

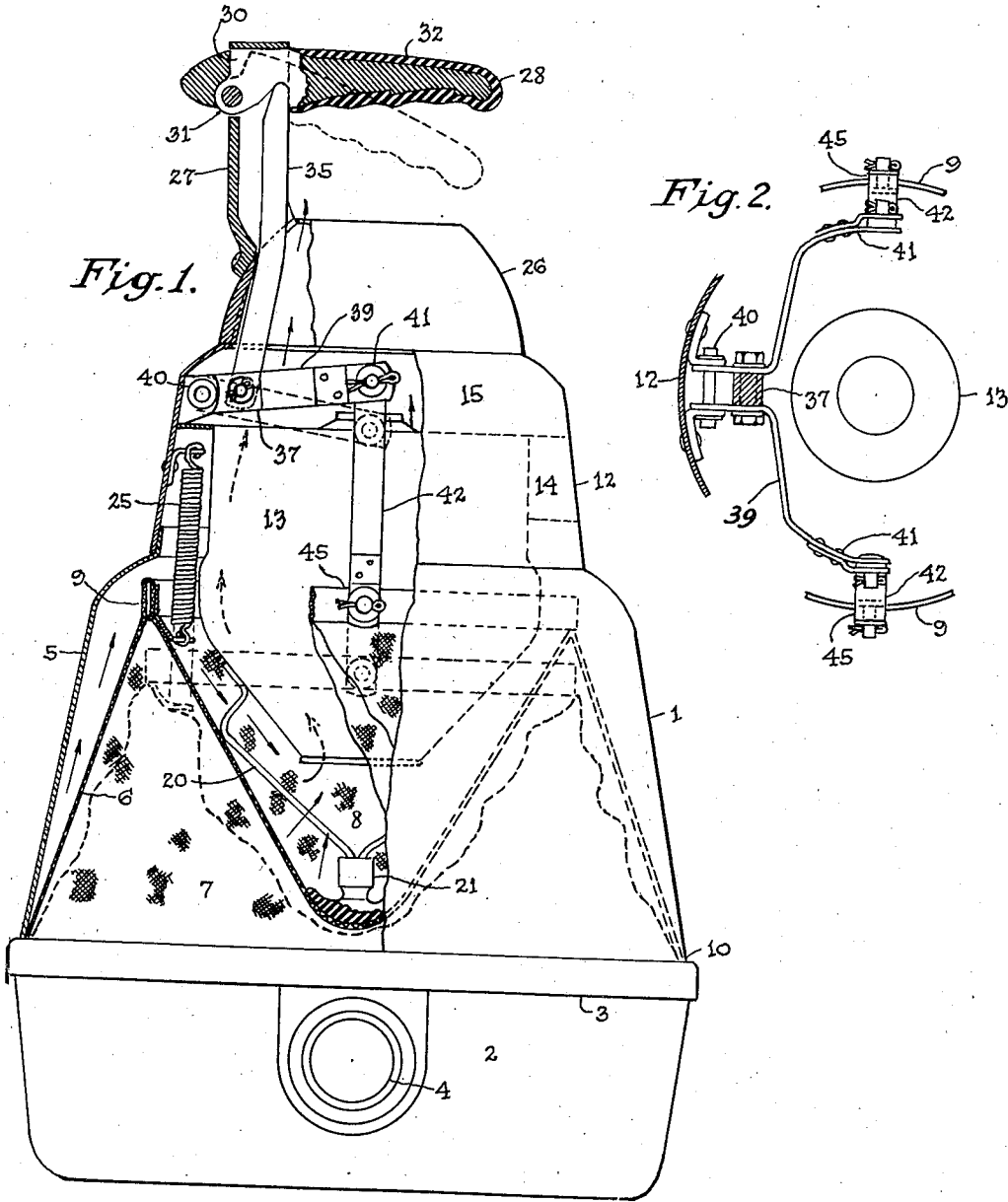
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W. LEATHERS

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VACUUM CLEANER

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INVENTOR.
Wm. Leathers

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VACUUM CLEANER

Ward Leathers, Haworth, N. J., assignor to
Quadrex Corporation, New York, N. Y.

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REISSUED

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My invention pertains to canister-type vacuum-cleaners, (that clean exclusively through a cleaning hose) and particularly to those having a vertical rather than a horizontal axis.

5 The object of my invention is to produce a lightweight, compact machine of small bulk, especially for domestic use, having therein a "fixed" filter, i. e., one that is not removed for emptying dirt from the machine, together with a convenient and practical means of shaking such filter for keeping its perviousity at a high state of efficiency for filtering purposes.

