

No. 842,529.

PATENTED JAN. 29, 1907.

G. DITTMAR.

DUST SEPARATOR FOR CLEANING APPARATUS.

APPLICATION FILED JUNE 26, 1906.

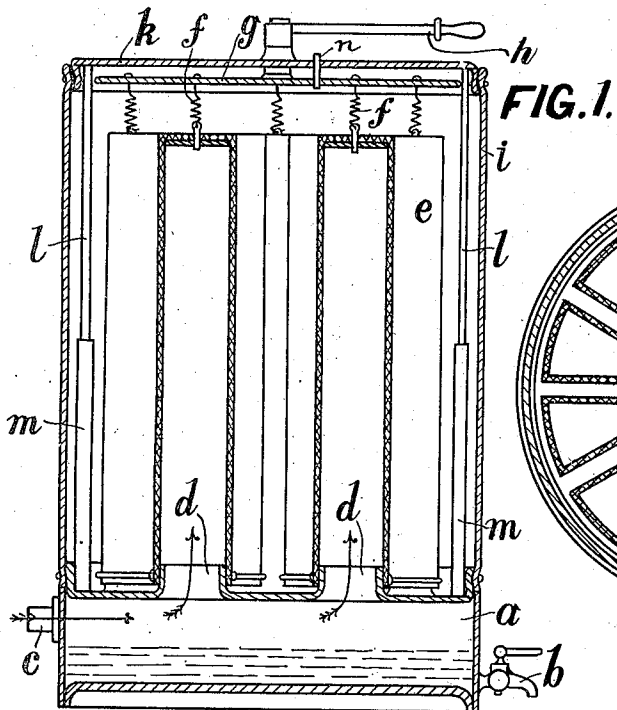


FIG. 1.

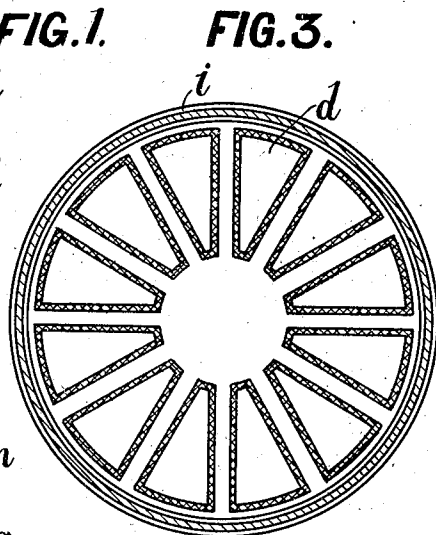


FIG. 3.

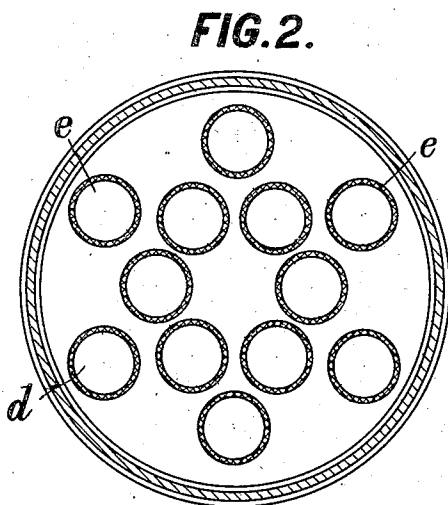


FIG. 2.

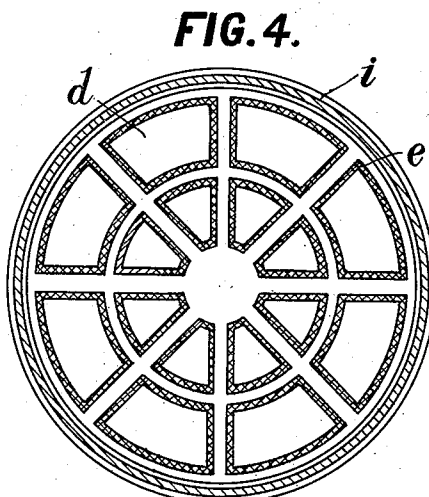


FIG. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

GUSTAV DITTMAR, OF OFFENBACH-ON-THE-MAIN, GERMANY.

