

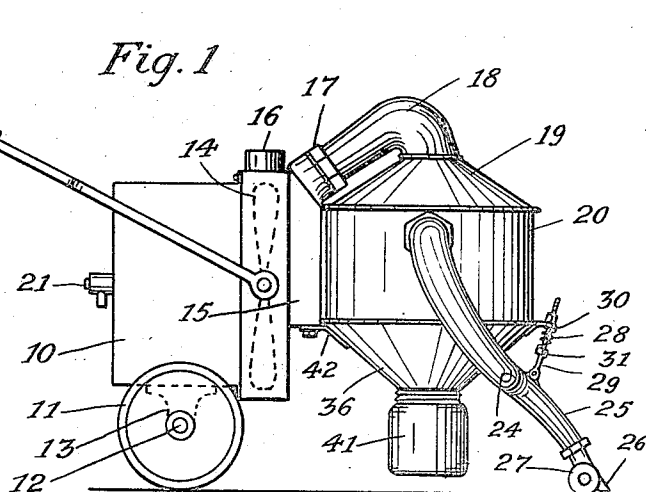
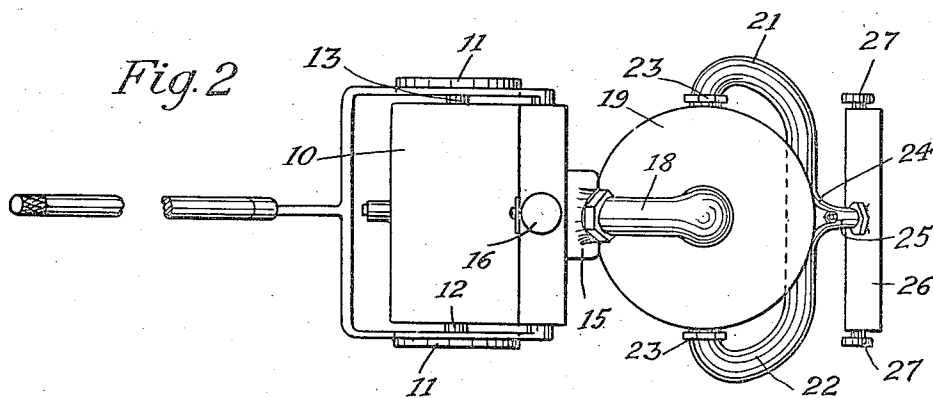
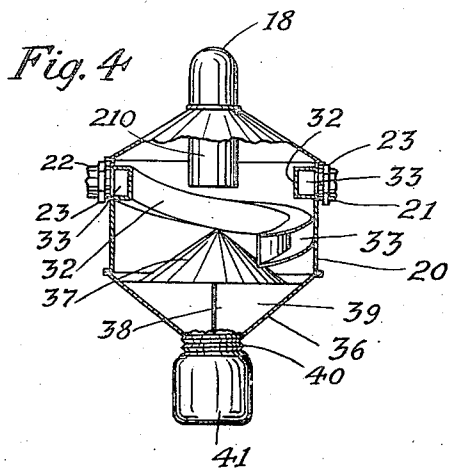
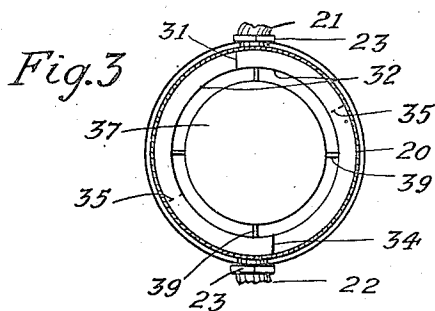
July 10, 1923.

1,461,173

A. C. BENNETT

SUCTION CLEANER

Filed Sept. 4, 1917



Inventor:
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UNITED STATES PATENT OFFICE.

ASHLEY C. BENNETT, OF MINNEAPOLIS, MINNESOTA.

SUCTION CLEANER.

Application filed September 4, 1917. Serial No. 189,449.

To all whom it may concern:

Be it known that I, ASHLEY C. BENNETT, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Suction Cleaners, of which the following is a specification.

My invention relates to suction cleaners and has for its object to provide a novel form of suction cleaner adapted to be operated by hand and embodying convenient and effective apparatus for catching the dust and for discharging the same to the atmosphere.

More particularly, my suction cleaner embodies a centrifugal cyclone dust collecting device mounted upon a wheeled truck having therein an electrically operated fan in combination with a yieldingly supported member having connection with the dust collector and through the dust collector with the fan, and detachable means for conveniently and readily discharging the dust which has been gathered in the operation of the suction cleaner.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and are particularly pointed out in the claims.

