

Feb. 11, 1936.

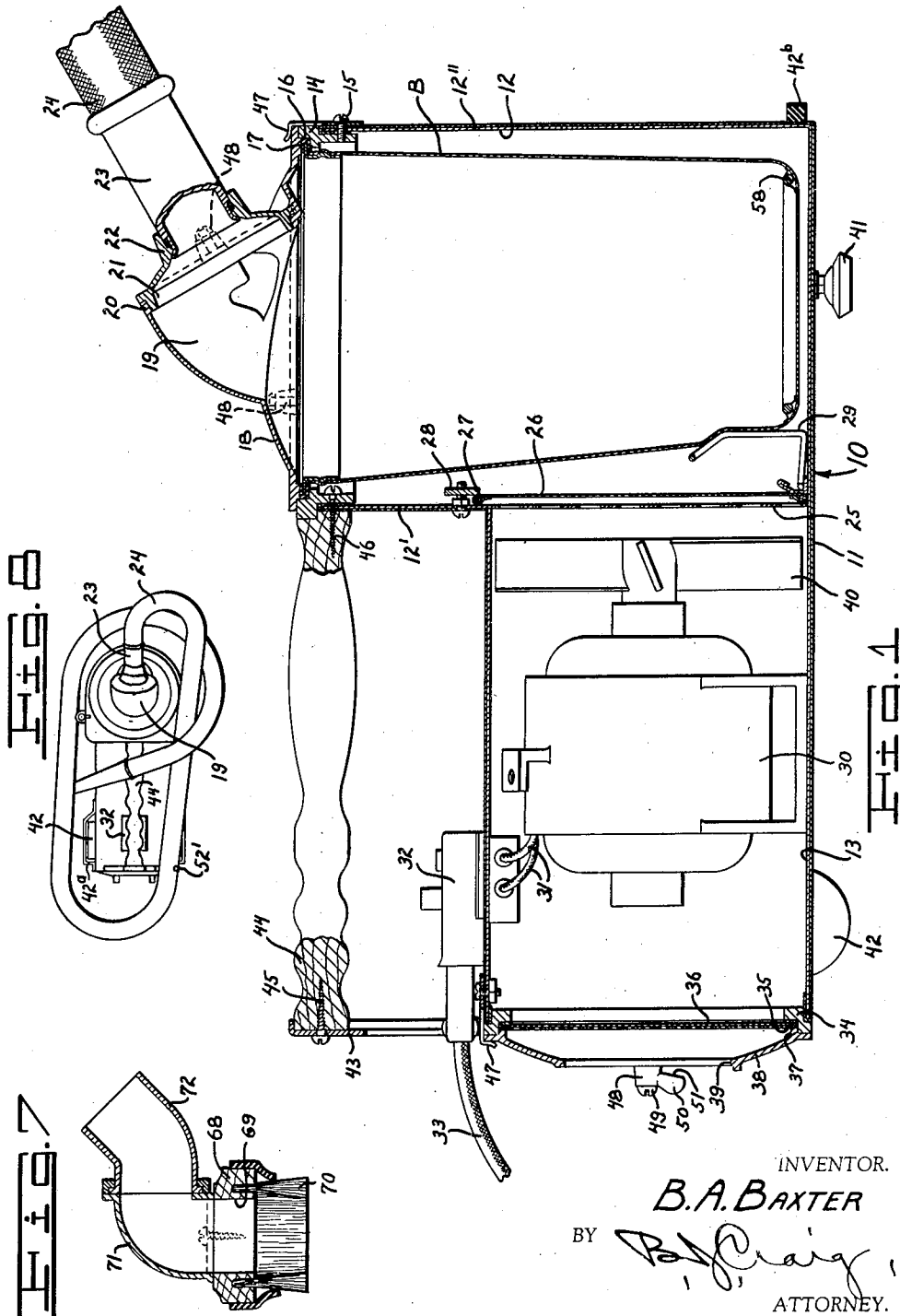
B. A. BAXTER

2,030,133

VACUUM CLEANER

Filed Feb. 14, 1934

2 Sheets-Sheet 1



Feb. 11, 1936.

