

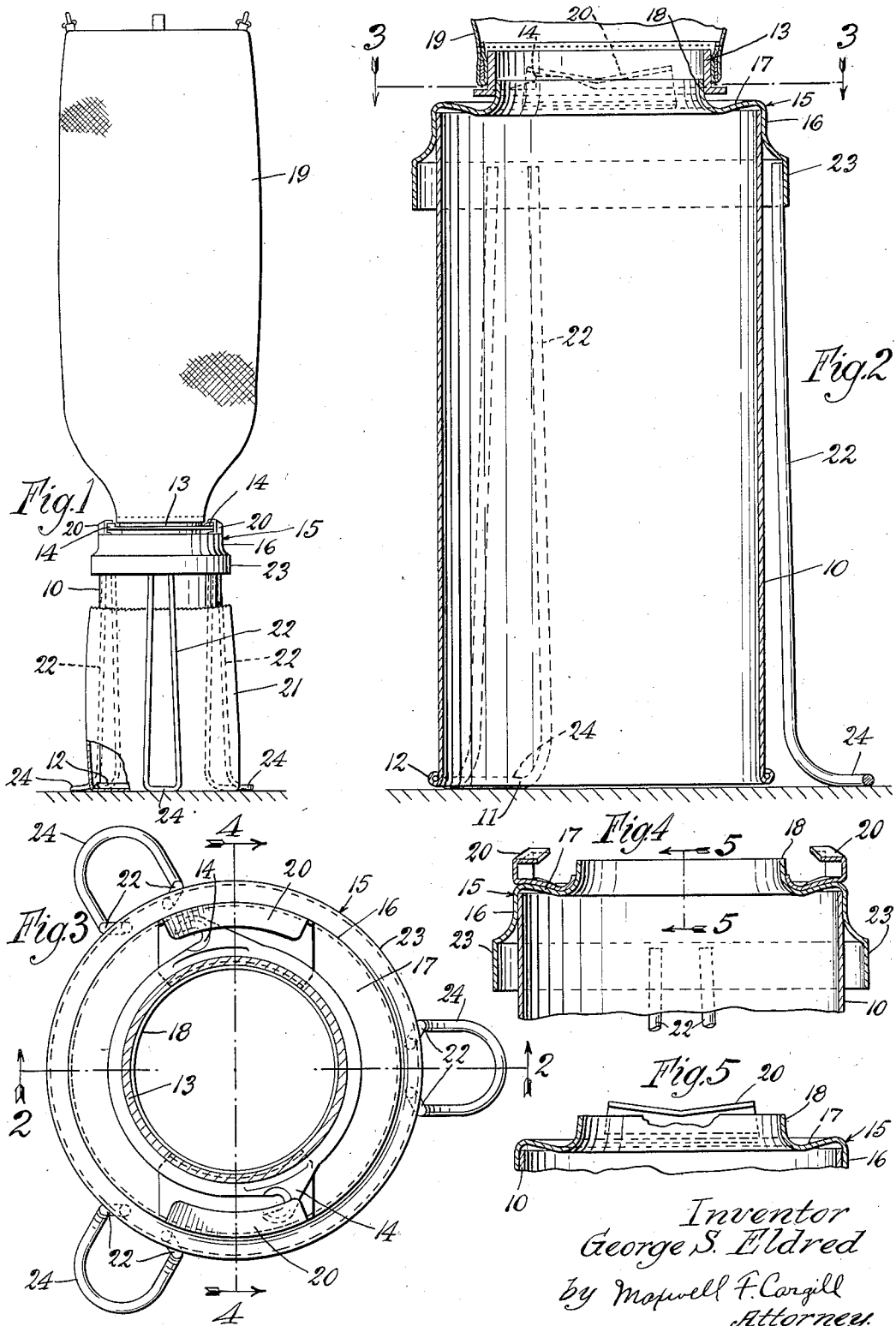
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BAG EMPTYING DEVICE

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BAG EMPTYING DEVICE

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6 Claims. (Cl. 226—58)

This invention relates to improvements in bag emptying devices.

One object of the invention is to provide a device for transferring the contents of one bag to another and particularly for emptying vacuum cleaner bags which precludes all necessity of touching the bag contents with the hands, and which will prevent the escape of dust into the surrounding air and the accidental scattering of the bag contents upon the floor.

Another object of the invention is to provide a device for transferring the contents of a vacuum cleaner bag into a suitable disposable container, such as a paper sack, the device forming a seal with both bag and sack during such transfer to prevent the escape of dust into the atmosphere.

