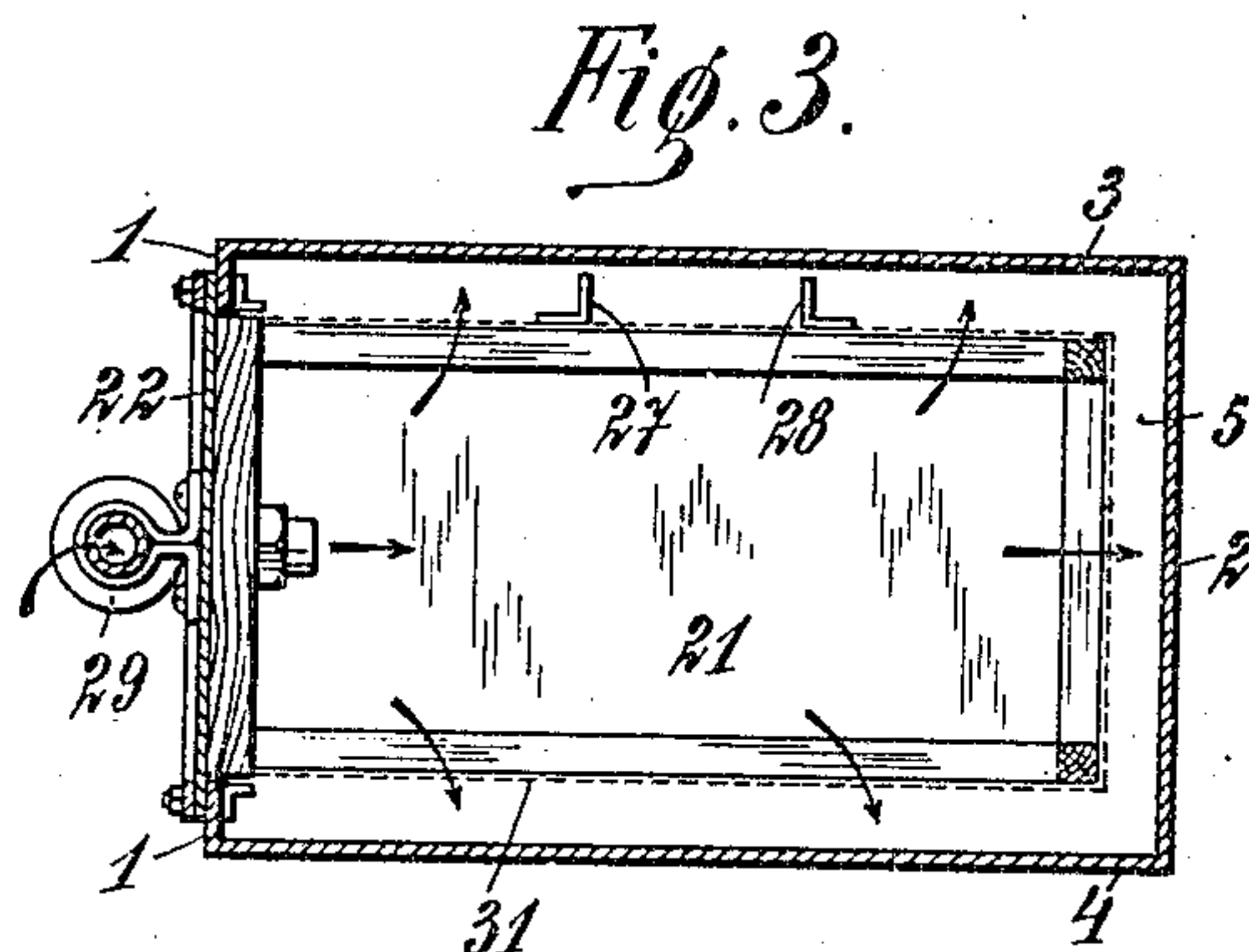
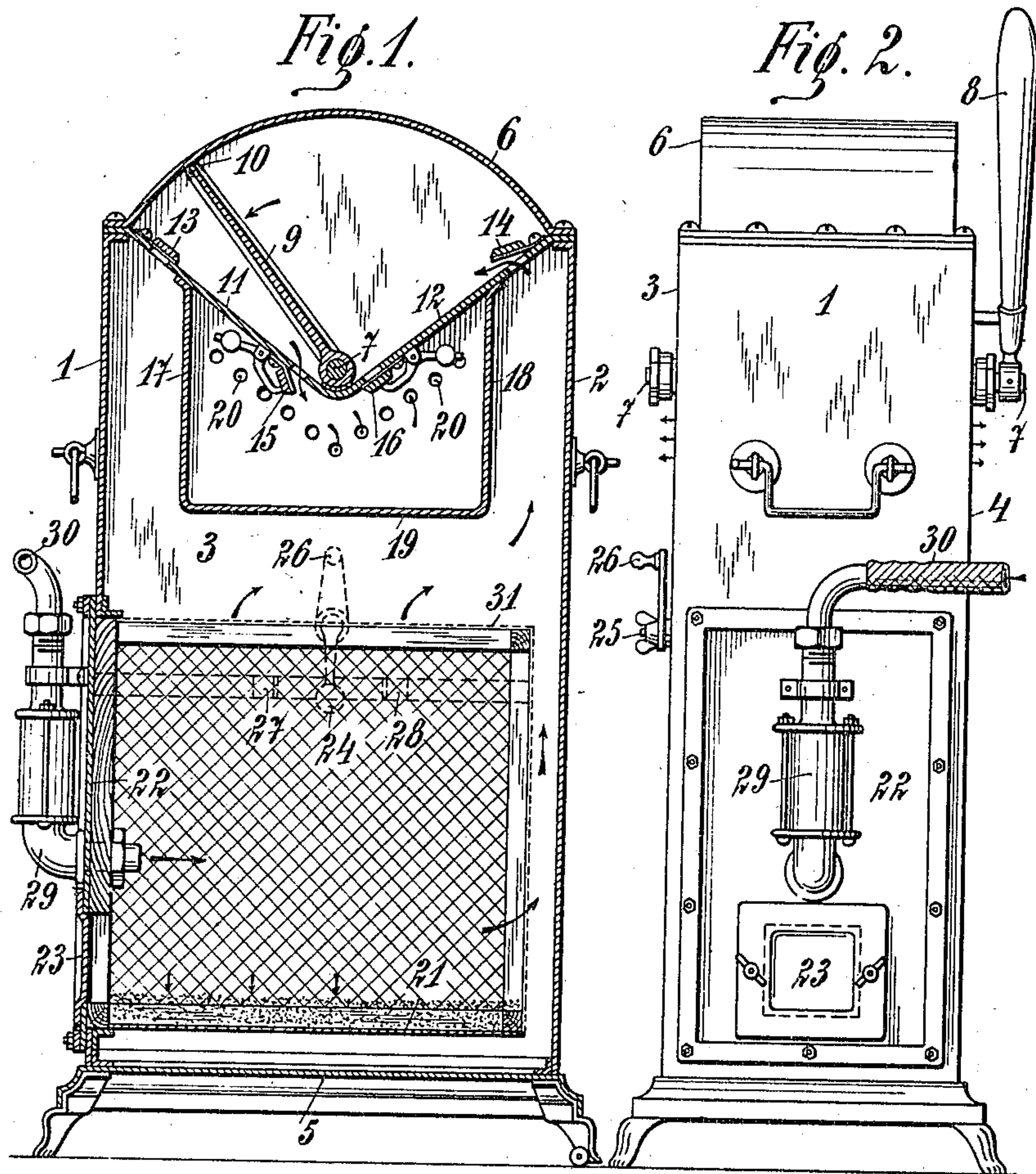