B. A. BAXTER

2,030,133

VACUUM CLEANER

Filed Feb. 14, 1934

2 Sheets-Sheet 2

Fig. 2

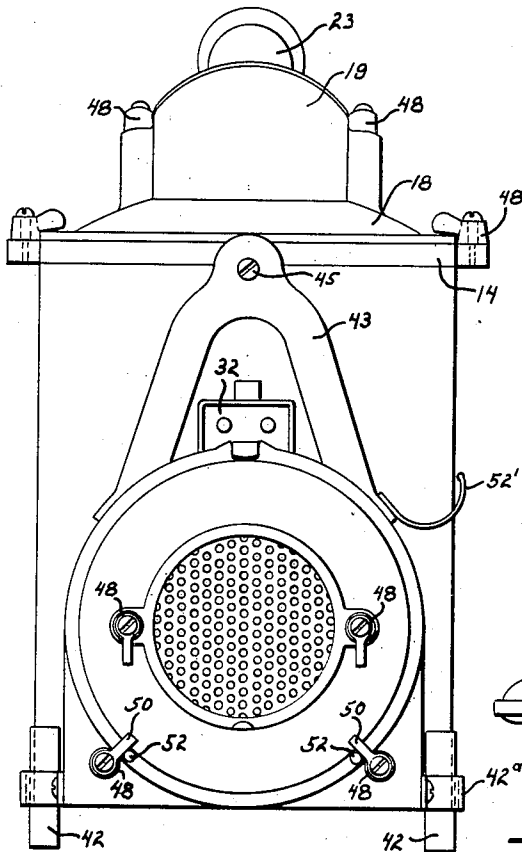


Fig. 3

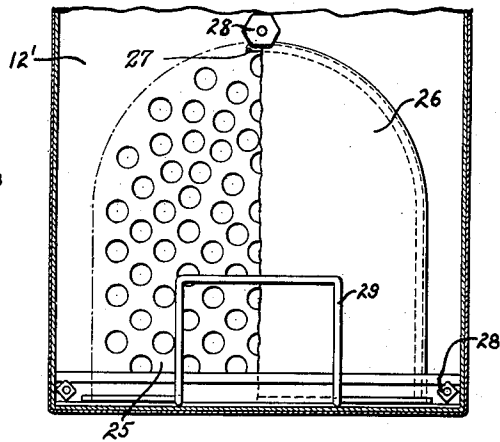


Fig. 5

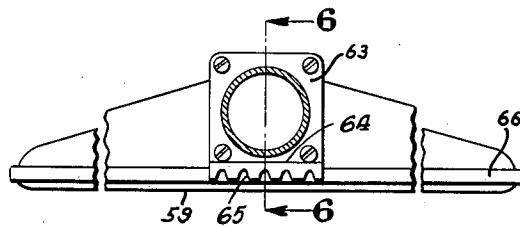


Fig. 6

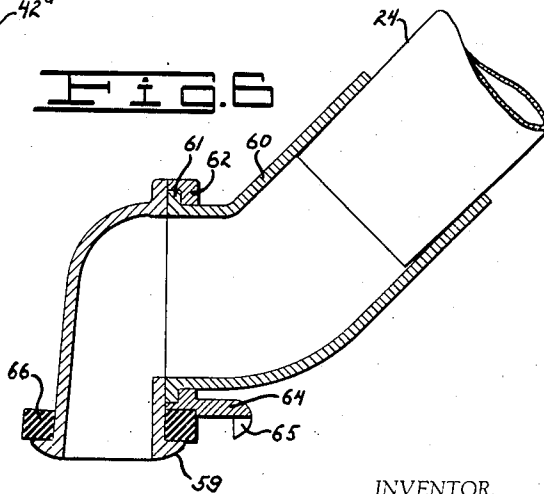
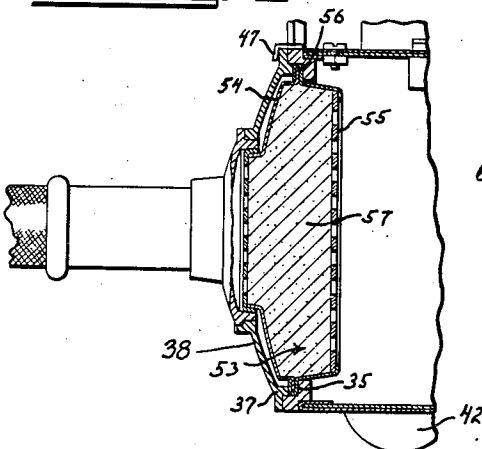


Fig. 4



INVENTOR.
B. A. BAXTER
BY *[Signature]*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,030,133

VACUUM CLEANER

Berry A. Baxter, Altadena, Calif., assignor to
Gladys C. Baxter, Altadena, Calif.