Domestic vacuum cleaner bags of the type which are not disposed of when filled, generally are provided with an opening through which the bag contents can be removed. Certain types of bags can be opened at the upper end while other types are provided with an intake opening at the lower end of such size that the bag contents can be shaken or removed therethrough. In the accompanying drawing the improvements have been illustrated in conjunction with a bag of the latter type, although it will be apparent that the improvements will be made use of with bags provided with discharge openings at the upper ends.

In the drawing in which one embodiment of the improvements has been illustrated.

Figure 1 is a side elevation of an emptying device embodying the present invention and showing a vacuum cleaner bag and a disposable sack in operative position thereon.

Figure 2 is an enlarged vertical section taken on line 2—2 of Figure 3.

Figure 3 is a section taken on line 3—3 of Figure 2.

Figure 4 is a broken sectional view taken on line 4—4 of Figure 3.

Figure 5 is a broken section taken on line 5—5 of Figure 4.

In the drawing, 10 is the body of the device which preferably is of cylindrical form. The bottom end 11 is open and may have a roll 12 formed thereon if the device is made of sheet metal, to prevent the lower edge of the cylinder from cutting through the disposable paper sacks into which the contents of a vacuum cleaner bag are transferred.

The upper end of the member 10 is provided with suitable means for attaching thereto the discharge end of a vacuum cleaner bag. In the embodiment shown in the drawing, the attaching

means are designed for use with a vacuum cleaner bag having a discharge opening at its lower end which opening is provided with a metal ring 13, having diametrically opposite ears 14 by means of which the bag is secured to the vacuum cleaner.

The means for attaching the cleaner bag to the emptying device is embodied in a shell indicated generally by the numeral 15, which is provided with a cylindrical portion 16 which may be welded or otherwise secured to the upper end of the cylinder 10. The shell has an inwardly and downwardly curved shoulder 17 forming an annular dust pan which terminates in an upwardly extended annular flange 18. The flange 18 is of a diameter enabling it to closely fit within the ring 13 of the cleaner bag 19.

Secured to the shoulder 17 are two diametrically opposite clips 20 beneath which the ears 14 of the ring 13 may be turned when the ring 13 has been placed over the flange 18 for detachably securing the discharge end of the bag 19 in registration with the opening defined by the flange 18.

In using the device in emptying the bag 19 a paper sack 21, as an ordinary market sack, is slid upwardly over the lower end of the member 10 until the bottom or the lower portion of the sack contacts with the lower end 12 of the cylinder. The device is placed upon the floor, as illustrated in Figure 1. The bag 19 is then attached to the upper end of the emptying device, as above described, and the contents of the bag shaken into the member 10 which as will be seen is closed at its lower end by the lower portion of the sack, thereby preventing dust from escaping beneath the lower end of the member 10 and rising in the space between the sack and said member 10 and into the atmosphere.

The contents of the cleaner bags frequently collect in masses and cannot freely be shaken into the member 10. However, the lower portion of the bag 19 in the position shown in Figure 1, can be pressed downwardly through the ring 13 and the opening in the upper end of the member 10, and will carry with it the accumulated mass in the bag. When the large mass or masses have been thus transferred into the emptying device, the loose contents can be shaken from the bag into the device. Upon withdrawing the bag thus pressed or tucked into the opening of the device, particles clinging to the interior wall of the bag will be dislodged and fall into the device.

During the transfer of the contents of the bag into the device, the escape of dust is effectively prevented due to the close contact of the flange 18 with the ring 13.

It is to be noted in Figure 2 that the annular flange 18 tapers slightly inwardly, thereby enabling the ring to be pressed downwardly sufficiently until it forms a close seal. To release the bag from the device the ring 13 is rotated sufficiently to effect the disengagement of the ears 14 from the clips 20, whereupon the ring 13 can be lifted out of engagement with the annular flange 18. Should particles of refuse drop from the margin of the ring 13 and fail to pass into the device they will be caught on the shoulder 17 which, as above stated, forms a concave annular pan for retaining such refuse, and thereby preventing the same from dropping upon the floor.

When the bag 19 has been detached from the device, the latter is lifted gently from the sack 21, thus transferring the contents of the device to the sack, which may then be disposed of as desired.

In using the improvements as above described, it is preferred that means be provided for holding the device in upright position and firmly in contact with the lower portion of the sack to prevent escape of dust around the lower edge of the member 10 and thus into the atmosphere.

Suitable holding means are illustrated, and comprise three members 22 which at their upper ends may be secured as by spot welding to the flange 23 which is formed as an integral part of the shell 15.

