Sept. 10, 1929. W. J. WISE ET AL 1,727,849

VACUUM CLEANER

Filed May 19, 1923 2 Sheets-Sheet 1

Fig. 1

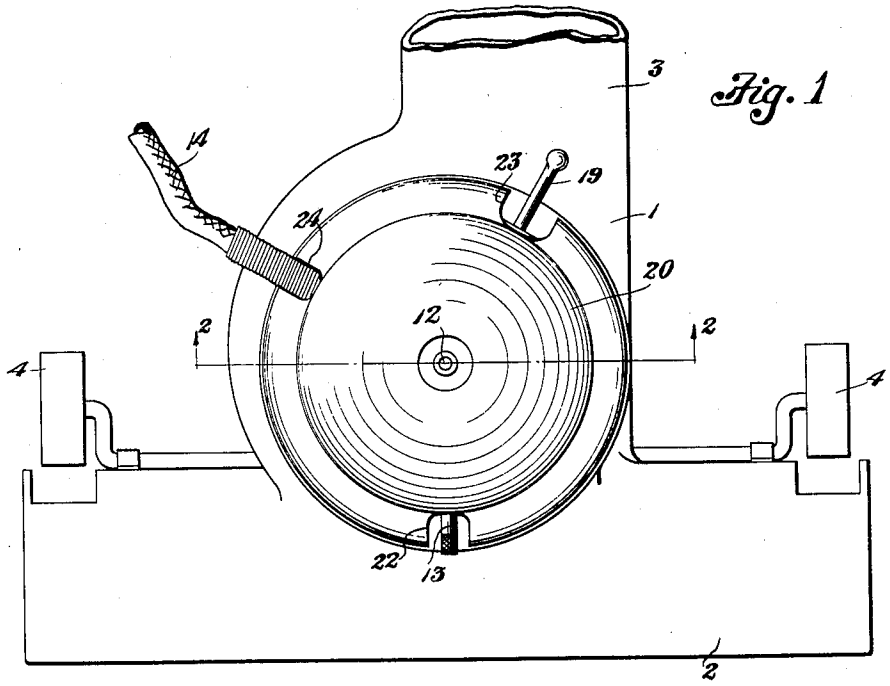


Fig. 2

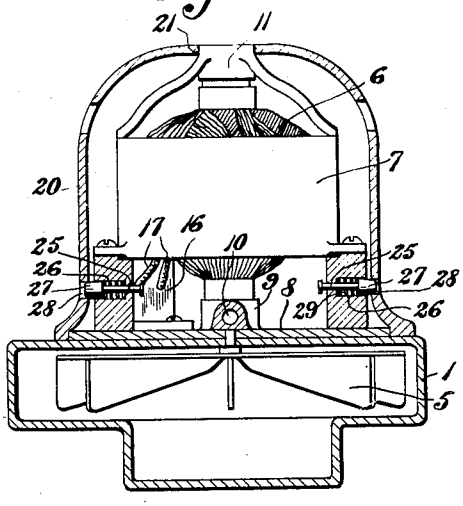
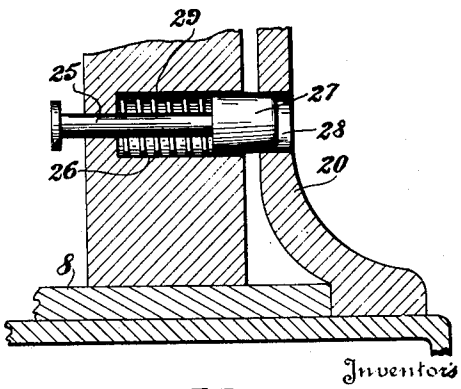


Fig. 3



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Filed May 19, 1923 2 Sheets-Sheet 2