Application February 14, 1934, Serial No. 711,145

7 Claims. (Cl. 183—37)

This invention relates to vacuum cleaners.

The general object is to provide a vacuum cleaner which is compact, easily manufactured and which is highly efficient in use.

One of the specific objects of the invention is to provide a vacuum cleaner including a novel arrangement of a dust sack.

Another object is to provide a novel means for holding the dust sack of a vacuum cleaner in position.

A further object is to provide a novel manner of supporting the hose and cord of a vacuum cleaner.

Other objects and the advantages of my invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

Fig. 1 is a central sectional view of a vacuum cleaner embodying the features of my invention;

Fig. 2 is a rear elevation of the cleaner;

Fig. 3 is a fragmentary sectional detail showing the inside of the dust sack well;

Fig. 4 is a sectional detail of the demoting receptacle;

Fig. 5 is a front elevation of my improved nozzle;

Fig. 6 is a section taken on line 6—6 of Fig. 5;

Fig. 7 is a section through my novel brush; and,

Fig. 8 is a top plan view showing the manner in which the hose is supported.

I have shown my invention as embodied in a vacuum cleaner indicated generally at 10. As shown the cleaner includes a body 11 which comprises a receptacle 12 at one end and has a motor housing 13 at the other end. The receptacle 12 is preferably made of sheet metal bent to form a plane wall portion 12' and an arcuate wall portion 12''. The receptacle 12 has an angular ring 14 secured in the upper end thereof by bolts 15. The ring is rabbeted as at 16 to receive a flange 17 to which a fabric dirt bag B is secured.

The ring 14 is provided with a closure portion 18 from which an offset conduit 19 extends. This conduit is provided with a cylindrical end portion 20 in which the skirt 21 of a cap 22 is fitted. The cap 22 has a tubular member 23 mounted to swivel thereon and a hose 24 is connected to the tubular member 23.

In the receptacle wall portion 12' I provide a foraminous partition 25 over which a guard member 26 made of cloth is arranged. This guard member 26 has a peripheral metallic rim 27 which is held by a suitable clamping member 28 in such a manner that it can be readily removed when desired.

A guard member 29 made of wire bent to substantially inverted U-shape is secured at the bottom of the receptacle 12 and projects upwardly in front of the guard member 26, to prevent the bag B from being drawn against the guard member.

A motor 30 is suitably mounted in the motor housing 13 and is connected by leads 31 with the switch 32 from which a power cable 33 extends. The motor housing 13 is preferably cylindrical in cross-section and is provided at its front end with a collar 34 which is rabbeted as at 35.

On this rabbeted portion a filtering disk 36 is supported and is engaged by a flange 37 on a closure member 38 which closure member includes a discharge orifice 39.

The armature shaft of motor 30 is provided with a fan 40 which may be of suitable configuration. The forward end of the body is provided with a pair of skid members 41 which are arranged under the dust bag receptacle 12 and with a pair of rollers 42 which are arranged under the heavier motor end on the housing 13. The rollers 42 are held in place by bearing supporting members 42^a which also serve as guards to protect the wheels against striking furniture. The construction is such that by pulling on the hose 24 which is attached to the lighter forward end of the sweeper this end will be lifted slightly so that the entire structure can be readily moved about. A rubber bumper 42^b extends around the receptacle 12. The forward end of the body has a handle bracket 43 secured thereto. This handle bracket engages one end of a handle 44 and is secured thereto by a screw 45. The other end of the handle member engages the upper end of the receptacle wall portion 12' and is secured thereto by a screw 46.

