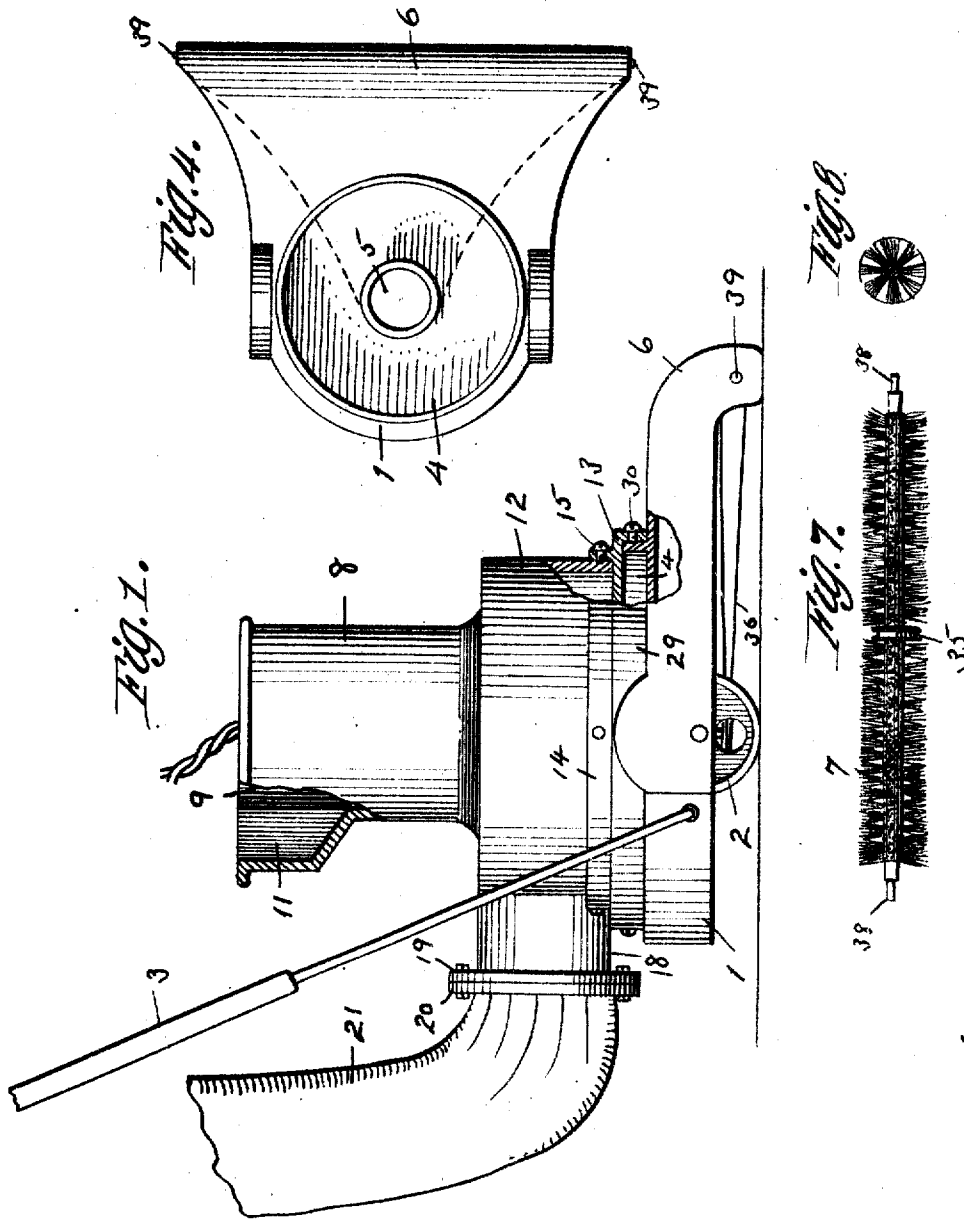


A. W. ANDERSON,
 VACUUM CLEANER.
 APPLICATION FILED JULY 30, 1920.

1,409,910.

Patented Mar. 21, 1922.

