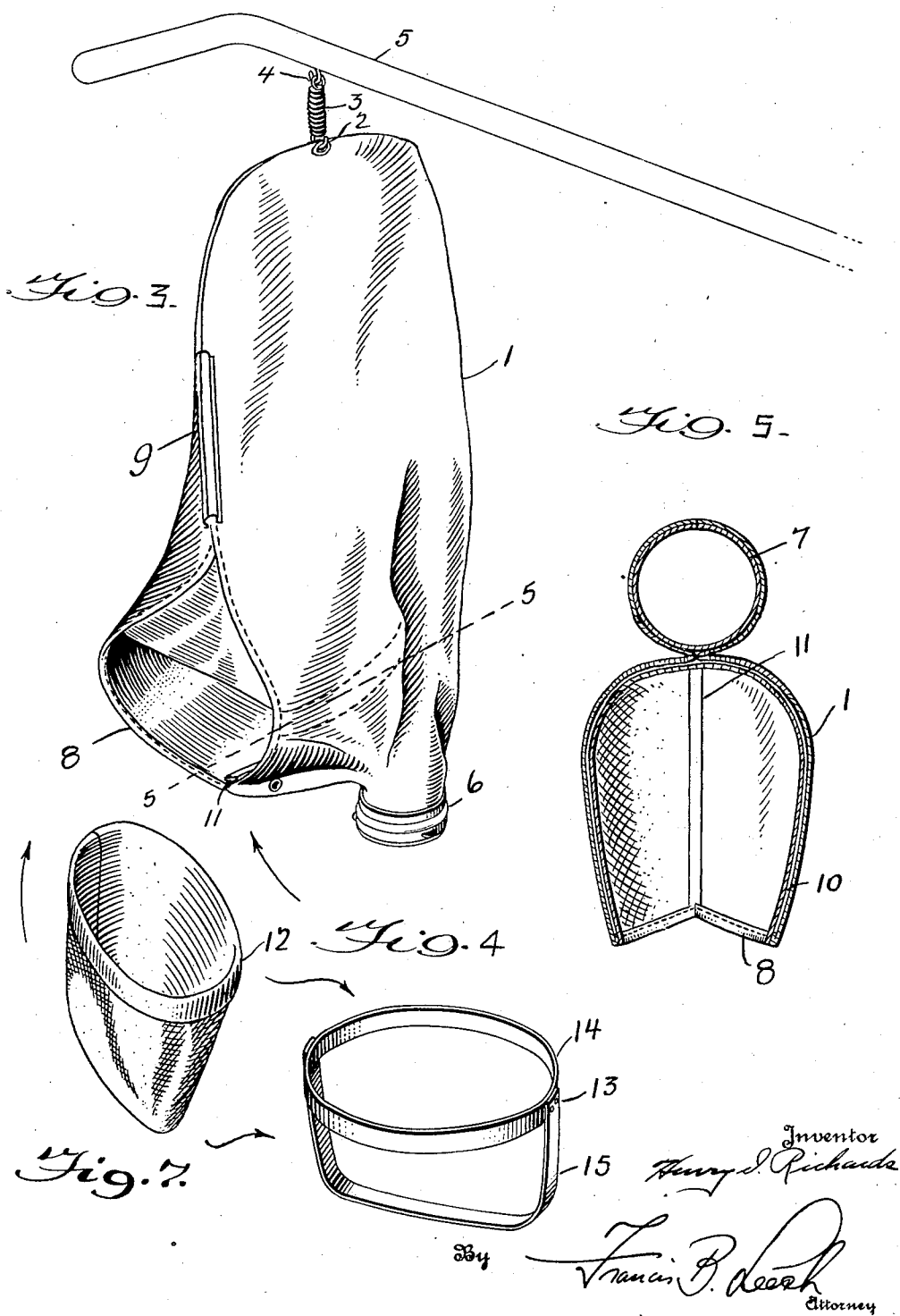
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UNITED STATES PATENT OFFICE

2,039,741

VACUUM CLEANER DUST BAG

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10 Claims. (Cl. 183—51)

This invention relates to dust bags for vacuum cleaners and more particularly to a dust bag in which the dust collected may be readily and cleanly disposed of.