The closure portion 18, the cap 22, the closure member 38 and the fitting which is inserted in the orifice 39 are each held in place by a quick detachable coupling which includes a fixed member 47 under which a portion of the flange of the closure is inserted and a pair of clamping members 48. Each clamping member includes a central pivot 49 and a rotatable finger portion 50, the under surface of which is inclined as is shown at 51. This inclined portion 51 slides over the adjacent portion of the closure flange to hold the parts assembled. Stop members 52 may be employed to limit the movement of the arms 50. A U-shaped clip 52' is mounted on the body to receive the hose 24.

A demoting receptacle 53 is shown in Fig. 4. This demoting receptacle comprises a pair of

complementary cuplike members 54 and 55 which have flanges 56 projecting therefrom. These flanges 56 are adapted to fit the rabbet 35 when the disk 36 is removed and to be engaged by the flange 37 on the closure member 38. The demoting receptacle 53 may receive a suitable material 57 and when the air is blown over this material a portion of the demoting substance will pass into the air stream.

The dirt bag B may be provided with an annular ring-like member 58, which serves to hold the bag in its normal operating position and which facilitates insertion and removal of the bag.

This ring 58 is of smaller diameter than the mouth of the receptacle 12 and the bag preferably tapers to facilitate inserting and removing the bag and also enables the bag to be readily turned inside out when discharging its contents.

In Figs. 5 and 6 I show a nozzle 59 secured to the hose 24 by a swivel member 60 which has a flange 61 engaged by a collar 62 mounted on the nozzle. The collar 62 has a planar body portion 63 from which a foot 64 projects. This foot is provided with downwardly extending teeth 65. A suitable rubber bumper 66 extends around the nozzle.

In Fig. 7 a brush is shown which includes a body 68 which has a central passageway 69. The body is provided with bristles 70 arranged about the passageway 69 and is provided with an orifice portion 71 which is suitably connected to a swivel member 72 for attachment to a hose.

In operation the motor is started and the nozzle is moved over the surface to be cleaned. In case any threads or other fine materials adhere to the surface being cleaned the nozzle is moved downwardly until the teeth 65 engage the thread after which the nozzle is given a slight movement thus loosening the thread after which the nozzle is moved to normal position and the thread is drawn into the nozzle.

If the demoting operation is required the closure 21 is inserted in the orifice 39 after the demoting material container 55 which has been inserted in place as shown in Fig. 4.

To empty the dust bag the closure is removed and the dust bag turned upside down. Due to its tapered construction and the weighted member in the dust bag the latter will turn inside out thus enabling it to be easily emptied without greatly disturbing the contents. When the operator is through cleaning the hose is arranged so that a portion of the hose engages the clip 52' and the other portion is twisted around the receptacle and housing of the cleaner. The power cord is also wrapped about the body so that the entire cleaner can be very readily picked up and carried with one hand.

From the foregoing description it will be apparent that I have invented a novel vacuum cleaner which is highly efficient in use and which can be economically manufactured.

Having thus described my invention, I claim:

1. In a vacuum cleaner, a body, said body comprising a cylindrical motor housing at one end and a substantially cylindrical receptacle at the other end, a motor in said housing, said motor housing and said receptacle being made of sheet metal and being directly united together so that when the body is in a normal position the axis of the motor housing is horizontal and the axis of the receptacle is vertical, a fan on said motor, said fan being disposed adjacent the juncture of said receptacle and said housing, the bottom of

said receptacle terminating flush with the lowermost portion of the motor housing and the top of said receptacle projecting above the upper portion of the motor housing, a bag in said receptacle, a handle secured at one end to the top of said receptacle and a bracket secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being secured to said bracket.

2. In a vacuum cleaner a body, said body comprising a motor housing at one end and a receptacle at the other end, the axis of said motor housing being at an angle to the axis of said receptacle, a handle secured at one end to the top of said receptacle, a bracket, secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being secured to said bracket, a motor in said housing, a fan on said motor, said fan being disposed adjacent the juncture of said receptacle and said motor housing, a ring secured to the upper end of said receptacle, a bag supported on said ring, a closure secured to said ring and a conduit on said closure.