Further objects will appear in the sub-joined specification and drawing, of which:

15 Figure 1 is a vertical elevation, partially cross-sectioned, of my vacuum-cleaner showing filter and shaker-mechanism.

Figure 2 is a plan view of a portion of the shaker-mechanism.

20 At the bottom of my vertical-axis, canister-type vacuum-cleaner 1 is disposed a dirt-receptacle 2 removable from the body of the machine along the horizontal line 3. The dirt-receptacle is provided with a hose attachment 4. The main

25 body of the machine comprises three zones. The first zone comprises a shell 5 surrounding the filter 6 which is composed of two co-axial, conical sections 7 and 8, joined by a ring 9, preferably made of clock-spring. The filter may be joined to the ring in any desired manner as by sewing the fabric around it. The filter 6 is joined to the case 5 at its base 10. The second zone comprises

30 a shell 12 supporting therein a motor-blower-unit 13 by means of rubber cushion segments 14 or other suitable means. For more complete description of this arrangement and construction see my co-pending application for Letters Patent Serial No. 209,909 filed May 25, 1938. Above the motor-unit 13, within the casing 12, there is a

35 chamber 15 in which various accessories may be suitably disposed. These may consist of motor switch, strain-relief for electric cord inlet, an opening for joining a blower-hose, preferably of smaller diameter than the cleaning hose, or indicators of the cleaning efficiency of the machine, such as set forth in my co-pending applications for Letters Patent Serial Nos. 218,646 filed July 11, 1938 and 218,647 filed July 11, 1938. To the

40 bottom of the casing of the motor-blower-unit 13 is attached a wire cage 20 for holding the filter free from contact with the blower case and used for the support of an inverted rubber mushroom 21 which holds the center of the filter in a free manner and in an approximately centralized lo-

45 cation. A plurality, preferably two, of springs

55 25, having one end joined to the casing 12 and the other end joined to the filter ring 9, tend to hold the filter firmly in the position shown. The third zone consists of an open top cap or dome 26 from which the exhaust air escapes upward 5 and the internal portion of which may be used for sound muffler, auxiliary filter or other purposes. To the dome 26 is firmly joined a hollow die-cast handle-post 27 which supports a free-end carrying-handle 28. A metal inner core 30 10 in the horizontal member of the carrying-handle is hinged to the post 27 at 31. The core 30 is covered with rubber 32. A push-rod 35 suitably socketed on the under side of the horizontal handle core 30 is joined at its lower end 37, in a 15 hingeable manner, to a bow 39. The bow is hingeably joined to the case 12 at 40. The outer tips of the bow 41 are hingeably joined to push rods 42. The push rods 42 extend downward between the motor-blower-unit and the case 12 to 20 where they are hingeably joined to the filter ring 9 as at 45. Between the motor-blower-unit 13 and the case 12 is a suitable packing or air resistor, not shown, of felt or other suitable material through which the push rods 42 pass in a 25 free-moving but substantially air-tight manner.

When the filter requires shaking, preliminary to emptying the machine or on other occasions for improving the air-flow through the machine, the horizontal handle bar 28 is pressed downward and 30 relaxed as many times as is required. When this handle is pressed downward it depresses the bar 39 by means of the push rod 35 which in turn depresses the filter ring 9 by means of the connecting rods 42, putting the filter in a loose position, as shown in dotted lines. When downward 35 pressure on the handle is removed the filter is drawn upward to its taut position by the springs 25 and the handle 28 is raised to a horizontal position by the shaker-mechanism just described. 40

What I claim is:

1. In a vertical-axis canister-type suction-cleaner, a motor-suction-unit, a reentrant-cone-shaped dust-separator with a ring-member joined to the fold thereof, resilient means joined to said 45 ring-member for maintaining said dust-separator in normal position, control means associated with said resilient means for moving said support out of normal position, said means comprising a manually operable handle joined to a hinged bow, and 50 rigid tie members extending between the supporting ring-member and the tips of said bow, with said motor-suction-unit disposed between said tie members.

2. In a vertical-axis canister-type suction- 55

cleaner, a main body portion comprising a dirt-receiving-chamber at the bottom in communication with a cleaning hose, a reentrant-cone-shaped filtering-element disposed above and
5 forming the top of said chamber, said element joined at its fold to a ring member, a spring attached to said ring member to hold such filter in its normal operating position, a motor-suction-unit disposed above said element and partially
10 within the reentrant portion thereof, a depress-

ible handle joined to the top of said main portion, and means joined between said handle and said ring member for purposes of shaking the said filtering-element, said means comprising two rigid tie members extending vertically on opposite
5 sides of the said motor-unit joined together at the top by a third rigid member which is operably joined to said depressible handle.

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