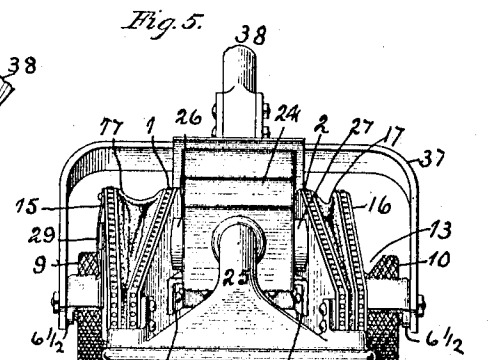
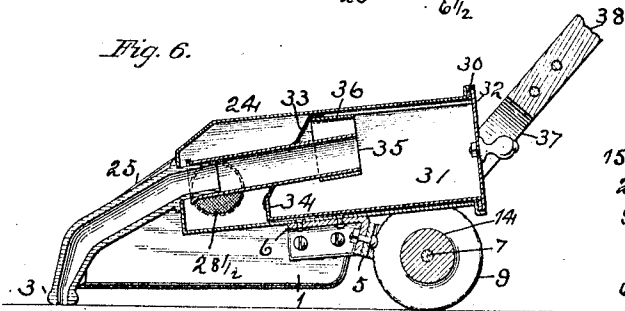
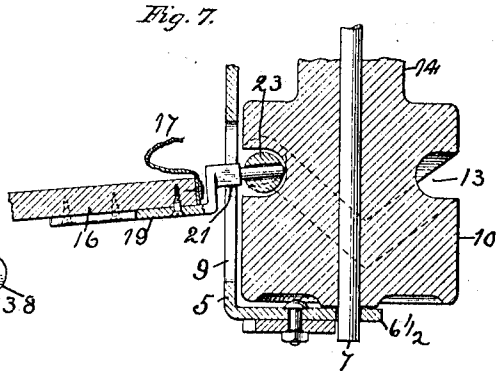
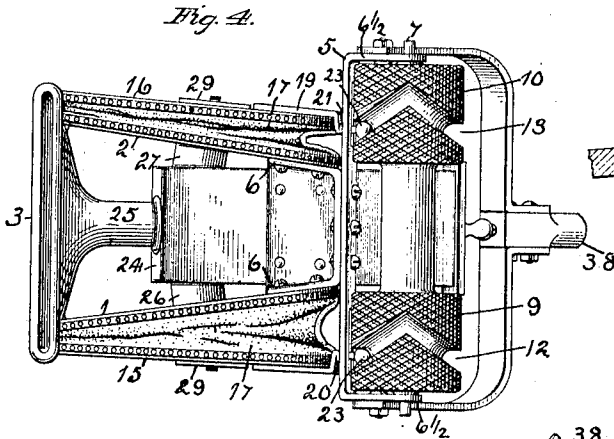
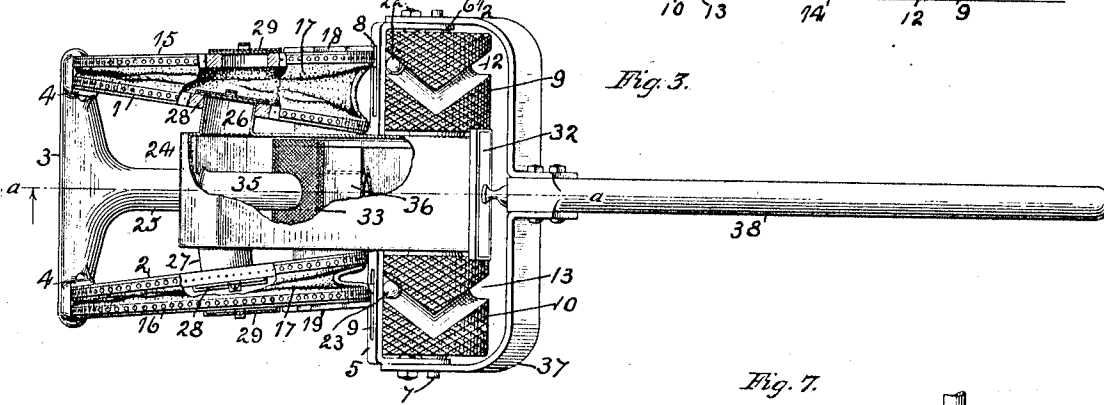
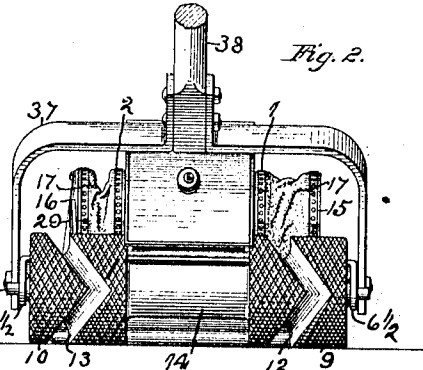
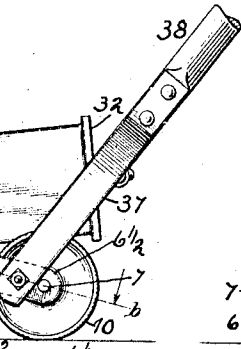


APPLICATION FILED MAR. 20, 1912.