In the drawings, illustrating the application of my invention, in one form,—

Fig. 1 is a side elevation of a suction cleaner embodying my improvement. Fig. 2 is a top plan view thereof. Fig. 3 is a sectional plan view of the cleaner member, and Fig. 4 is a sectional elevational view of the cleaner member.

As illustrated, my cleaner comprises a motor box 10 mounted upon wheels 11 which are journaled on studs 12 extending outwardly from brackets 13 connected to the bottom of the motor box. The fan casing 14 is secured to the front of the motor box and comprises a central inlet case 15 and a side discharge opening 16. From an angularly disposed extension 17 of the inlet case 15 extends a pipe 18 which passes through the center of a conical top 19 formed in connection with cylindrical casing 20, the extended portion 210 of the pipe 18 being shown in Fig. 4. Pipe members 21 and 22 are secured by threaded nuts 23 to the sides of the cylindrical casing 20 and united at 24 in a single pipe member 25 which goes to an elongated suction head 26 having the usual suction slot therein and supported by

rollers 27. Members 21, 22, 25, together with suction head 26 and rollers 27 provide a front support for the mechanism which is yieldingly held by means of a spring 30, surrounding a rod 29 between a lug 30, through which the rod extends, and a shoulder 31 on the rod. The members have a swiveling action at the ends 23 and in this manner the suction plate 26 may be yieldingly held in contact with the carpets, rugs, or other articles which it is desired to clean. As best shown in Figs. 3 and 4, the members 21 and 22 communicate through the interior of the nuts 23 with troughs 32 spirally arranged within the cylindrical casing 20 so as to provide spiral passageways 33 which are closed at their upper ends, as indicated at 34 and which discharge tangentially in opposite directions at the bottom, as indicated in dotted lines at 35. Connected to casing 20 is a conical extension 36 supporting an upwardly extended cone 37, the apex of which passes through the plane of discharge from passageways 33 within the chamber formed by casing 20. The space below the cone 37 is divided into four vertical passageways by partitions 38 and 39 and the member 36 terminates in a threaded opening 40 to which is removably secured a receptacle or jar 41. The casing 20, and associated parts, is not only supported by the pipe 18 but also by a brace member 42 which secures the casing rigidly to the fan inlet case 15 on the front of the fan casing 14.

The advantages of my invention will be apparent. The apparatus is supported on a compact carriage easily moved about without injury to floor or fabric and the suction head is yieldingly held in contact with the surface to be cleaned in such manner that the greatest possible cleaning efficiency is obtained. The dust laden air together with any solid articles such as pins, straws, match stems, etc. is carried within the cleaner and through spiral passage 33 where the dust is precipitated by centrifugal action through the apertures about the lower edge of the cone 37 passing into removable receptacle 41. The very finest dust will encounter the baffles formed by the trough members 32 and will move outside of the depending pipe section 210 with the result that such fine dust will ultimately gravitate downwardly and pass to the container 41. The container 41 may readily be removed

at any time and its contents emptied. The operation is as simple as the emptying of a dust pan and does not involve either trouble or distribution of dust and dirt as is the case in withstanding the bag strainers employed in connection with the usual suction cleaning devices. No strainer at all is used in the construction of my invention herein described and the air at all times flows freely through the cleaner and fan casing and discharges from the open vent 16. This insures the maximum flow of air to a given amount of power and uniform working conditions.

15 I claim:

1. A suction cleaner for carpets, rugs and the like comprising a pair of chambers having integrally united walls, one of which is vertically cylindrical, and having means connecting the top of the vertical chamber with the other chamber, a tubular arm connected to the upper portion of the vertical chamber, a suction head on said arm having means engaging the floor so as to support the front end of said casing and having communication through the arm with the interior of the vertical chamber, means in the other chamber for inducing a current of air to pass through the suction head, arm,

vertical chamber and other chamber and to discharge therefrom to atmosphere, and means in the vertical chamber for causing gravity separation of dust carried by said induced current. 30

2. A suction cleaner for carpets, rugs and the like comprising a pair of chambers having integrally united walls, one of which is vertically cylindrical, a pair of tubular arms uniting with a single arm so as to form a yoke which is pivotally connected at its ends to the upper portion of the vertical chamber, a suction head on the prolongation of the united portion of said arms having means engaging the floor so as to support the front end of said casing and having communication through the arms with the interior of the vertical chamber, means in the other chamber for inducing a current of air to pass through the suction head, arms, vertical chamber and other chamber and to discharge therefrom to atmosphere, and means in the vertical chamber for causing gravity separation of dust carried by said induced current. 45 50

In testimony whereof I hereunto affix my signature. 55

ASHLEY C. BENNETT.