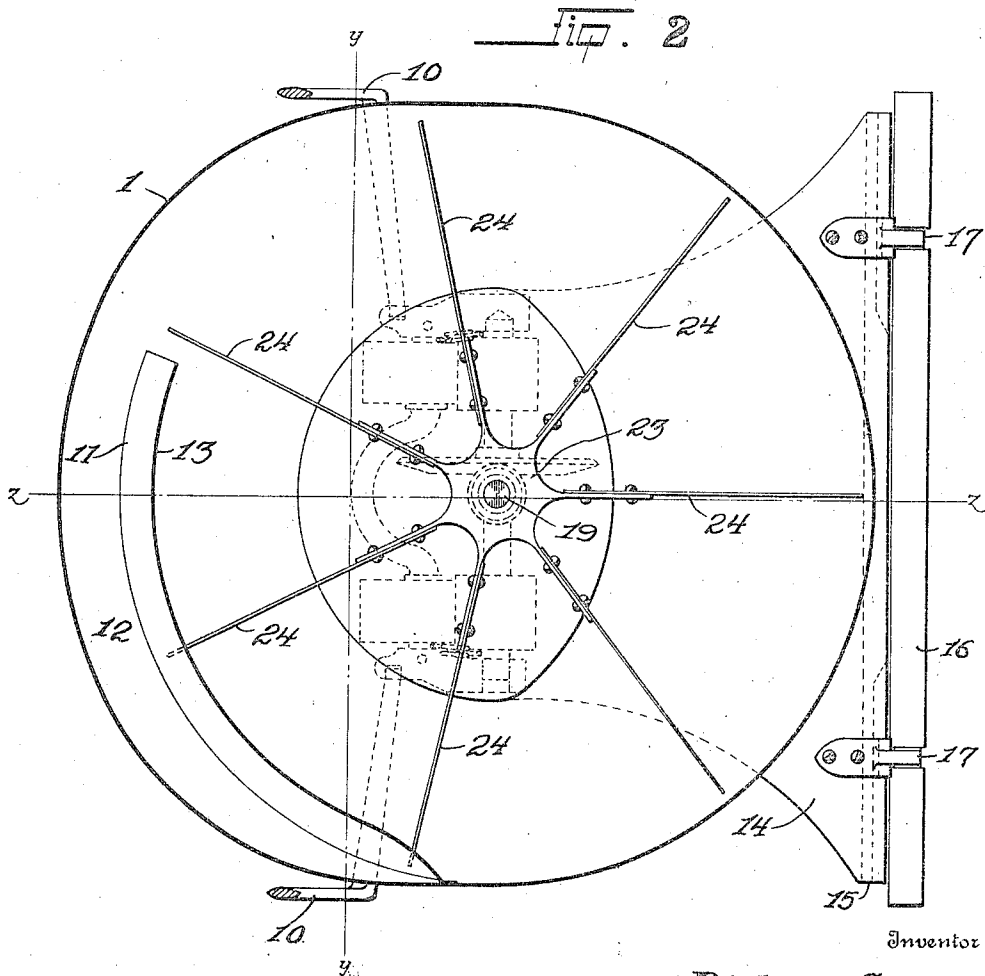
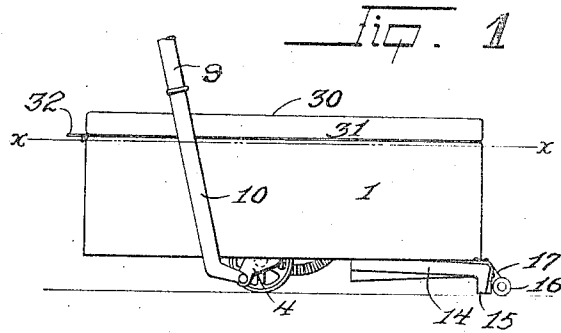


R. GOBER.
VACUUM SWEEPER.
APPLICATION FILED OCT. 1, 1909.

971,743.