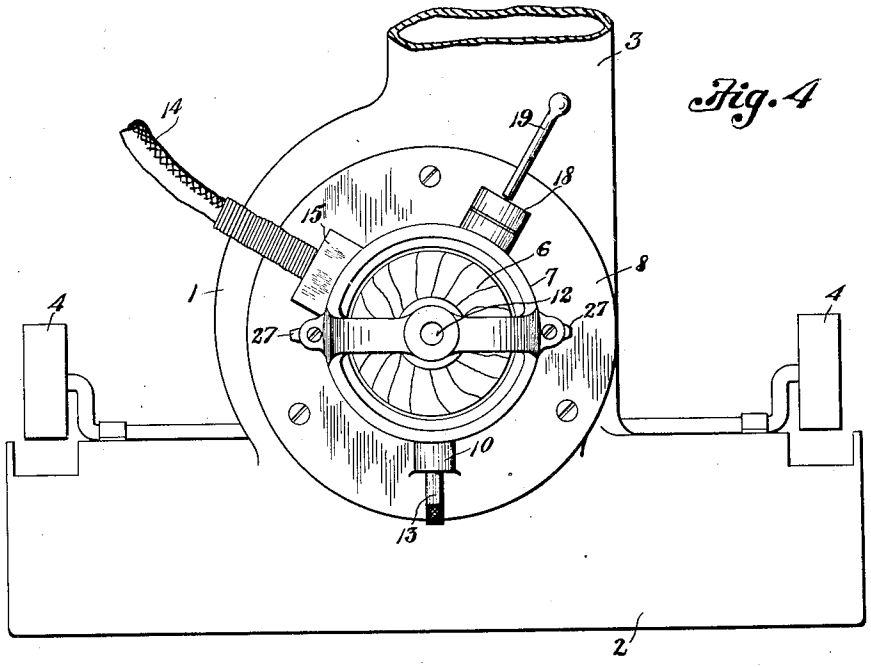


Fig. 4

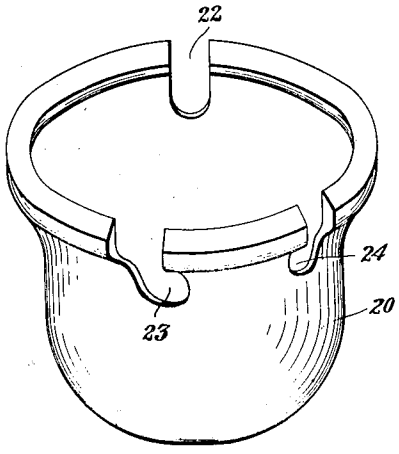


Fig. 5

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UNITED STATES PATENT OFFICE.

WILLIAM J. WISE AND THOMAS O. ADAMS, OF NEW PHILADELPHIA, OHIO, ASSIGNORS, BY MESNE ASSIGNMENTS, TO WISE-McCLUNG CORPORATION, OF NEW PHILADELPHIA, OHIO, A CORPORATION OF OHIO.

VACUUM CLEANER.

Application filed May 19, 1923. Serial No. 640,004.

This invention relates to improvements in motor casings for vacuum cleaners, and has for its objects to provide a casing in the form of a shell detachably connected to the motor frame and provided with peripheral notches to accommodate the switch, flexible electric cord and oil cups for the bearings of the motor.

The above and other objects may be attained by constructing the cleaner in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a cleaner embodying the invention;

Fig. 2, a section on the line 2—2, Fig. 1;

Fig. 3, an enlarged sectional view through a portion of the motor frame and casing, showing the connecting means;

Fig. 4, a plan view of the sweeper casing and motor showing the motor casing removed; and

Fig. 5, an inverted perspective view of the motor casing.

Similar numerals refer to similar parts throughout the drawings.

The vacuum cleaner may be of any usual type including the fan casing 1, nozzle 2, an outlet neck 3 and is supported upon the floor upon the wheels 4. The fan 5 is driven in the usual manner by the motor 6 which is carried within a frame indicated generally at 7 and provided with a base plate 8 which is fixed upon the fan casing in any suitable manner, and having an annular shoulder.

The lower bearing 9 of the motor is provided with an oil cup shown at 10, the upper bearing 11 thereof being provided with the central oil hole 12 extending through the top. A screw plug as shown at 13, may be provided for closing the oil cup 10 to prevent dirt or dust from entering the same, as well as to prevent the oil from splashing up.

The usual flexible electric cord is shown at 14 and provided with one portion of a connector plug 15 for engagement with the other portion of the plug shown at 16, which is stationary upon the motor frame and connected to the motor as by the wires 17.

A switch 18 is provided upon the motor frame for controlling the motor, and has the movable arm 19 which may be operated to open or close the circuit to the motor. It should be noted that each of these parts is connected to the motor frame and extends radially outward therefrom.

The motor casing comprises a removable shell 20 arranged to cover the motor and rest upon the top of the sweeper casing. This motor casing has an opening 21 at its upper end to receive the upper bearing 11, and has the notches or indentures 22, 23 and 24 in its lower edge to reecive the lower oil cup 10, the flexible cord 14 and the arm 19 of the switch 18.

Two or more plungers 25 are slidably mounted in radial bores 26 in the motor frame and provided with the tapered heads 27 arranged to be normally extended into the apertures 28 in the motor casing, to hold the same in position, the coil springs 29 urging the tapered heads outward into frictional engagement with the apertures.

From the above, it will be seen that the motor casing comprises merely a protecting shell or cover which is detachable from the motor, permitting inspection or cleaning of the same, it being only necessary to depress the spring plungers by inserting a small tool through the apertures 28, in order to lift the shell from the motor, the notches 22, 23 and 24 permitting the motor casing to be easily removed from or placed over the motor receiving the flexible cord, switch and lower oil cup, while the upper bearing is received through the aperture 21.

All of the parts are thus operable and easily accessible without interference by the motor casing, and the same may be removed to have access to the motor, without tearing down the entire machine.

We claim:—

1. In combination with a motor of a vacuum cleaner or the like mounted in a stationary frame, a removable casing for the motor and frame, the motor frame including an annular shoulder, projections at its base, and a bearing at its upper end, the casing being bell shaped and being provided with an aperture in its top to receive said

bearing, the lower open edge of the casing fitting over said annular shoulder, indentures in the lower open edge of the casing fitting around the projections from the motor frame, the lower portion of the casing being provided with openings, and spring pressed plungers carried by the motor frame between the bearing and the annular shoulder for engagement with the openings in the casing to detachably secure the casing to the motor frame, the casing being unconditionally released when detached, entirely exposing the motor and not disturbing any part of the motor.

2. In combination with a motor of a vacuum cleaner or the like mounted in a stationary frame, a removable casing for the motor and frame, the motor frame including an annular shoulder, projections at its base, and a bearing at its upper end, the casing being bell shaped and being provided with an aperture in its top to receive said bearing, the lower open edge of the casing fitting over said annular shoulder, indentures in the lower open edge of the casing fitting around the projections from the motor frame, the lower portion of the casing being provided with openings, and tapered spring pressed plungers carried by the motor frame between the bearing and the annular shoulder for engagement with the openings in the casing to detachably secure the casing to the motor frame, the casing being unconditionally released when detached, entirely exposing the motor and not disturbing any part of the motor.

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