3 SHEETS--SHEET 1.



WITNESSES
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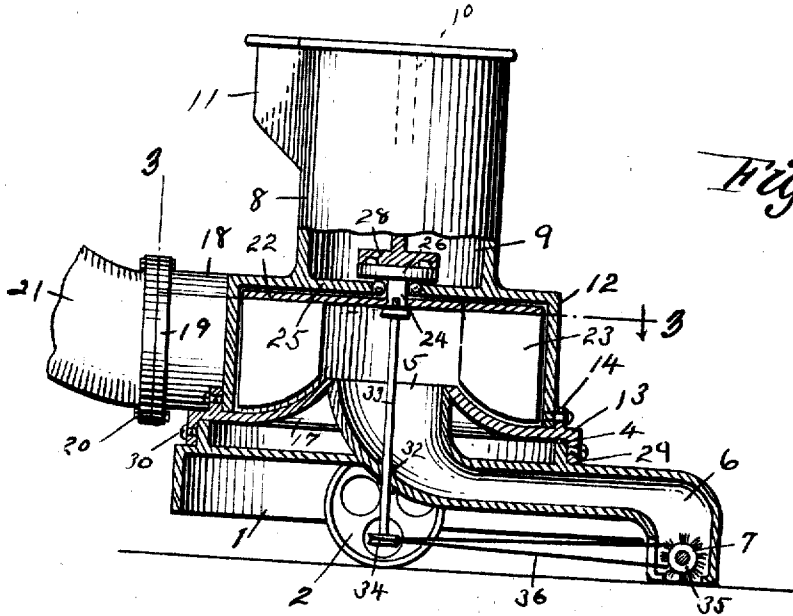


Fig. 2.

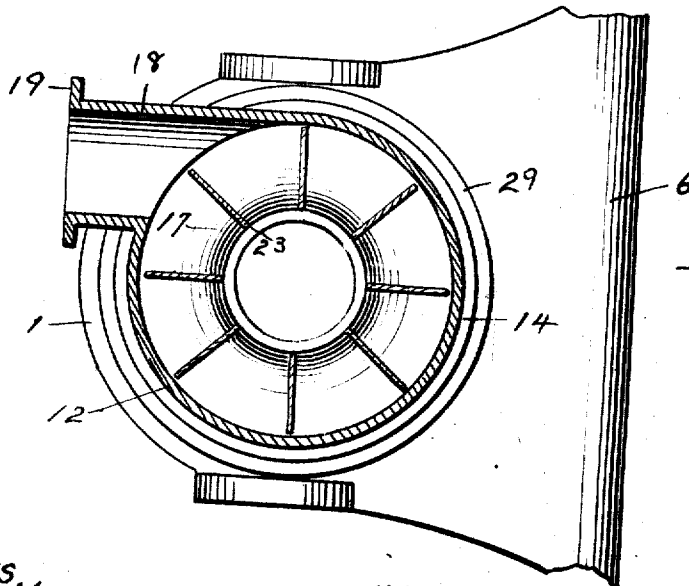


Fig. 3.

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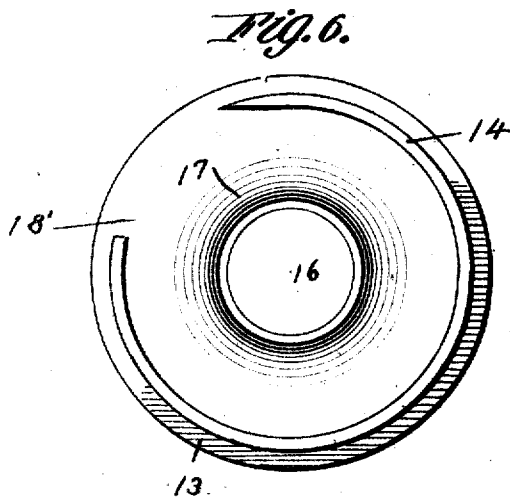
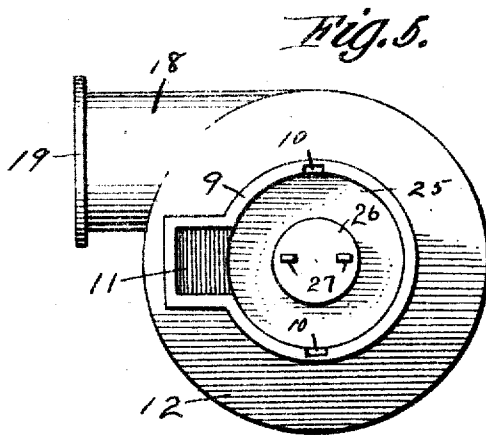
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3 SHEETS—SHEET 3.