No. 837,091.

PATENTED NOV. 27, 1906.

F. MELICHAR.  
DUST AND RUBBISH SUCKING MACHINE.

APPLICATION FILED APR. 13, 1906.



WITNESSES.

Wm. Small.  
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# UNITED STATES PATENT OFFICE.

FRANZ MELICHAR, OF BRANDEIS, N L, AUSTRIA-HUNGARY.

## DUST AND RUBBISH SUCKING MACHINE.

No. 837,091.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed April 13, 1906. Serial No. 311,614.

*To all whom it may concern:*

Be it known that I, FRANZ MELICHAR, a subject of the Emperor of Austria-Hungary, residing at Brandeis, n/L, Austria-Hungary, have invented a new and useful Dust and Rubbish Sucking Machine, of which the following is a specification.

My invention relates to improvements in dust and rubbish sucking and cleansing machines, in which a peculiar air-pump sucks the dust and rubbish through a hose or pipe, as is known, into an appropriate transportable casing, expelling at the same time the air from it in such a manner that the dust and rubbish which it carries into said casing is retained in it and can be emptied at convenience; and the objects of my improvements are, first, to provide a cheap, light, and efficacious implement for cleansing floors, walls, carpets, furniture, and so on, from dust and rubbish with less cost, less power, and better effect; second, to retain the dust and rubbish in the implement without the help of any liquid or washing off, and in cleansing the expelled air completely from it, so that it may not in any way injure or inconvenience the place or its surroundings, and, third, to provide means for using the machine without interruption till the work is done. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire machine; Fig. 2, a side view of the entire machine; Fig. 3, a horizontal cross-section taken just below the top of the filter.

