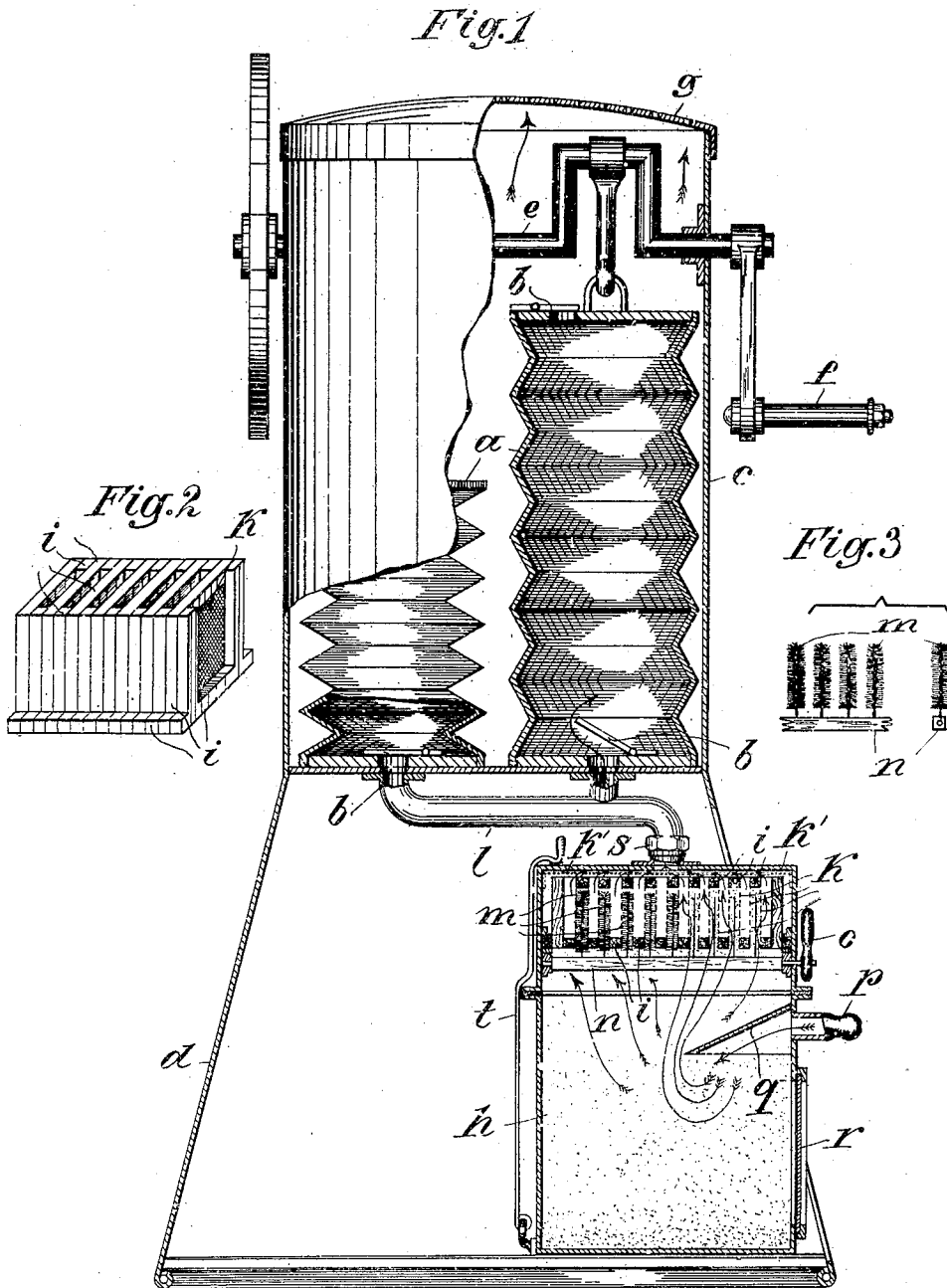


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PATENTED JAN. 28, 1908.

A. MESTITZ.
FILTER FOR DUST SUCTION APPARATUS.
APPLICATION FILED FEB. 19, 1906.



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UNITED STATES PATENT OFFICE.

ARTHUR MESTITZ, OF RAUDNITZ-ON-THE-ELBE, AUSTRIA-HUNGARY.

FILTER FOR DUST-SUCTION APPARATUS.

No. 877,880.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed February 19, 1906. Serial No. 301,960.

To all whom it may concern:

Be it known that I, ARTHUR MESTITZ, a subject of the Emperor of Austria-Hungary, and a resident of Raudnitz-on-the-Elbe, Bohemia, in the Empire of Austria-Hungary, have invented a new and useful Improvement in Filters for Dust-Suction Apparatus, of which the following is a full, clear, and exact description.

My invention has reference to dust suction apparatus of well-known construction and relates more particularly to an improved filter for the same.

The new filter consists of an assemblage of cells, the main walls of which are formed by fine-meshed fabric, said cells being open alternately at opposite sides, so that the suction air to be purified enters the cells which are open at the one side and leaves, in purified condition, the cells which are open at the opposite side. A device is also provided whereby the filter can be cleaned at any moment without its having to be removed from the apparatus.

