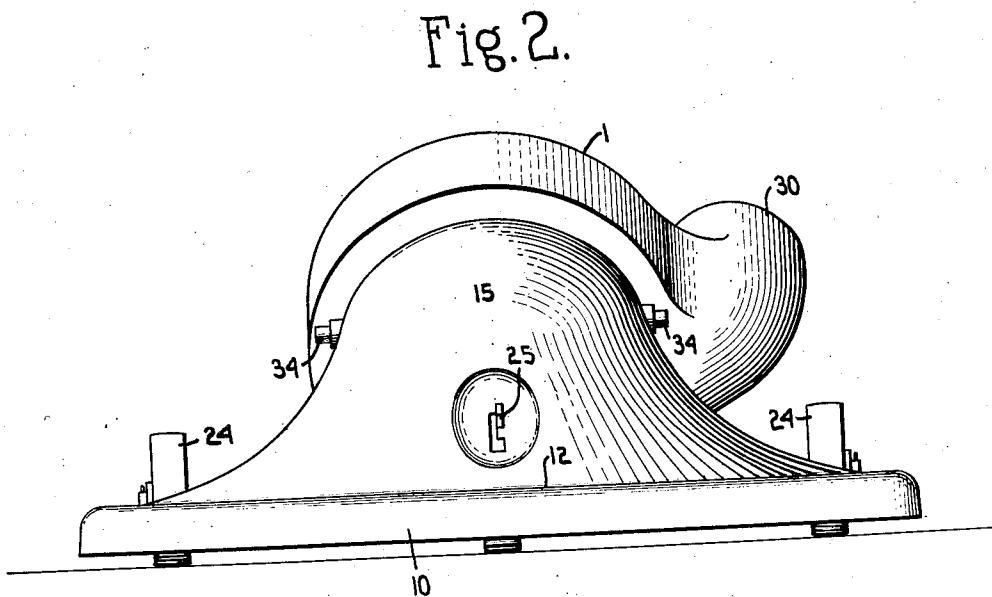
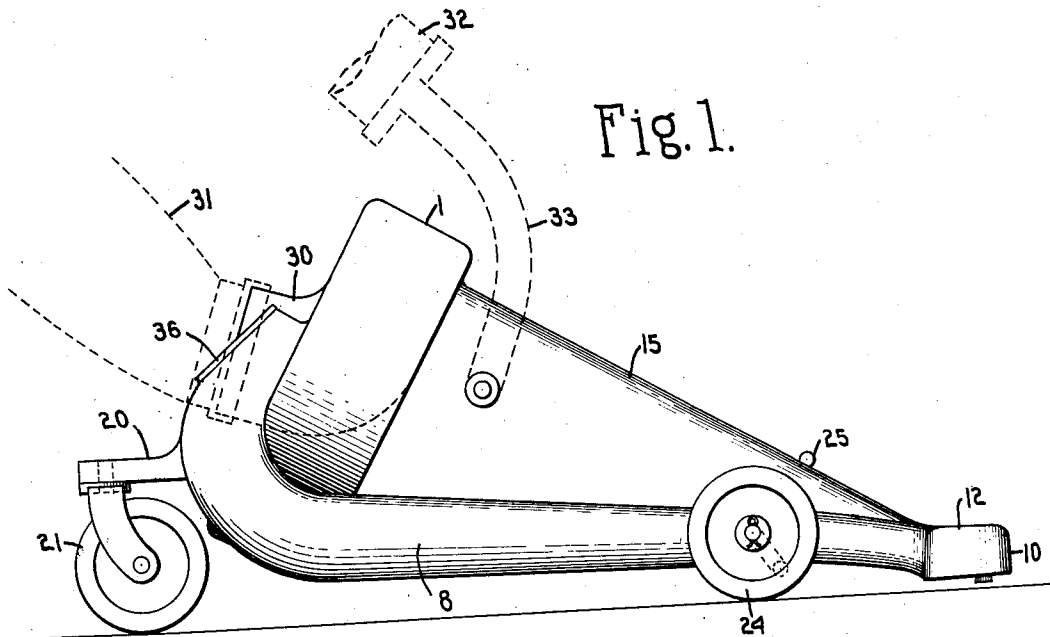


Oct. 6, 1925.