Patented Mar. 4, 1913.



Inventor:

Atty.

UNITED STATES PATENT OFFICE.

VICTOR WINQUIST, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-THIRD TO VERNER NORRLANDER AND ONE-THIRD TO JOHN A. ANDERSON, BOTH OF ROCKFORD, ILLINOIS.

PUMPING MECHANISM FOR VACUUM-CLEANERS.

1,055,250.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed March 29, 1912. Serial No. 687,240.

To all whom it may concern:

Be it known that I, VICTOR WINQUIST, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Pumping Mechanism for Vacuum-Cleaners, of which the following is a specification.

The object of this invention is to construct a novel, simple and effective vacuum cleaner in which suction is created by moving the cleaner in contact with the floor.

In the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a rear section. Fig. 3 is a plan view. Fig. 4 is an under-face view. Fig. 5 is a front elevation. Fig. 6 is a section on line *a a* Fig. 3. Fig. 7 is a section on line *b b* Fig. 1.

The cleaner illustrated in the drawings comprises two bellows suitably separated, the stationary walls 1 and 2 of the bellows have their forward ends connected to the cleaning tool 3 by the brackets 4 extending from the cleaning tool. The rear ends of the stationary walls of the bellows are connected to a cross-bar 5 by the projections 6 extending therefrom. This cross-bar has two rearwardly extending projections 6 $\frac{1}{2}$ which support an axle 7, and the cross-bar has two slots 8 and 8^a. On the axle 7 are mounted two wheels 9 and 10 provided with double cam grooves 12 and 13 respectively. The wheels are connected in this instance, by a center section 14. The movable walls 15 and 16 of the bellows are connected to the stationary walls thereof by the collapsible leather edging 17. To the movable walls 15 and 16 of the bellows are connected brackets 18 and 19 respectively and each has an extension 20 and 21 respectively which are guided in the slots 8 and 8^a respectively formed in the cross-bar, and these extensions support balls 22 and 23 respectively which are located in the double cam grooves 12 and 13 respectively.

A casing 24 has its forward end connected with the tube extension 25 of the cleaning tool. This tube 25 extends a short distance within the end of the casing. Tubes 26 and 27 connect the stationary walls 1 and 2 with the casing 24 and each tube is provided with an inlet valve 28 over which is located a screen 28 $\frac{1}{2}$ Fig. 6. Each movable wall 15

and 16 is provided with an outlet valve 29. This casing has an open end which supports a packing 30 Fig. 6. Within the casing is located a drawer 31 forming a dust receptacle. This drawer has a flanged end 32 which closes against the packing 30. The inner end of the drawer is provided with an inclined screen 33 having a closed section 34 at its lower end. A tube 35 is supported by the plate 36 extending across the inner upper face of the drawer, and when the drawer is in place in the casing this tube 35 will telescope with the tube extension 25 of the cleaning tool extending within the casing, thereby forming a communication between the cleaning tool and the interior of the drawer. To the projections 6 $\frac{1}{2}$ are pivoted a yoke 37 to which is connected a handle 38.

In use, the cleaner is pushed over the floor, carpet or rugs to be cleaned, which will rotate the wheels 9 and 10 and the cams 12 and 13 will engage the rollers 22 and 23 and move the movable walls 15 and 16 of the bellows toward and from the stationary walls 1 and 2 of the bellows. This movement of the bellows will produce suction through the tubes 26 and 27 through the screen 33 into the drawer, and by means of the tubes 35 and 25 to the cleaning tool. The air is exhausted from the bellows by way of the valves 29. By the employment of the two bellows, one is exhausting while the other is creating suction, and so on alternately.

I claim as my invention.

In a structure of the character set forth, the combination with a supporting frame having spaced substantially horizontal slots, of spaced wheels journaled on the frame and having peripheral cam grooves, bellows secured to opposite sides of the frame and each having a swinging member, and an arm carried by the swinging member, said arm extending through one of the slots and engaged in the groove of one of the wheels.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

VICTOR WINQUIST.

Witnesses:

A. O. BEHEL,
E. D. E. N. BEHEL.