Patented Oct. 4, 1910.

2 SHEETS-SHEET 1.



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2 SHEETS-SHEET 2.

Fig. 3

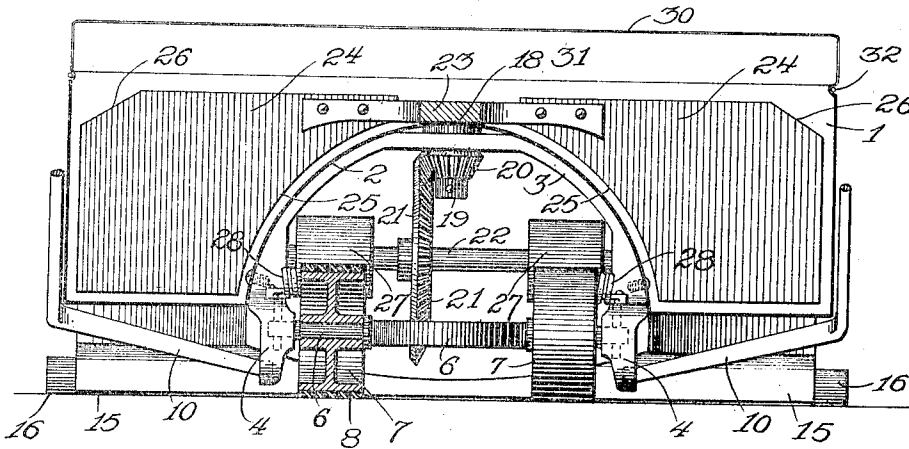


Fig. 4

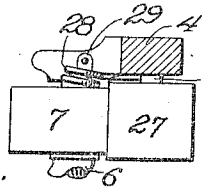
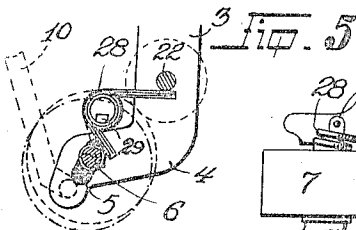
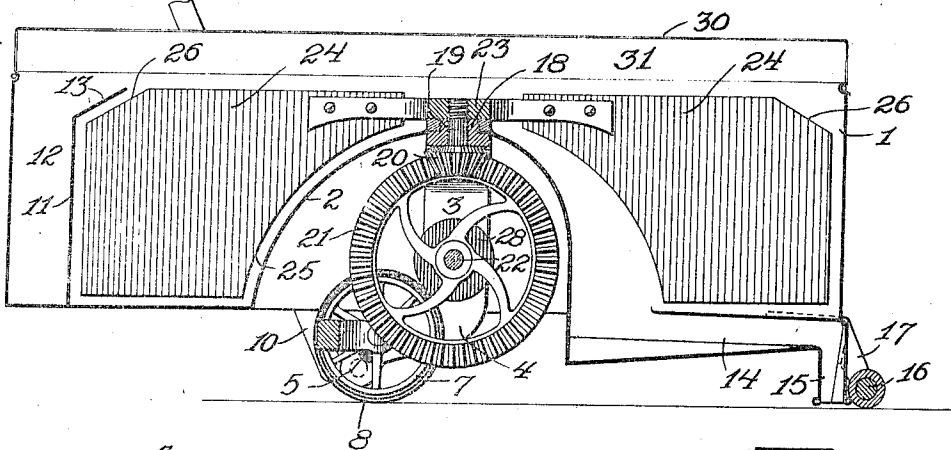


Fig. 6

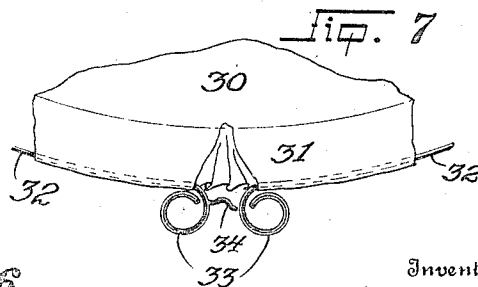


Fig. 7

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971,743.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed October 1, 1909. Serial No. 520,438.