1,556,021

W. V. ORR
SUCTION CLEANER
Filed Jan. 30, 1922

3 Sheets-Sheet 1



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Fig. 3.

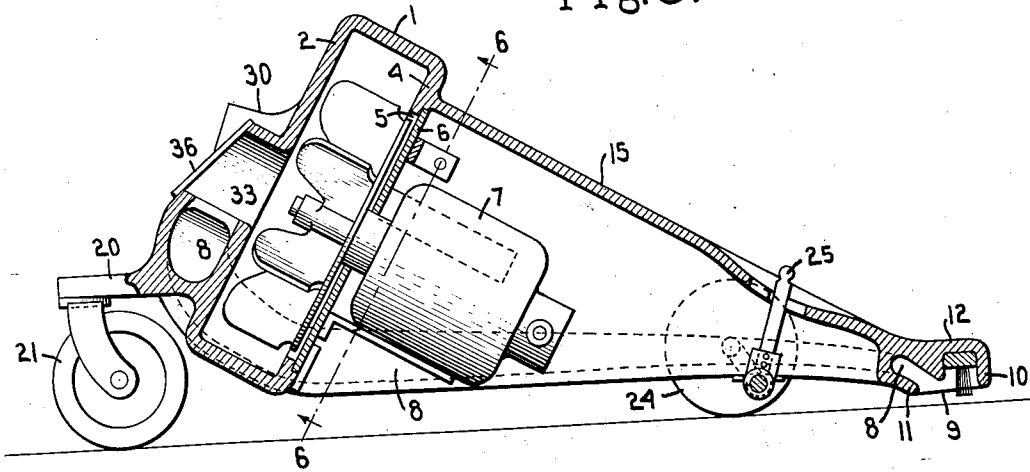
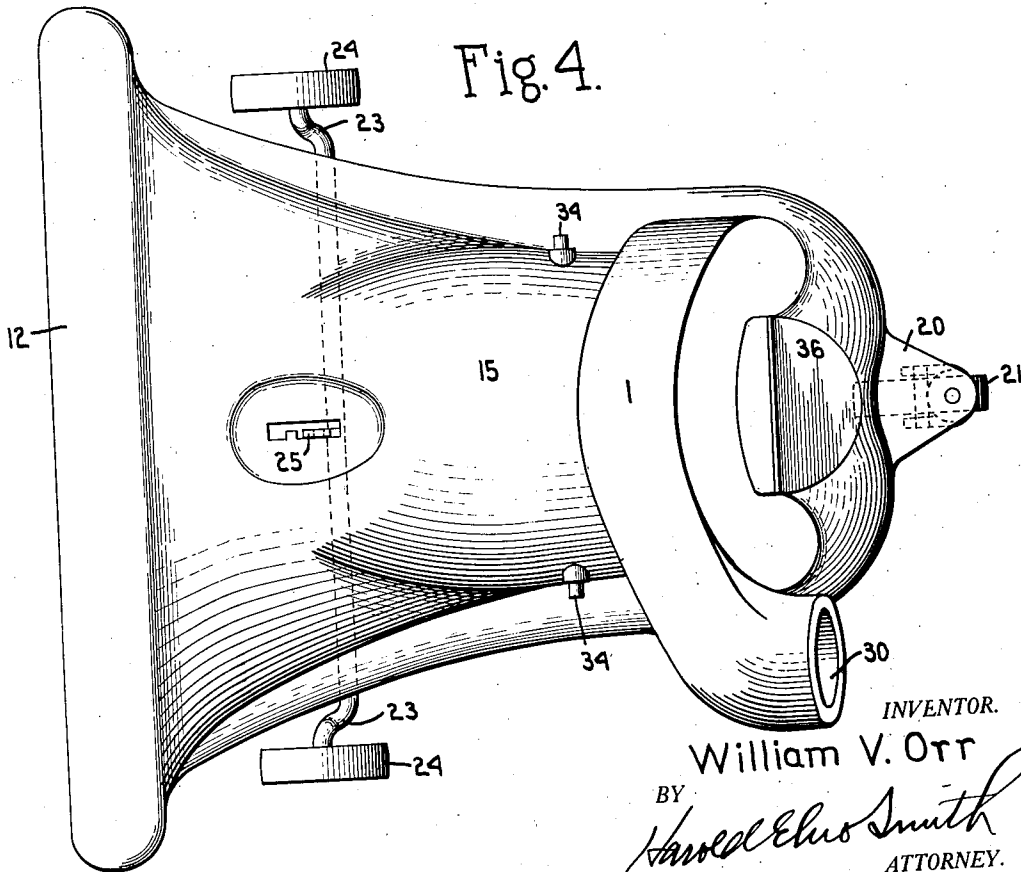


