April 24, 1928.

1,666,915

D. U. REMALEY

VACUUM CLEANER

Filed Dec. 26, 1924

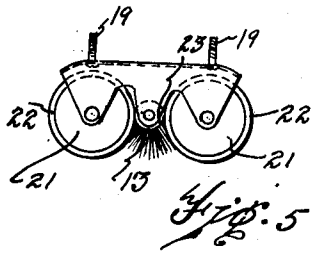


Fig. 5

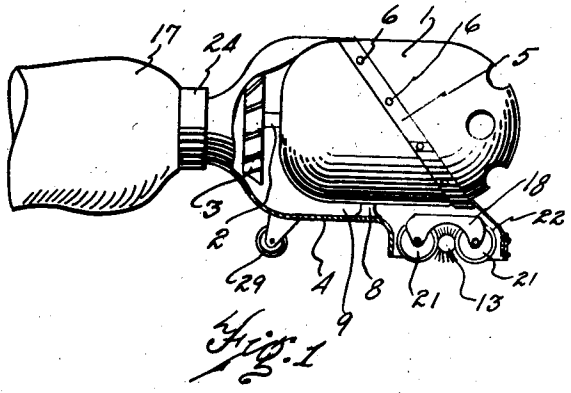


Fig. 1

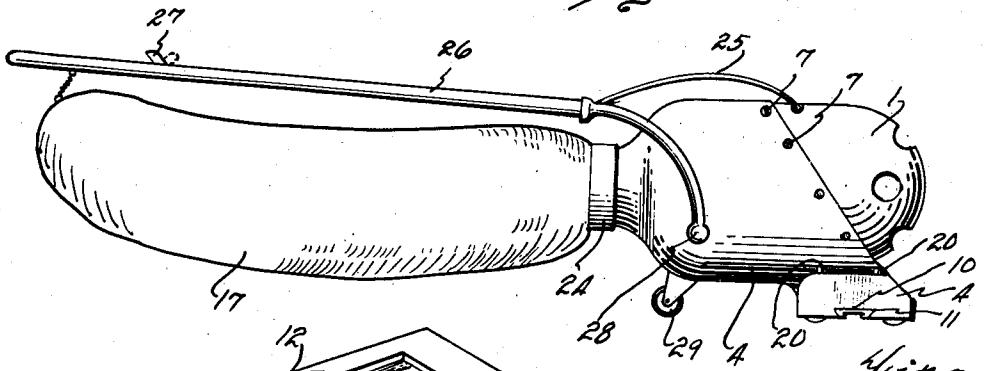


Fig. 2

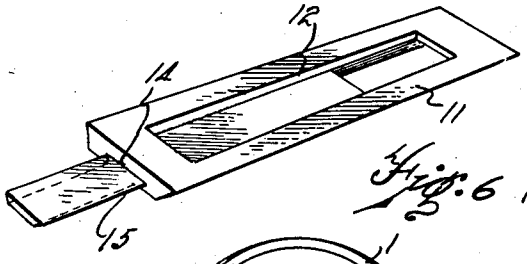


Fig. 6

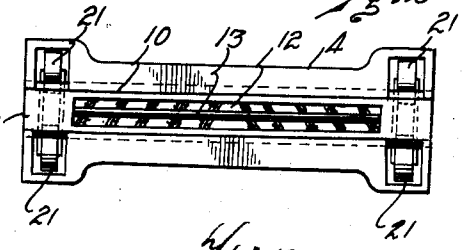


Fig. 3

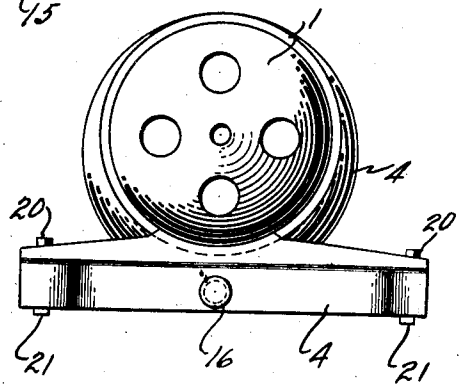


Fig. 4

INVENTOR.
DAVID U. REMALEY

BY

ATTORNEY.

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UNITED STATES PATENT OFFICE.

DAVID U. REMALEY, OF DETROIT, MICHIGAN.

VACUUM CLEANER.

Application filed December 26, 1924. Serial No. 758,030.

This invention relates to vacuum cleaners, and the object of the invention is to provide a vacuum cleaner which combines the advantages of suction cleaning with the brushing or sweeping action of a carpet sweeper.

Another object of the invention is to provide a vacuum cleaner having a rotatable brush in which the brush is rotated by the wheels on which the vacuum cleaner casing is mounted.

A further object of the invention is to provide a vacuum cleaner in which all parts are easily removable for repairing and cleaning.

Another object of the invention is to provide a vacuum cleaner in which the usual suction opening may be closed to allow the various cleaning attachments to be connected to an additional opening provided therefor.

These objects and the several novel features of the invention are hereinafter more fully described and claimed, and the preferred form of construction by which these objects are attained is shown in the accompanying drawings in which—

Fig. 1 is a partial section of the forward end of a vacuum cleaner embodying my invention.