An object of the invention is to provide a means for emptying the dust from the cleaner bag without scattering it about and without soiling the operator as is necessary when dust bags are emptied by the present practice of shaking.

A further object of the present invention is to construct an improved dust bag in which the dirt and dust are collected in an easily disposable, self-supporting container which is readily removed through a side wall of the bag.

In the drawings, Fig. 1 is a cut-away view through the side of the bag.

Fig. 2 is a cut-away view through the back of the bag.

Fig. 3 shows the bag attached to the handle and open for insertion of the dust container.

Fig. 4 shows details of the container construction.

Fig. 5 is a horizontal section on line 5—5 of Fig. 3.

Fig. 6 is a vertical section of a modification of the dust container.

Fig. 7 is a detail view of the paper dust bag.

Numeral 1 denotes generally an elongated porous fabric dust bag for vacuum cleaners, the upper edge being fitted with an eyelet 2 for engagement of coil spring 3 which is affixed to a hook 4 on the upper end of a vacuum cleaner handle 5.

The lower end of the bag 1 is constructed and fitted with a metallic nozzle 6 for attachment to the outlet conduit of a conventional suction cleaner, (not shown).

As indicated in Figs. 1 and 2, the nozzle 6 is fitted at the end of an interior discharge pipe 7, preferably composed of some suitable smooth finish or glazed material to which particles of dust will not adhere. This inlet pipe 7 may be completely within the bag as in Figs. 1 and 2 or it may be sewed into the side wall of the bag as in Fig. 5. In either case the discharge end of the tube 7 is some distance above the bottom of the dust bag. It is customary to construct these elongated flat bags of flexible porous fabrics which expand on receiving air from the blower of the cleaner and permit the air to slowly diffuse without allowing dust to sift through.

The bag 1, see Figs. 1 and 3, has a side opening 8 formed therein and is normally closed by sliding keeper 9 encircling the edges of the open-

ing. This split tube or keeper frictionally engages the seam of the bag and may be slid along the same as shown.

Sewed, or otherwise attached, interiorly of the bag 1 adjacent the opening 8 is a strip of spring metal 10 extending from the edges of the opening 8 around the inner periphery of the bag or over to the inlet pipe 7. In either formation, however, it will be observed that the band or strip 10 is slightly below the discharge end of the inlet tube 7.

At the lower edge of the opening 8 a strip of metal 11 sewed in the lower portion of the bag extends across the same as in Fig. 5 or over to the inlet pipe 7 as in Fig. 1.

The salient feature of the invention is the removable dust collection receptacle 12 composed of paper or other suitable material and fitted in holder 13. This holder 13 may be made of spring metal in the form indicated or any other suitable configuration. As illustrated in Fig. 4, an elliptical spring metal band 14 has a U-shaped strip 15 attached to it. In this frame a paper bag 12 is mounted with the bottom of the bag resting on the U-shaped strip and the upper edges are folded over the band 14.

It will be readily seen that the receptacle 12 is adapted to be inserted interiorly of the dust bag 1 through side opening 8. When inserted, the bottom of the frame 13 rests on strip 11 and, when the tube or keeper 9 is slid down over the edges of the opening 8, the elliptical band 14 of the frame carrying the folded over receptacle 12 will bind tightly against the interior spring strip 10 and seal the receptacle in the bag adjacent to and slightly below the discharge inlet 7.

Thus, when in use, the incoming dust-laden air from the cleaner discharges interiorly of the bag 1 above the receptacle 12 and, as the air pressure within the bag diffuses, the dust settles or gravitates into the receptacle.