DUST-SEPARATOR FOR CLEANING APPARATUS.

No. 842,529.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed June 26, 1906. Serial No. 323,507.

To all whom it may concern:

Be it known that I, GUSTAV DITTMAR, director of the Offenbach Compressed Air Cleaning Company G. M. B. H., a subject of the Emperor of Germany, residing in Offenbach-on-the-Main, in the Empire of Germany, have invented certain new and useful Improvements in and Relating to Dust-Separators for Cleaning Apparatus, (for which application has been made in Germany, dated January 4, 1905,) of which the following is a specification.

The great practical and hygienic advantages which the cleaning of fabrics, carpets, and the like by means of a current of air possesses have caused this method of cleaning to be largely employed. Transportable apparatus are therefore now constructed by means of which the cleaning can be done on the spot. For this it is, however, necessary that an apparatus should be provided which catches the dust raised up by the cleaning operation. The dust-filters hitherto employed for this object have either too little surface or they offer too much resistance to the air-current passing through them or they are too complicated.

Now this invention relates to a dust-filter which, based on the well-known principle of suspended dust-filtering bags, represents an improved arrangement which is not only extremely simple, but also offers the least possible resistance to the air-current and also allows of a rapid removal of all the dust collected without special mechanisms or other auxiliaries, as may be seen from the accompanying drawings, in which—

Figure 1 is a longitudinal and Fig. 2 a cross section, while Figs. 3 and 4 are cross-sections of modifications.

This improved filter consists of a closed vessel *a*, which may eventually be filled with water, provided with a discharge-tap *b* and an inlet *c* for the dust-laden air. The upper cover or lid of the vessel *a* has a number of upwardly-directed tube-sockets *d*, over which the dust-filtering bags *e* are fixed. The latter hang by means of springs *f* on an arm arrangement *g*, which by means of a hand-lever *h* may be readily moved up and down. This movement has for its object, after each cleaning period, to shake down the dust accumulated in the bags, so that it falls downward into the liquid and may then be discharged therewith through the tap *b*.

Over the whole apparatus a case *i*, which also has a filtering action, is placed, which casing catches with certainty any very fine dust which may percolate through the pores of the filter-bags, so that the air passes to the outside fully purified.

In the form of construction shown in Figs. 1 and 2 the filter-bags *e* are circular in section and then distributed in one or more rows round the apparatus. A still larger filtering-surface is obtained, however, if they are given the section of a sector of a circle. They then may be arranged, for instance, in the manner shown in Fig. 3. These bags having the form of a sector of a circle may also, if desired, be again divided and a large increase of the filtering-surface obtained by an arrangement such as shown in Fig. 4.

The cover *k*, preferably also permeable, of the filtering apparatus in order to make the latter collapsible as far as possible may be placed on supports which consist of two telescoping tubes *m* and *l*, which have sufficient frictional engagement with each other so that they will support the weight of the cover and bags. In this manner after use the filter may be collapsed into a comparatively small space. To increase the shaking action, it is preferable to provide a contact-pin *n*, which engages in a suitable slot in the plate *g* and on the reciprocating movement of the latter encounters it on both sides.

I declare that what I claim is—

A dust-filter for cleaning apparatus, comprising a lower water-containing vessel having an inlet for admitting dust-laden air to said vessel and a plurality of outlet-openings in its upper side, a plurality of flexible filter-bags closed at their upper ends and connected by their lower ends to the outlet-openings of said vessel, means connected at the upper ends of the bags for elastically supporting said filter-bags, means for shaking said filter-bags, a cover, and a flexible case connected to the cover and vessel and surrounding the filter-bags.

In witness whereof I have hereunto signed my name, this 19th day of May, 1906, in the presence of two subscribing witnesses.

GUSTAV DITTMAR.

Witnesses:

JEAN GRUND,
CARL GRUND.