Fig. 2 is an elevation of the vacuum cleaner.

Fig. 3 is a view of the mouth of the vacuum cleaner.

Fig. 4 is an end view of the vacuum cleaner.

Fig. 5 is a side elevation of the roller and brush mounting for the vacuum cleaner.

Fig. 6 is a perspective view of the strip for closing the mouth of the vacuum cleaner.

As shown in Fig. 1 the vacuum cleaner is provided with an electric motor enclosed in a casing 1. The shaft 2 of the electric motor is provided with a fan 3 on the end thereof. The electric motor 1 is positioned in the casing 4 and is provided with a band 5 secured thereto and having apertures 6 therein for the screws 7 by which the casing is attached to the motor. The motor is supported within the casing on the lugs 8 shown in Fig. 1 so a space or conduit 9 is provided between the motor and the casing. The casing 4 as shown in Fig. 3 is provided with a slot 10 in which a slide 11 may be engaged, the slide 11 being provided with an opening 12 through which air is drawn into the cleaner. The slide 11 is of sufficient width so that upon its removal the brush 13 may be easily removed if desired. As shown in Fig. 6 a way 14 is provided in the slide 11 into which an additional slide 15 may be inserted for closing the opening 12. At this time by unscrewing the plug 16 shown in Fig. 4 the different attachments for cleaning walls, furniture etc., may be threaded into the casing 4 and the air and dust may be drawn through the attachment and through the casing 4 into the bag 17. Each end of the casing 4 is enlarged as shown in Fig. 3 and a bracket 18 may be positioned in each enlarged end with the studs 19 extending through the casing 4 onto which the nuts 20 may be threaded for holding the brackets 18 in place. Each bracket 18 carries two small wheels 21 preferably provided with rubber tires 22 and these wheels 21 project slightly below the lower face of the casing 4 so that the casing is supported slightly above the surface of the floor. The brush 13 is rotatably mounted at each end in the brackets 18 and is provided with a roller 23 at each end contacted by the rubber tires 22 of the wheels 21. By this arrangement as the vacuum cleaner is moved over the floor the wheels are rotated and rotate the brush 13 through contact with the rollers 23. It will be noted from Fig. 2 that the slide 11 fits between the wheels 21 and the bristles of the brush 13 extend through the slot 12 in the slide 11 in order to contact the surface being cleaned. The bag 17 is attached to the casing 4 by means of a collar 24 and the wires 25 for the electric motor are carried through the handle 26 of the vacuum cleaner to a switch 27 for controlling the motor circuit. The handle 26 is pivotally connected to opposite sides of the casing 4 at the points 28 and the casing is mounted at the rear on a pivoted wheel 29.

When the switch 27 is closed, as shown in dotted lines in Fig. 2, the motor drives the fan 3 which draws air into the slot 12 and through the space or conduit 9 in the casing 4 from which the air is blown into the bag 17 and any dirt carried by the air current remains in the bag. As the cleaner is moved about the rotating wheels 21 rotate the brush 13 and thus the surface being cleaned is swept and the loosened dirt is drawn into the cleaner. By closing the opening 12 with the slide 15 the attachments may be connected by removing the plug 16 so that the air is drawn directly through the attachment.

From the foregoing description it becomes evident that the device is very simple and efficient in operation, will not easily get out of order, is composed of few parts and is of consequent low manufacturing cost, and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. A vacuum cleaner comprising a substantially cylindrical casing having an opening at its forward end and a discharge opening at the rear end, a nozzle at the forward end below the said forward opening, an electric motor having a shell mounted in the said forward opening of the casing closing the same and positioned in spaced relation with the bottom wall and rear end of the casing providing in conjunction therewith a channel extending from the nozzle to the said discharge opening, and a fan in the said channel at the rear end of the motor shell forward of the discharge opening and operatively connected with the motor.

2. A vacuum cleaner comprising a substantially cylindrical main casing having an opening at the front end, eccentric to the axis of the casing, said casing also having a discharge opening at the rear end, a nozzle portion provided at the forward end of the casing below the said front opening greater in width than the diameter of the casing and having a downwardly opening slot for ingress of air, a motor having a substantially cylindrical casing in the said front opening of the main casing and closing the same, the eccentricity of the motor casing relative to the main casing providing a space at the bottom therebetween, a fan at the forward end of the motor between the motor casing and the rear of the main casing, and roller supports for the main casing.

3. In a vacuum cleaner, a main casing having a nozzle portion at its forward end, the said nozzle portion having a width greater than that of the casing and being provided with a slot in its lower face extending longitudinally thereof, a brush member mounted in the said nozzle portion, the width of the said slot permitting introduction and removal of the said brush, a plate for closing the said slot and having a central opening extending longitudinally of said plate permitting the brush fibers to extend beyond the plate, and a slide for closing the central opening of the said plate, the said nozzle portion having an opening above the lower face thereof adapted for the attachment of the hose member, and a plug for sealing the said opening when not in use.

In testimony whereof, I sign this specification.

DAVID U. REMALEY.