In the accompanying drawing one form of the invention is illustrated applied to a suction apparatus.

Figure 1 is a part sectional view of apparatus with filter. Fig. 2 is a perspective view, showing a number of filter-cells assembled together. Fig. 3 illustrates by front and end elevations the brushes employed for cleaning the cells.

The dust suction apparatus is of familiar construction, consisting of the bellows *a* for sucking in the air, provided with back-pressure valves *b*. The bellows are protected by a shell *c*, mounted on a hollow base *d*. These bellows are actuated by the crank-handle *f*, secured to the double-cranked shaft *e*. The cover *g* of the shell *c* is perforated in the manner of a sieve.

In the hollow foot or base *d* is provided a filter-vessel or dust-chamber *h*, consisting of a large lower part and a smaller top part, which are detachably connected and the joint rendered air-tight by a rubber gasket. In the top part of the vessel *h* there is located the filter, which consists of an assemblage of frames *i* each open at one side. These frames are assembled parallel with each other, in such manner that the open side of the first frame lies upward, that of the next downward, that of the third again upward, that of the fourth again downward, and so on alter-

nately upward and downward. Between the frames fine-meshed fabric *k* is stretched and secured in suitable manner, so that an assemblage of cells is constituted, open alternately at the top and bottom, the main walls of the cells being formed by the fabric sheets *k* (Fig. 2). Between the upper wall of the filter-vessel *h* and the filter, a filter-cloth *k'* is located in which any dust still remaining in the air is deposited. The vessel *h* is connected with the bellows *a* by a pipe *l*, in such manner that the air in those cells which are open at the top can flow direct to the bellows.

In order to admit of the fabric sheets *k* being cleaned from adhering dust when necessary, a system of brushes *m* is arranged immediately below the filter, being secured to a rotary bar *n*, on the one spindle-end of which a handle *o* is mounted, outside the vessel *h*. In the drawing (Fig. 1) five brushes *m* are shown in operative position at the left-hand end of the bar *n*, while at the right-hand end, for the sake of clearness, only the axes of the brushes are shown. In the position of rest the brushes point vertically downwards; when it is required to sweep adhering dust off the filter-sheets *k*, it is only necessary to turn the handle *o*, when the brushes will enter those cells which are open at the bottom and sweep through them, describing a semi-circular path. In the interior of the vessel *h*, just above the nipple *p* for the flexible pipe, a deflector *q* is furnished, so that the coarse particles which enter the vessel may be deflected downward to the bottom.

r is a window, for the purpose of enabling the height to which the dust has accumulated in the vessel to be checked. When necessary, the vessel can then be removed, opened and emptied.

The vessel *h* may be detachably secured in the base *d* by a clamp-rod *t*; in addition to the screw-nut *s*.

On the bellows *a* being worked, the dusty air entering the vessel *h* at *p*, passes into those filter cells which are open below, flows through the filter-sheets *g*, the dust being left behind, and thus purified enters those cells which are open above, from which it flows through the pipe *l* into the bellows. From these latter it is forced out through the top valves *b* into the interior of the shell *c*, and finally escapes into the atmosphere through the perforation in the cover *g*.

Having now particularly described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A filter for dust suction apparatus, comprising an assemblage of parallel frames open above and below alternately and having filter-sheets stretched across them; a receptacle, at the top of which the frames are located, and having an air-inlet below and an air-outlet above the frames; a plurality of brushes located below those frames which are open at the bottom; and means for introducing the brushes into the same and withdrawing them therefrom; substantially as described.

2. A filter for dust suction apparatus, comprising an assemblage of parallel frames open above and below alternately and having filter-sheets stretched across them; a receptacle, at the top of which the frames are located and having an air-inlet below and an air-outlet above the frames; a rotary bar extending across the receptacle below the frames and operable from without; and brushes carried by the bar below those frames which are open at the bottom and adapted to enter the same; substantially as described.

3. In combination, a dust suction apparatus having a hollow base; and a filter com-

prising an assemblage of parallel frames open above and below alternately and having filter-sheets stretched across them; a receptacle, located in the said base, at the top of which the frames are located, and having an air-inlet below and an air-outlet above the frames; and a clamp-rod hinged to the said base and taking over the top of the receptacle, whereby the receptacle is firmly but detachably held in the base; substantially as described.

4. A filter for dust suction apparatus, comprising an assemblage of parallel frames open above and below alternately and having filter-sheets stretched across them; a receptacle, at the top of which the frames are located, and having an air-inlet below and a tubular air-outlet above the frames; a bifurcated pipe each portion constituting a suction member and means for creating suction therein alternately; and a screw-nut uniting the same with the receptacle outlet; substantially as described.

In witness whereof I have hereunto signed my name this 15th day of January 1905, in the presence of two subscribing witnesses.

ARTHUR MESTITZ.

Witnesses:

ARTHUR SCHWEINBURG,
ARTHUR SCHWERZ.