WITNESSES

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ANDREW WALTER ANDERSON, OF ENID, OKLAHOMA.

VACUUM CLEANER.

1,409,910.

Specification of Letters Patent. Patented Mar. 21, 1922.

Application filed July 30, 1920. Serial No. 399,990.

To all whom it may concern:

Be it known that I, ANDREW W. ANDERSON, a citizen of the United States, residing at Enid, in the county of Garfield and State of Oklahoma, have invented certain new and useful Improvements in Vacuum Cleaners, of which the following is a specification.

This invention relates to vacuum cleaners and has for an object to provide a device of this character which is susceptible of being readily taken apart whenever desired, thus permitting the device to be cleaned or disassembled and put to other uses.

A further object is to provide a vacuum cleaner having a suction creating element which can be separated from the body structure of the cleaner and used with or without other attachments for the cleaning of various and different objects.

As a further object the invention may be said to provide in general a vacuum cleaner of new and novel construction particularly adapted for the cleaning and sweeping of carpets, being provided with brush means connected to and driven by a fan of the suction element.

With the above and other objects in view the invention may be said to reside in the details of construction, combination and arrangement of parts as will be hereinafter more fully pointed out, reference being had to the accompanying drawings wherein

Figure 1 is a side elevation of a cleaner constructed in accordance with the invention.

Figure 2 is a vertical cross sectional view thereof.

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

Figure 4 is a top plan view of the wheeled bottom of the cleaner.

Figure 5 is a top view of the motor and fan casing.

Figure 6 is a plan view of the bottom plate of the casing, and

Figure 7 is a view in detail of the revoluble brush.

Figure 8 is an end view of the brush.

In carrying out the purposes of the invention, the cleaner is provided first with a lower body carrier 1 mounted on the casters

2 so as to be easily propelled over a floor or carpet when pushed forward by means of the handle 3, the latter being attached to the carrier in any suitable manner as shown. The carrier 1 is provided upon its upper surface with an annular flange 4 and extending upwardly and centrally within this flange is the flared mouth or circular end 5 of a suction nozzle 6, the latter being flared at its outer end in the usual manner and bent downwardly for engagement over the surface to be cleaned. The lower end of the nozzle is, of course, open and revolubly mounted above this opening, is a brush 7 which is designed to turn during the propulsion of the cleaner so as to loosen the grit or dirt on the surface of the carpet, etc., in order that it may be more easily drawn into the nozzle by the suction created therein.

Supported upon the wheeled-carrier 1 so as to be removable therefrom is a suction creating element, indicated generally at 8, and comprising a motor and fan casing preferably of a single casting and including an upper cylindrical portion 9 designed to provide a receptacle or motor container being slotted vertically as indicated at 10 and enlarged as shown at 11 in order to suitably accommodate and support the motor therein. The motor being removable whenever desired.

At the lower end of the cylindrical container there is formed a circular fan casing 12 which is designed to be closed in by a bell-shaped plate 13. This plate has an annular flange 14 which embraces the fan casing 12, being provided with a cut out 15 for the passage of pipe 16; bolts, or other fastening means 17 being employed to fasten the plate 13 securely to the casing. At its center the plate is provided with a circular opening 18 of substantial size and the center of the plate is pressed in, as at 19, to form a flared mouth portion which fits snugly over the opening 5 of the suction tube 6 when the element 8 is connected to the wheeled body or carrier of the cleaner. An outlet pipe 20 is located on one side of the fan casing and has a flange 21 for connecting to the flange 22 of the dust collector or bag 23, whatever dirt or grit, etc., is

drawn in through nozzle 6 by the suction or the rotating fan thus passes through the fan casing and out of the outlet 18 so as to finally lodge in the dust collecting bag 21.