Fig. 4.



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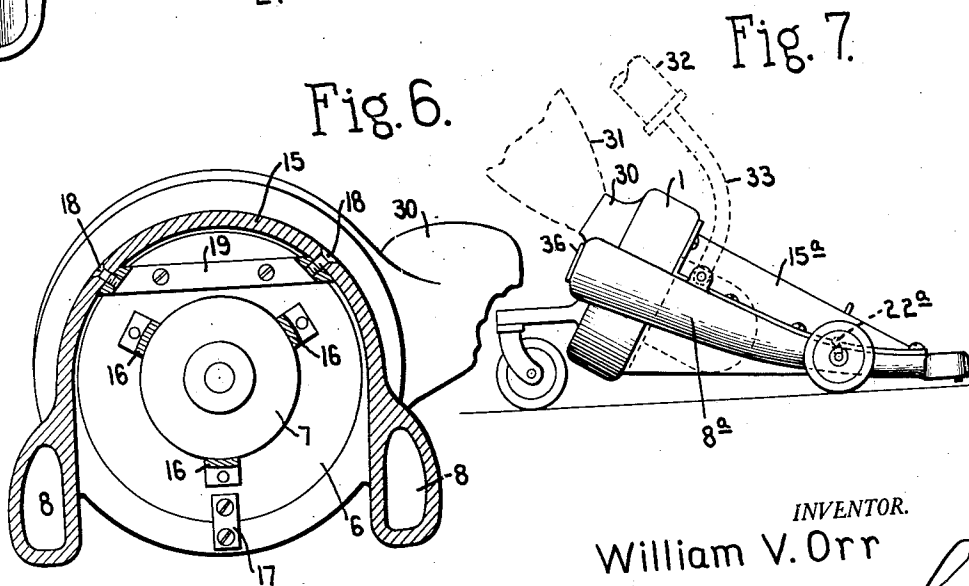
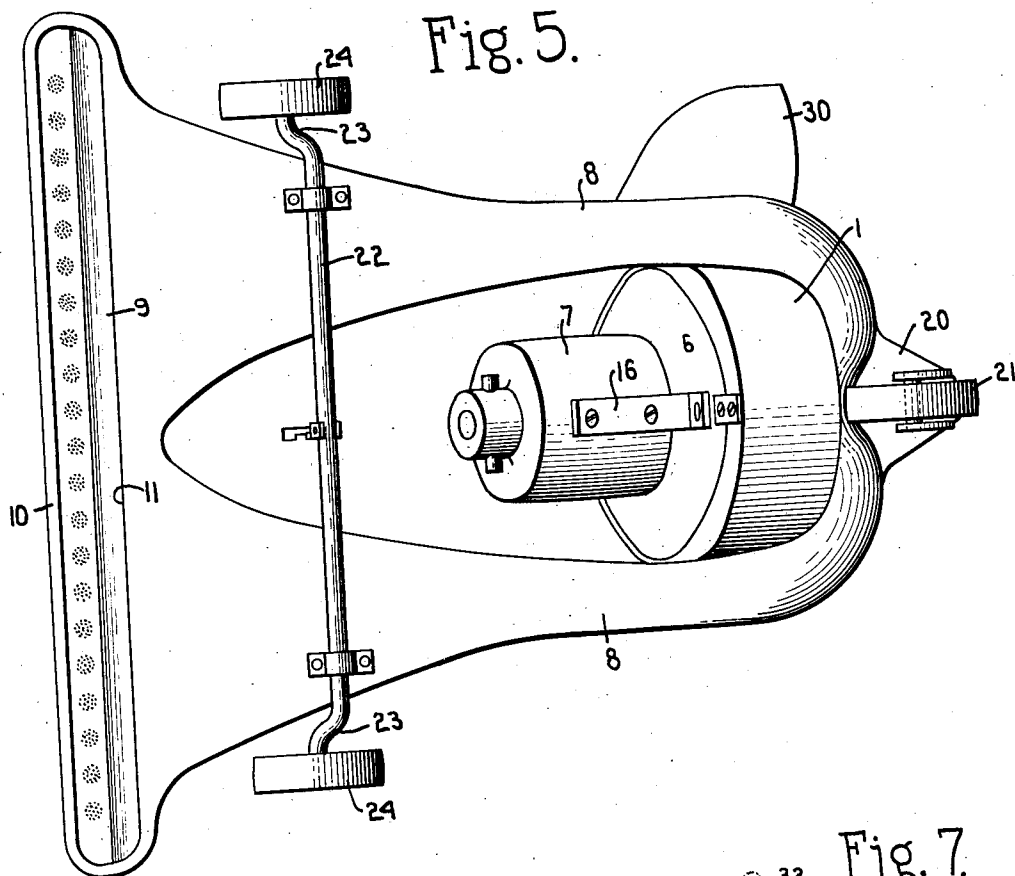


Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM V. ORR, OF CLEVELAND, OHIO.

SUCTION CLEANER.

Application filed January 30, 1924. Serial No. 532,828.

To all whom it may concern:

Be it known that I, WILLIAM V. ORR, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Suction Cleaners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to suction cleaners and has for its objects the provision of a device of this character which shall have the smallest possible height, the greatest stability, the minimum number of parts, the maximum of simplicity of construction and the minimum of machine work; the provision of a new and improved arrangement of parts of a suction cleaner; while further objects and advantages of the invention will become apparent as the description proceeds.

In the drawings accompanying and forming a part of this application Fig. 1 represents a side elevation and Fig. 2 a front elevation of my improved cleaner; Fig. 3 is a vertical sectional view longitudinally of the cleaner; Fig. 4 is a top plan view and Fig. 5 is a bottom plan view of the cleaner; Fig. 6 is a sectional view corresponding to the line 6—6 of Fig. 3; and Fig. 7 illustrates a slightly modified form of cleaner.

Describing the parts by reference characters, 1 represents the fan chamber, which is of substantially cylindrical shape with its axis forwardly and downwardly inclined, its rearward or upper wall 2 having a circular inlet opening 3, and its forward or lower wall 4 being formed with a circular opening 5 for the reception of the supporting plate 6 to which is attached the motor 7. Communicating with the inlet opening 3 are a pair of spaced passageways 8—8 which extend past the fan casing and thence forwardly to the extreme end of the cleaner casing; said passageways growing wider toward their forward ends until they meet and merge at the inlet mouth 9. This mouth is defined between a forward lip 10, and a rearward lip 11, and is overhung by the roof 12, these parts together with the conduits 8—8 constituting the nozzle, said fan chamber having an outlet neck at the side opposite said nozzle adapted for the attachment of a dust bag. The motor is covered and concealed by a top plate 15 which may be either integral or independent, extending from the nozzle to a point near the periph-

ery of the fan chamber. In this way the entire casing may be made of a single casting as shown in Fig. 3, the passageways 8—8 being separated a sufficient distance to enable the insertion of the plate 6 and its attached motor from below. I have shown the plate 6 as provided with three posts 16 between which the motor is secured, and have shown it as fastened in the aperture 5 by means of suitable screws 17 at the bottom, and other screws 18—18 at the top, the latter being inserted radially through the casing into engagement with a member 19 prepared therefor.