When it is desired to remove the accumulation of debris, the cleaner motor is shut off and the keeper 9 elevated. The spring strip 10 then expands and holds the edges of the opening 8 wide apart allowing the operator to conveniently grasp the receptacle frame and remove the same without touching the dust bag. The spring strip 14 also tends to assume its normal elliptical shape and it will slightly bulge out of the side opening making the removal very simple. The receptacle may then be easily disposed of, either by discarding the paper container altogether or by merely dumping it.

Inasmuch as it is customary to disconnect the nozzle 6 when emptying the bag (as shown in Fig. 3), a flap 16 is stretched interiorly of the bag 1 above the discharge tube 7. This flap 16 is blown out of the way by the blower when the cleaner is in operation but falls over the mouth of the tube 7 when the motor is cut off. Consequently, when the nozzle is detached, dirt is prevented from dropping down the pipe 7 or onto the floor through the pipe.

In Fig. 6 I have shown a modified disposable container in the tray 13. In this modified form of which the figure is a vertical cross-section, the receptacle is formed with a folded over flange 21 on one longitudinal side while the opposite side is provided with an elongated flap 22. It will be obvious that when the tray is removed from the cleaner it is merely necessary to fold over flap 22 and tie cord 24 around button 23 so that a compact closed package of debris is formed which may be handled without spilling any of the contents.

What I claim is:

1. In a dust bag for vacuum cleaners, a porous bag having an inlet attached to the cleaner, a horizontal open tray completely within said bag positioned adjacent the inlet adapted to receive dust therefrom and an opening in one side of said bag for the removal of said tray.

2. A dust bag for suction cleaners having an opening in one end of the bag for the ingress of dust-laden air, a side opening formed in an intermediate portion of the bag, a clamping device secured in the bag adjacent the opening, and a removable receptacle adapted to be retained interiorly of the bag by the clamping device.

3. A dust bag for vacuum cleaners including a porous bag body, an inlet attached to the cleaner and discharging interiorly of the bag body, a closable opening in the body opposite the end of the inlet, a split resilient ring secured circumferentially in the body, and a removable dust receptacle held in place by said split spring ring.

4. A dust bag for vacuum cleaners including a porous bag body, an inlet attached to the cleaner and discharging interiorly of the bag body, a closable opening in the body opposite the end of the inlet, a split resilient ring secured circumferen-

tially in the body, and a removable dust receptacle positioned slightly below and to the side of said inlet discharge and held in place by said split spring ring.

5. In a vacuum cleaner bag, a tubular dust inlet, an opening in the bag, a closure therefor, a spring metal strip circumferentially secured in the bag at the opening, and a receptacle-carrying frame firmly held in the bag by the split ring and closure.

6. A vacuum cleaner, including a dust receiving bag, a removable dust receptacle for said bag, said removable dust receptacle comprising a metal frame, a liner therefor, and means for securing and positioning the metal frame and liner within the cleaner bag.

7. In a vacuum cleaner bag, a removable dust receptacle in said bag, the said dust receptacle comprising a metal frame, an open top liner therefor, and means interiorly of the cleaner bag for securing and positioning the metal frame and liner within the cleaner bag.

8. A vacuum cleaner bag comprising a porous body, a dust inlet tube affixed at one end thereof discharging into the bag and a removable dust receptacle positioned in the body of such a size as to completely block the body adjacent the discharge end of the inlet.

9. A vacuum cleaner bag comprising a porous body, a dust inlet tube affixed at one end thereof discharging into the bag and a removable dust receptacle positioned in the body of such a size as to completely block the bottom portion of the body adjacent the discharge end of the inlet.

10. A dust bag for vacuum cleaners comprising a substantially flat elongated flexible bag, an inlet tube at the lower end thereof discharging dust-laden air interiorly of the bag, an opening in one side of the bag, a flat strip fastened in the bag from the lower edge of the opening across to the tube, a split circumferential strip fastened in the bag from the upper edge of the opening around the interior and slightly below the discharge of the inlet, a receptacle adapted to be firmly retained in the bag by the circumferential and flat strips and receive dust from the inlet discharge.

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