To all whom it may concern:

Be it known that I, RICHARD GOBER, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Vacuum-Sweepers, of which the following is a specification.

This invention relates to vacuum cleaners especially adapted for cleaning floors, floor coverings, and the like, and the principal object of the same is to provide novel means whereby a vacuum will be created in a casing so that the dust from floors and floor coverings will be drawn therein.

Another object of the invention is to provide novel means whereby the machine will be rendered inoperative when reversed.

Other objects and advantages of the invention will be apparent from the following detailed description and accompanying drawings.

In carrying out the objects of the invention generally stated above it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings wherein:—

Figure 1 is a side view of the improved cleaner. Fig. 2 is an enlarged top plan view thereof, the top covering being removed. Fig. 3 is a vertical sectional view taken on the line Y—Y, Fig. 2. Fig. 4 is a similar view taken on the line Z—Z, Fig. 2. Fig. 5 is a fragmentary view in side elevation of the lower end of the support for the supporting rollers of the machine. Fig. 6 is a top plan view thereof. Fig. 7 is a detail fragmentary perspective view of the covering for the casing of the machine showing the means for fastening the same over said casing.

Referring to said drawings by numerals, 1 designates a casing which is preferably cylindrical, the central bottom portion 2 of which is concaved and in which the arched supporting arm 3 is fastened. The ends of said arm 3 project below the bottom of said casing and are outturned and thickened as indicated at 4 and each provided with an oblique slot 5 which form a bearing for the end of the axle 6. The said axle 6 is slidable, but not rotatable in its bearings 5 and carries rollers 7 equipped with a resilient tire 8, said rollers resting on the floor and forming the main support for the machine as will be

obvious. A handle 9 for propelling the machine, has the ends of its lower portion 10 pivotally mounted in the outturned ends 4 of the arm 3.

The interior of the casing 1 is provided with a vertically arranged partition plate 11 which provides a dust chamber 12, said partition plate having an inwardly beveled upper edge 13.

The front of the casing 1, below the bottom thereof, is provided with an outwardly flaring inlet nozzle 14 the inner end of which communicates with the interior of the casing 1, the outer end 15 thereof being vertically arranged and supported in close proximity to the surface over which the machine is traveling by the elongated resilient tired roller 16 that is mounted upon said nozzle by the hanger bearings 17. The arm 3 carries a bearing block 18 at its upper central portion through which a vertical shaft 19 projects. The lower end of said shaft 19 has a bevel gear 20 fast thereon which is in mesh with a similar, but preferably larger, gear 21 fast on a horizontal shaft 22 the ends of which are journaled in the arched arm 3. The upper end of the shaft 19 projects into the casing 1 and has a hub 23 fast thereon from which a plurality of fan blades 24 radiate. Said fan blades have their inner edge 25 curved to conform to the concavity of the central portion of the casing 1 and their outer upper corners beveled as indicated at 26 so that they may rotate beneath the beveled upper edge of the partition plate 11. A friction roller 27 is fast on each end of the shaft 22, said rollers being in frictional engagement with the supporting rollers 7 when the machine is propelled forwardly so that they will rotate therewith and communicate their movements to the fan blades 24 through the gears 20—21 and shaft 19. A spring 28 is coiled about a lug 29 projecting from each end of the arm 3, said springs having one of their ends bearing against the shaft 22, and their other end bearing against the ends of the axle 6 and constantly exerting a tension to move said axle 6 longitudinally of the bearing slots 5 so that the rollers 7 and 27 will be separated. A covering 30 of fabric has a pendent annular flange 31 adapted to be fitted over the top of the casing 1. Said flange has its lower edge provided with a wire 32, the ends of which are coiled as indicated at 33. One coiled end is provided

with a hook 34 so that said ends may be drawn together and detachably interlocked to tighten said flange over the casing 1.