The flange 23 as shown is so spaced from the side wall of the device 10 that the holding members 22 will accommodate between the same and the member 10 the upper portion of the sack 21.

The lower ends of the holding members 22 are provided with laterally extending portions or feet 24 upon one or more of which the user may step to press the device firmly against the floor and form a dust proof seal with the paper sack during the transfer of the bag contents into the device.

It will be noted that any sack or bag which is large enough to receive the member 10 can be used with the improved device notwithstanding that they may be considerably larger than are necessary. Paper market bags are delivered to most homes several times a week and these otherwise discarded bags can be used with the improved device, thus rendering the purchasing of special bags unnecessary.

While I have shown and described an embodiment of my improvements for the purpose of illustration, I do not wish to be restricted specifically thereto except as so limited by the appended claims.

I claim:

1. A bag emptying device comprising a cylindrical member having an opening at each end thereof and of a diameter capable of being inserted in a sack with the lower end thereof closed by the lower portion of the sack, means at the upper end of said member for removably attaching thereto the discharge end of a vacuum cleaner bag whereby the contents of the bag can be discharged into said member, the said contents being discharged through the lower end of said member into the sack upon withdrawal of said member from the sack, and foot pressable means exterior of the sack and disposed adjacent the bottom of the cylinder for holding the bottom of the latter in dust confining contact with the sack during the bag emptying operation.

2. A bag emptying device comprising a cylindrical member open at the upper and lower ends

and capable of being inserted in a sack with the lower end in contact with the bottom portion of the sack, holding means spaced from the outer wall of said member for accommodating the upper portions of said sack between said means and wall whereby the lower end of said member and sack can be pressed firmly against a support to provide a seal at the lower end of said member, and means at the upper end of said member for releasably holding the discharge end of a bag to be emptied in registration with said upper open end of said member.

3. A bag emptying device comprising a cylindrical member open at the lower end and adapted to be inserted in a sack with the lower end of the member in contact with the lower portion of the sack, the upper end of said member being provided with an opening through which the contents of a bag to be emptied can be transferred to the interior of said member, means for holding the discharge end of said bag in registration with said opening, and one or more holding means secured at the upper ends thereof adjacent the upper portion of said member and extending downwardly to adjacent the lower end of said member and being spaced from the exterior wall of the latter for accommodating therebetween the upper portion of the sack, said holding means being provided with portions by means of which the user may press said member into firm contact with the sack and the latter against a floor during the transfer of the bag contents to said member.

4. A bag emptying device for vacuum cleaner bags having a discharge opening provided with an attaching ring, said device comprising a cylindrical member open at the lower end and adapted for insertion in a disposable sack with the lower end of said member in contact with the lower portion of said sack, an annular shell secured to the upper end of said member and having an upwardly extending flange of a diameter closely fitting the interior of said ring, means adjacent said flange for releasably locking said ring thereto, said shell having a downwardly extending flange spaced from the side walls of said member, and a plurality of holding members secured at the upper ends thereof to said last mentioned flange and extending downwardly to adjacent the lower end of said cylindrical member and being spaced therefrom for accommodating the upper portion of the sack therebetween, said holding members being provided with lateral extensions upon one or more of which the user can step to press the lower end of said cylindrical member into sealing contact with said sack during the transfer of the contents of said bag to said member.

5. An emptying device for vacuum cleaner bags comprising a cylinder open at the bottom and insertable in a disposable sack adapted to retain the refuse upon withdrawal of said cylinder, an annular member secured to the upper end of said cylinder terminating at its inner periphery in an upstanding flange arranged for insertion into the discharge end of a bag to be emptied and having its outer margin extending downwardly in spaced relation with respect to the exterior of the cylinder, and foot-holding means secured to said margin and extending exteriorly of the sack to adjacent the base of the cylinder whereby the latter can be foot-pressed into dust confining contact with said sack during the discharge of the bag contents into said cylinder.

6. An emptying device for vacuum cleaner bags

comprising a cylinder open at the bottom and arranged to be inserted in a disposable sack whereby the contents of the cylinder will be transferred to the sack upon withdrawal of the
5 cylinder, foot pressing means for pressing the cylinder into dust confining contact with the bottom of the sack, said means being spaced from the exterior of said cylinder whereby the sack can be drawn upwardly around the cylinder, and an annular member secured to the upper
10 end of said cylinder, said member having an up-standing flange at its inner periphery arranged for dust confining contact with the discharge opening of a bag to be emptied, a depending flange at its outer periphery spaced from the exterior of said cylinder and to which said foot
5 pressing means are secured, and an annular channel between said flanges defining a dust pan adjacent said inner flange.

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