5 The fan consists of a round, flat disk 22 carrying a plurality of straight, radially disposed blades 23. These blades are positioned adjacent the peripheral edge of the disk in laterally spaced relation to provide an open space at the center of the disk and above the nozzle opening 5. The fan disk is also provided with a short shaft 24 which projects up through the bottom wall 25 of the motor casing, being provided above the wall with an enlarged disk shaped head 26. Bearings are suitably arranged about the shaft so as to enable the fan to be turned easily within the casing, the fan being of course, actuated by the motor contained within the casing. For the purpose of driving the fan the disk head 26 is provided with projections 27 to be received in the recesses of the clutch head 28 of the motor drive shaft; the engagement of one with the other providing a suitable drive connection between the motor and the fan for the actuation of the latter within the fan casing. When the element 8 is attached to the carrier 1 it will be seen that the flange 29 of the bell shaped plate 13 embraces the flange 4 of the carrier upon the outside and is secured thereto by means of screws or bolts 30. The matter drawn into the tube will be discharged into the open space at the center of the fan blades and subsequently caught and whirled about by the revolving fan blades by which it is propelled out through the outlet pipe 18 and into the dust collecting bag 21. Projecting upwardly through the discharge end of nozzle 6, through a bearing 32, is a vertically disposed rod or shaft 33 suitably connected at one end to the shaft of the fan, and projecting downwardly through and below the tube 6, and having a pulley 34 at its lower end. This pulley is connected to a pulley 35 of the brush 7 by means of a belt or chain 36. The brush has its axle ends 38 journaled in suitable bearings 39 provided at each end of the nozzle 6 as shown in Figure 4 of the drawings, and is thus rotated whenever, the fan is turned on. It may thus be seen that, as the machine is being propelled forward over a carpet or other surface to be cleaned, the dust, grit or other material collected from the surface thereof by the rotating brush 7 is drawn up through the suction tube 6 by means of the suction of the rotating fan in the manner previously described. The cleaner therefore not only acts as a suction cleaner for removing all surface dirt from carpets, etc., but is also adapted by reason of the driven brush 7 to more effec-

tively clean the carpet, etc., by brushing the surface of the same sufficiently to loosen any grit or dirt which may have become so imbedded in the material as not to be ordinarily or easily loosened by mere surface cleaning.

An important feature of the invention is the fact that the element 8 is detachably associated with the supporting body 1 and may consequently be readily taken off upon loosening the fastening means 30 and used as an independent cleaning element, since the motor contained within the cylindrical container portion provides the necessary driving power and the revolving fan and bag 21, the necessary suction and receptacle means for housing the dirt drawn through the fan casing. When used as a separate cleaner, the brush drive connection 33, etc., would of course be disassociated from the fan. The bell shaped plate 13 provides means whereby suitable attachments such as are designed for and used in connection with other vacuum cleaners, may be used equally well with this invention and with good results whether they be in the nature of scraping strips and curry combs for the currying of horses and cattle, or as special nozzles adapted for cleaning of couches, walls, curtains, clothes, etc. For the convenient handling of the element 8 when used separately and apart from the vacuum cleaner as a whole, it will be provided with suitable handle means (not shown).

It is also apparent that the extent to which the element 8 may be used is large and that it is susceptible of being applied in numerous other ways than specified. In reducing it to practice, it may be feasible to adopt various modifications and corrections and alterations in the design, shape and size of the cleaner and it is to be understood that all of which changes, corrections, etc., are permissible as properly fall within the scope of the invention as defined in the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a suction cleaner, the combination of a lower body carrier having an upstanding flange centrally from which extends a suction nozzle bent downward and flared at its suction end, an integral motor and fan casing, a bell shaped plate having its central portion bent inward to form a flared mouth which fits over said nozzle and is detachably held to said carrier, said fan casing detachably held to said plate, a fan held in said casing, and a motor for actuating said fan, said fan casing having an outlet.

2. In a suction cleaner, the combination of a lower body carrier having an upstanding flange centrally from which extends a suc-

tion nozzle bent downward and flared at its suction end, an integral motor and fan casing, a bell shaped plate detachably held to said carrier, a fan held in said casing, a vertically held shaft projecting upward through a bearing on said nozzle and extending beyond the discharge end of said nozzle and fixed to said motor, a brush in said noz-

zle, and a belt connecting said brush to said vertically held shaft.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW WALTER ANDERSON.

Witnesses:

ERA SHARPLESS,
P. C. SIMONS.