Similar numerals refer to similar parts throughout the several views.

The machine consists of an air-tight casing which is furnished with an air-pump and at the same time an air-compressor and which contains two air-chambers, as shown by the drawings. Said casing consists of the outside vertical walls 1 2 3 4, the bottom wall 5, and the semicylindrical top wall 6. Said top wall 6 is at the same time the top wall of the air-pump and air-compressor, having a rod 7 in the axis of the cylindrical wall 6, which passes through the side walls 3 4 and which is furnished outwardly with a handle 8 and with a wing or piston 9, fastened onto it and preferably provided with an air-tight packing 10. Both the inclined walls 11 12 are furnished with sucking-valves 13 14 and pressure-valves 15 16, and said wing 9 can be swung by its handle 8 alternatively

from one side to the other between said inclined valve-walls 11 12 in its pump-chamber, which it divides into two compartments, which alternatively are suction and pressure compartments. The valves 13 14 open for the suction and close for the pressure, while valves 15 16 open for the pressure and close for the suction of air. The latter valves 15 16 are situated nearer the axis 7, while valves 13 14 are placed farther from it, as shown in the drawings, Fig. 1. Underneath the valves 15 16 is furnished a chamber for the compressed air, into which said valves open. Said compressed-air chamber is formed by the walls 11 12 17 18 19, and its outward walls 3 4 are provided with openings 20, by which they communicate with the outward air. The rest of the casing of the machine forms an air-tight suction-chamber, which is furnished with an air-filter. The air-filter consists of a casing with a solid bottom 21 and of a solid outside wall 22, its other walls being formed by linen or the like material through which the air can pass, but which retains all the substantial solid particles which otherwise can be carried on by a gust of wind. Said inside air-filtering casing fits into one of the side walls 1 2 3 4 from outside by means of an air-tight framing 22, which is provided with an air-tight door 23, hinged conveniently in such a way as to afford access to the inside of the air-filter. A small hammer 24, pivoting round its axis 25, is mounted inside the casing and can be drawn by an appropriate handle 26 from outside, so as to beat against the parts 27 28 of the air-filter at any time, if necessary. An air-inlet piece 29 is mounted outside the wall 22 onto it, having a glass wall which allows one to see the rubbish carried by the wind through it during its work.

The hose or pipe 30 is to be fitted at the end of the piece 29 in the usual known way. After this has been done air can be sucked in through it from the place which has to be cleansed of dust and rubbish by this machine in a similar way as it is done by dust and rubbish sucking machines which are in use. In swinging the handle 8 air is sucked from the chamber 21 22 31 into the air-pump alternatively on one and the other side of its wing 9, while on the opposite side of said wing it is at the same time compressed and sent into the chamber 17 18 19, from which it flows through the openings 20 outside into freespace. In passing through



the filtering-walls 31 it leaves all the rubbish and dust upon them. In drawing the handle 26 to and fro the hammer 24 will beat upon the filter-casing at 27 28, and all the dust or rubbish which hangs upon the filtering-walls will fall down, so that further filtering cannot be hindered by them.

I am aware that prior to my invention machines have been made for sucking up dust and rubbish and filtering it from the air. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a dust-sucking machine, the combination of the exterior casing, a wall partitioning off a space therein and having openings penetrating the same, valves opening in opposite directions and controlling the way through said openings, a piston arranged in said space and having its operating part protruding from said casing, another wall forming with said first-named wall another partitioned-off space in said casing, said last-named space inclosing the valves permitting flow from said first-named space, and also having discharge-openings, an air-filter in said casing outside of both of said spaces, and

a supply-tube discharging into said filter, substantially as described.

2. In a dust-sucking machine, the combination of the exterior casing having one end wall thereof semicylindrical in form, a V-shaped wall forming with said semicylindrical wall a partitioned-off space and having openings penetrating the same, valves opening in opposite directions and controlling the way through said openings, a piston pivoted in said space and having its axis located substantially at the apex of said V-shaped wall, said piston having its operating part protruding from said casing, another wall forming with said first-named wall another partitioned-off space in said casing, said last-named space inclosing the valves permitting flow from said first-named space, and also having discharge-openings, an air-filter in said casing outside of both of said spaces, and a supply-tube discharging into said filter, substantially as described.

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

FRANZ MELICHAR.

Witnesses:

ADOLPH FISCHER,  
LADISLAV VOJATEK.