As will be seen by reference to Fig. 5, the oblique bearing slots 5 incline forwardly of the machine, so that when said machine is pushed by the operator the downward pressure exerted on the machine will cause the axle 6 to ride up said slots 5 against the tension of the springs 29 and cause the rollers 7 and 27 to frictionally engage, and thereby rotate the fan blades 24 in the casing 1. The rotation of said fan blades 24 creates a vacuum in the casing 1 and the air rushing in the casing through the nozzle 14 will suck the dust from the surface over which the machine is traveling and deliver the dust to the dust chamber 12, the air escaping from the casing 1 through the fabric covering 30.

When the machine is being reversed, or pulled toward the operator an upward pressure will be exerted upon the machine, as will be obvious which permits the axle 6 to be forced downward in the bearing slots 5 by the springs 28, thereby separating the rollers 7-27, and cutting off the power from the fan blades 24.

As will be observed by reference to Fig. 2, the partition plate 11 is at the rear of the casing 1 and is arranged so that the open end of chamber 12 is in position to receive the dust conveyed thereto by the fan blades 24.

What I claim as my invention is:—

1. A machine of the character described comprising a casing provided with an inlet nozzle, supporting rollers therefor, a fan in said casing, friction rollers engaging said supporting rollers to operate said fan on the forward movement of said machine, and means for automatically disengaging said rollers on the reverse movement of the machine.

2. A machine of the character described comprising a casing having an inlet nozzle, supporting rollers for the casing, a rotatable fan within said casing, friction rollers geared to said fan and adapted to engage the supporting rollers when the machine is forwardly propelled, and springs for disengaging said rollers on the reverse movement of the machine.

3. A machine of the character described comprising a casing having a concaved bottom portion, an inlet nozzle carried by said casing, an arched arm fastened to said concaved portion, supporting rollers carried by the ends of said arm, a shaft carried by said arm and projecting into said casing, a fan within said casing and mounted on said shaft, friction rollers carried by said arm

and operated by said supporting rollers on the forward movement of the machine, a gear connection between the friction rollers and the fan shaft, and means for separating the friction and supporting rollers when the machine is on the reverse movement.

4. A machine of the character described comprising a casing, an inlet nozzle therefor, an axle slidably supported by said casing, supporting rollers carried by said axle, a fan in said casing, fan rotating means including rollers engaging and operated by said supporting rollers when the machine is propelled in one direction, and springs carried by said casing for automatically sliding said axle to remove the supporting rollers from engagement with said fan rotating means when the machine is propelled in an opposite direction.

5. A machine of the character described comprising a casing, an inlet nozzle therefor, an arm fastened to said casing and provided with oblique bearing slots, an axle slidable in said slots, supporting rollers on said axle, a fan within said casing, fan rotating means adapted to be operated by said rollers on one movement of the machine, and springs for sliding said axle in its slots to separate the rollers from the fan rotating means on an opposite movement of the machine.

6. A machine of the character described comprising a casing having a concaved central bottom portion, an arched shaped arm fastened within said concaved bottom portion with its ends projecting below bottom of the casing, said ends being provided with an oblique bearing slot, an axle slidable in said slots, supporting rollers for said axle, a horizontal shaft carried by said arm above said supporting rollers, friction rollers carried by said shaft and adapted to be engaged by said supporting rollers on one movement of the machine, a vertical shaft carried by said arm and projecting into said casing, a fan fast on the projecting end of said vertical shaft, a gear connection between the horizontal shaft and the vertical shaft, springs carried by the end of said arm and interposed between the horizontal shaft and the said axle for sliding said axle in its bearing slots on the reverse movement of the machine, an inlet nozzle carried by said casing, and a supporting roller carried by said nozzle.

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

RICHARD GOBER.

Witnesses:

ROBERT GRASWITZ,
RICHARD ANDREWS.