

UNITED STATES PATENT OFFICE

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VACUUM CLEANER

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mesne assignments, to General Electric Com-
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10 Claims. (Cl. 15-8)

The present invention relates to electric motor driven vacuum cleaners of the portable household type.

The object of the invention is to provide an improved construction and arrangement of vacuum cleaner wherein the motor can be assembled or inserted in the cleaner casing from below, and for a consideration of what I believe to be novel and my invention, attention is directed to the accompanying description and the claims appended thereto.

In the drawing, Fig. 1 is a longitudinal sectional view of a vacuum cleaner structure embodying the invention, and Fig. 2 is a side view thereof.

Referring to the drawing, the vacuum cleaner casing comprises a dome 1 and a suction nozzle 2 formed integral with each other. Also, formed integral with the dome is a depending circular wall 3 which defines the surrounding wall of the fan chamber, a wall 4 which defines the discharge conduit from the fan chamber, and two spaced walls 5 to which the cleaner handle (not shown) is pivotally connected.

Mounted in dome 1 is an electric motor 6 on the shaft of which is mounted a fan 7 located in the fan chamber. The motor is supported by a metal ring 8 which surrounds the motor casing and is fixed against a downwardly facing ledge 9 by means of screws 10. Motor 6 is attached to ring 8 through the intermediary of a plurality of circumferentially spaced rubber cushions 11. Rubber cushions 11 are attached to ring 8 at their central portions and at their lower ends rest on a flange 12 formed integral with the motor casing. They are held against the flange by studs 13 which extend through openings in the cushions 11 and at their upper ends receive nuts 14. On the top of each cushion is a spacing washer 15 and clamped between shoulders on the spacing washers and the nuts is a rubber ring 16 held between two metal rings 17. The rubber ring 16 at its inner edge engages the casing of motor 6 and at its outer edge rests against the inner surface of dome 1. The cushions 11 and ring 16 serve to yieldably mount the motor in position in the dome. For sealing the space between the motor flange 12 and the adjacent wall of the dome, there is provided a rubber ring 18 having an outturned upper edge which is held by the screws 10. This motor mounting arrangement is not claimed herein as it forms the subject matter of my application Serial No. 675,888 filed June 15, 1933, now Patent No. 1,978,158. It is shown in the present instance by way of example and as representing one arrangement

which may be used for mounting the motor in the dome.

Dome 1 and surrounding fan casing wall 3 open downwardly and are closed by a bottom plate 19 provided with a central opening 20 which communicates with the suction nozzle and conveys air from the suction nozzle to the inlet of the fan. In the present instance wall 3 is shown as an integral part of the dome. However, it may be formed wholly or partly integral with bottom plate 19. Bottom plate 19 is fastened to the lower edge of wall 3 by means of screws 21. It forms the lower wall of the fan chamber. Formed integral with bottom plate 19 is a depending wall 22 which defines with bottom plate 19 a passage 23 leading from inlet opening 20 to the suction nozzle. The lower side of passage 23 is closed by a cover 24 held in position in any suitable manner (not shown) so that it can be readily detached. In the present instance, the vacuum cleaner is shown as being provided with a brush 25 in its suction nozzle driven by a belt 26 from a pulley extension 27 on the motor shaft, and cover 24 gives access to this belt. Also, formed integral with cover plate 19 and wall 22 is a rear extension 28 having a transverse opening 29 in which is journaled a shaft for the rear wheels (not shown) of the vacuum cleaner. The front wheels of the vacuum cleaner are indicated at 30.

The opening over which bottom plate 19 fits is larger in diameter than the motor casing and the fan so that the motor may be inserted into the dome from beneath and fixed in position by means of the motor mounting arrangement without disassembling the outer casing of the cleaner.

In assembling the construction, the motor is first mounted in the dome, after which the cover plate 19 is fastened in position. This makes a simple assembling arrangement and one wherein the screws 21 are beneath the cleaner so that they are out of sight. As a result, the dome, suction nozzle, the walls forming the discharge conduit, and the walls between which the handle is pivoted may be constructed with a smooth, even outside contour, the walls blending into each other so that the cleaner presents an unbroken appearance from the outside. This enables the cleaner casing to be given a pleasing appearance and it may be shaped also to give a stream line appearance.

It will be seen that the cleaner casing comprises essentially only two parts, the dome with the parts formed integral therewith and the bottom cover plate with the parts formed integral with it. There is thus provided in substance a

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ELECTRICAL REGULATION

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Fig. 1.

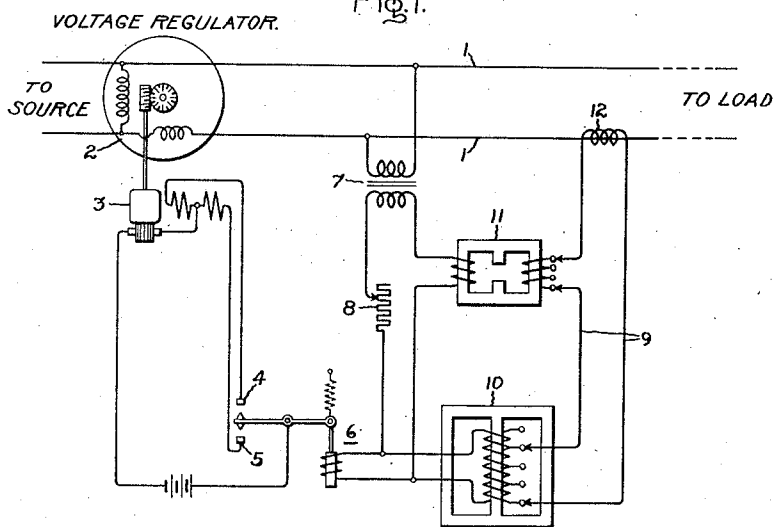
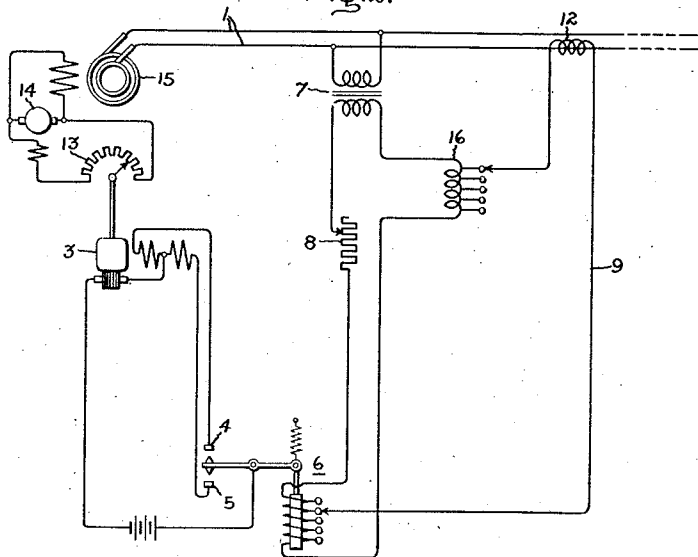


Fig. 2.



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