3. In a vacuum cleaner a body, said body comprising a motor housing at one end and a receptacle at the other end, said motor housing and said receptacle being made of sheet metal and being united together so that when the body is in a normal position the axis of the motor housing is horizontal and the axis of the receptacle is vertical, the top of said receptacle projecting above the upper portion of the motor housing, a foraminated partition at the juncture of said motor housing and said receptacle, a handle secured at one end to the top of said receptacle, a bracket secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being secured to said bracket, a motor in said housing, a fan on said motor, said fan being disposed adjacent said foraminated partition at the juncture of said receptacle and said motor housing, a ring secured to the upper end of said receptacle, a bag supported on said ring, a closure secured to said ring, an offset conduit on said closure, said conduit having a discharge orifice, a cap mounted in said orifice, a tubular member swivelly mounted on said cap, the lower portion of said bag being disposed adjacent said fan, and a U-shaped guard in said receptacle adjacent said fan.

4. In a vacuum cleaner a body, said body comprising a motor housing at one end and a receptacle at the other end, said motor housing and said receptacle being made of sheet metal and being united together so that when the body is in a normal position the axis of the motor housing is horizontal and the axis of the receptacle is vertical, a foraminated partition at the juncture of said motor housing and said receptacle, a handle secured at one end to the top of said receptacle, a bracket secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being secured to said bracket, a motor in said housing, a fan on said motor, said fan being disposed adjacent said foraminated partition at the juncture of said receptacle and said motor housing, a ring secured to the upper end of said receptacle, a bag supported on said ring, a closure secured to said ring, a conduit on said closure, said conduit having a discharge

orifice, a cap mounted in said orifice, the lower portion of said bag being disposed adjacent said fan, said motor housing having a collar thereon at the end remote from said receptacle, a closure member mounted on said collar, said closure member having a discharge orifice therein, said first and said second mentioned orifices being of the same size.

5. In a vacuum cleaner a body, said body comprising a housing at one end and a receptacle at the other end, the bottom of said receptacle terminating flush with the lowermost portion of the motor housing and the top of said receptacle projecting above the upper portion of the motor housing, a handle secured at one end to the top of said receptacle, a bracket secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being secured to said bracket, a motor in said housing, a fan on said motor, a ring secured to the upper end of said receptacle, a bag supported on said ring, a closure secured to said ring, the lower portion of said bag being disposed adjacent said fan, said motor housing having a collar thereon at the end remote from said receptacle and a closure member mounted on said collar, said first and second mentioned orifices being of the same size.

6. In a vacuum cleaner a body, said body comprising a housing at one end and a receptacle at the other end, the axis of said motor housing being at an angle to the axis of said receptacle, the bottom of said receptacle terminating flush with the lowermost portion of the motor housing and the top of said receptacle projecting above the upper portion of the motor housing, a foraminated partition at the juncture of said motor housing and said receptacle, a handle secured at one end to the top of said receptacle, a bracket secured to the end of said motor housing remote from said receptacle and extending upwardly therefrom, the other end of said handle being se-

cured to said bracket, a motor in said housing, a fan on said motor, said fan being disposed adjacent said foraminated partition at the juncture of said receptacle and said motor housing, a ring secured to the upper end of said receptacle, a bag supported on said ring, a closure secured to said ring, an offset conduit on said closure, said conduit having a discharge orifice, a cap mounted in said orifice, a tubular member swivelly mounted on said cap, the lower portion of said bag being disposed adjacent said fan, a U-shaped guard in said receptacle adjacent said fan, said motor housing having a collar thereon at the end remote from said receptacle, a closure member mounted on said collar, said closure member having a discharge orifice therein, said first and said second mentioned orifices being of the same size.

7. In a vacuum cleaner a body, said body comprising a motor housing at one end and a receptacle at the other end, said motor housing and said receptacle being made of sheet metal and being united together so that when the body is in a normal position the axis of the motor housing is horizontal and the axis of the receptacle is vertical, the top of said receptacle projecting above the upper portion of the motor housing, said receptacle having an opening at the juncture of said motor housing and receptacle, a handle secured at one end to said receptacle, means connecting the other end of said handle to said housing, a motor in said housing, a fan on said motor, said fan being disposed adjacent the juncture of said receptacle and said motor housing, means at the upper end of said receptacle to support a bag, a bag supported on said means, a closure for the upper end of said receptacle, a conduit on said closure, said conduit having a discharge orifice, the lower portion of said bag being disposed adjacent said fan, and means to hold said bag away from said fan.

BERRY A. BAXTER.