At the rear the casing is formed with a horizontal bracket 20 to which is pivotally attached a caster wheel 21, and I have shown the forward part of the cleaner as provided with a rock shaft 22 having offset ends 23 to which are attached the carrying wheels 24, a suitable adjusting device such as a lever 25 being secured to this shaft so that the height of the nozzle relatively to the floor can be adjusted. In case the top of the nozzle be cast integral as shown in Figs. 1 to 6 inclusive, the shaft 22 is best mounted beneath the nozzle, but in case this member be made removable as shown at 15^a in Fig. 7, this shaft can project between the air passage and the top plate as shown at 22^a.

The air passages may either take a substantially horizontal course until the fan chamber is passed and then rise abruptly to the inlet opening 3, as shown in Figs. 1 to 6 inclusive or may follow a more uniform slope as shown at 8^a in Fig. 7. One side of the fan chamber is formed with an outlet neck 30 curved rearwardly and upwardly for the attachment of the dust bag 31, whose outer end is secured in the usual manner to a handle 32 pivoted by forks 33 to suitable gudgeons 34 carried by the casing. In case the top plate 15 is integral these gudgeons can be cast directly thereon, but if it be separated, the handle is pivoted to the brackets 8^a as shown in Fig. 7. These gudgeons are located in front of the fan chamber so that the casing may hang properly when it is lifted by the handle, and the forks are bent sharply down to enable the handle to be lowered parallel to the floor without bringing these forks into engagement with the casing.

The inlet opening 3 is normally covered by a separate plate 36 which can be removed on occasion to permit the insertion of a hose coupling. The fan chamber, which is

spiral in shape is located with its outlet just above one of the passageways and its maximum dimension at the top, between the two passageways. The motor, which is the heaviest part of the machine, is located midway between the three carrying wheels and at the lowest possible point and the other members rise to a low point above it. The litter is moved horizontally at first and is lifted only after it has acquired a high velocity, thus producing a high degree of cleaning power.

While I have described this embodiment in detail I do not restrict myself to such details except as specifically recited in my claims.

Having thus described my invention, what I claim is:

1. In a suction cleaner, a rigid structure comprising a nozzle, a motor frame, and a fan chamber arranged in the order named from front to rear, the axis of the fan chamber being downwardly and forwardly inclined, the motor and nozzle being located on the same side of the fan chamber and the inlet of the fan chamber being on the opposite side from the nozzle, said fan chamber having an outlet neck at the side opposite said nozzle adapted for the attachment of a dust bag.

2. In a suction cleaner, a nozzle having a narrow elongated inlet mouth and two spaced air passageways leading therefrom, a fan casing embraced between said passageways, a motor secured to the side of said fan casing which is nearest said inlet mouth and depending between said passageways upon an inclined axis so as to depend near the floor, there being an inlet opening in said fan casing on the side opposite said inlet mouth with which opening said passageways communicate, and a dust bag connected to the fan chamber outlet.

3. In a suction cleaner, a casing having a narrow elongated inlet mouth, a fan

chamber, and two spaced conduits connecting said inlet mouth and fan chamber and communicating with an inlet opening on the side of said fan chamber which is opposite said inlet mouth, said fan chamber being tipped toward said inlet mouth and located between said two conduits, a fan in said fan chamber, a driving device therefor located between said conduits, and a cover for said driving device extending from one conduit to the other.

4. In a suction cleaner, a rigid casing having a fan chamber and a nozzle, said fan chamber having its lower wall inclined relatively to the horizontal plane of the mouth of the nozzle with the rear portion of said lower wall adjacent to said plane and its forward portion spaced therefrom, said nozzle being located beneath and forward of said fan chamber, the upper wall of said fan chamber being formed with an inlet aperture and the sides of said casing being formed with air passages which lead from said nozzle to said inlet opening.

5. In a suction cleaner, a casing having a fan chamber with an intake opening in the rear wall thereof, floor engaging carrying devices arranged to support said casing with said wall inclined so as to cause said opening to face upwardly and rearwardly, a collecting nozzle located upon the opposite side of said fan chamber from said intake opening and having a downwardly opening inlet mouth whose horizontal plane substantially touches the lowermost portion of said fan chamber, and a driving device for the fan located between said fan chamber and inlet mouth, there being air passageways connecting said inlet mouth and intake opening and passing on opposite sides of the fan chamber.

In testimony whereof, I hereunto affix my signature.

WILLIAM V. ORR.