F. MARX.

DUST COLLECTOR.

APPLICATION FILED MAR. 13, 1909.

1,123,564.

Patented Jan. 5, 1915.

2 SHEETS—SHEET 1.

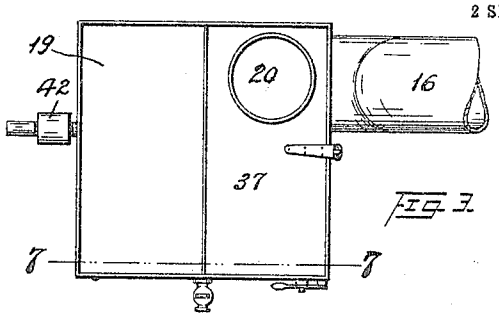

Fig. 3.

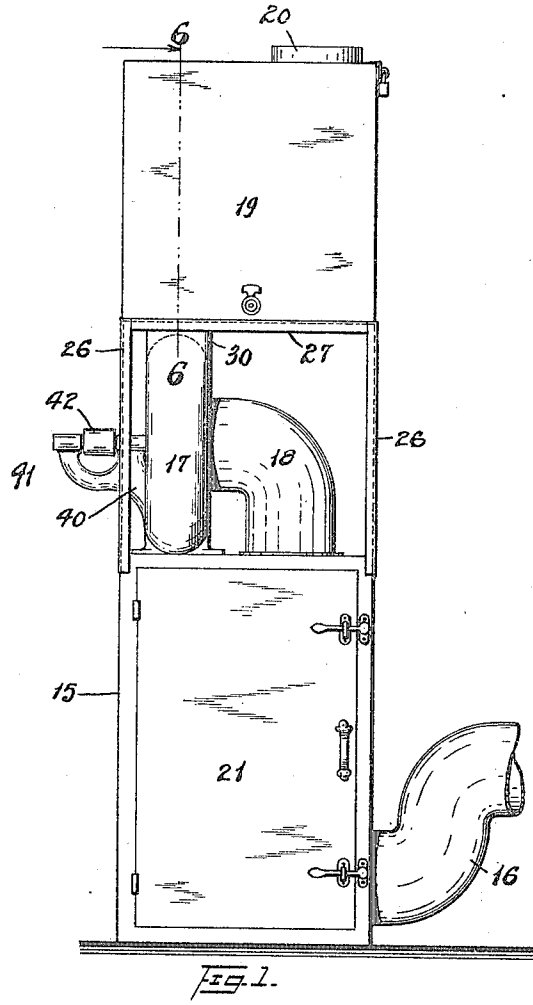

Fig. 1.

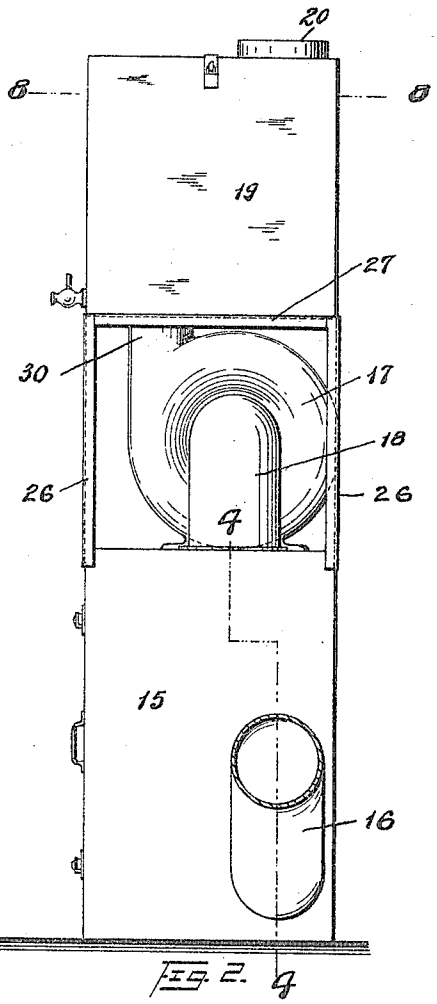

Fig. 2.

WITNESSES

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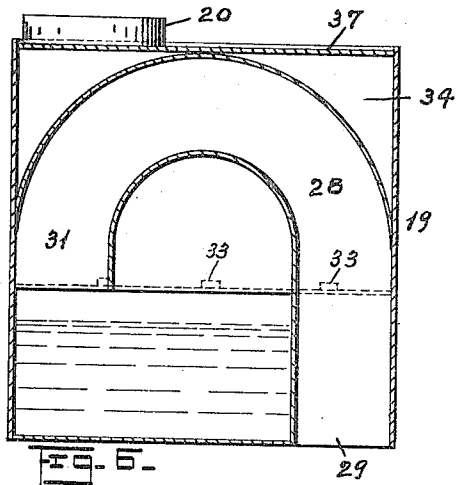

FIG. 6.

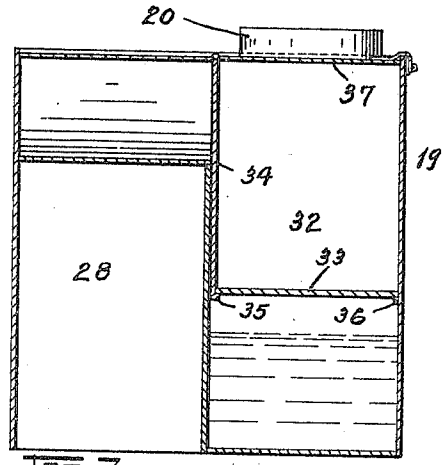

FIG. 7.

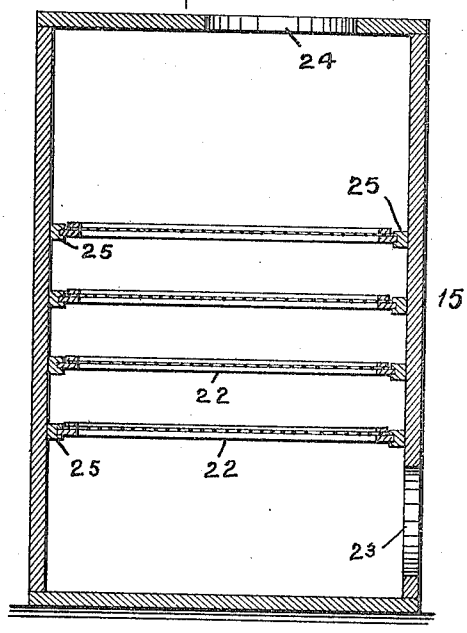

FIG. 4.

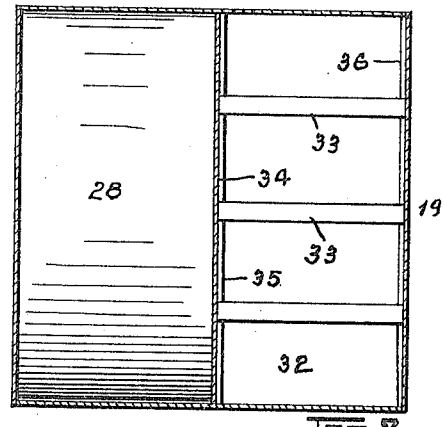

FIG. 8.

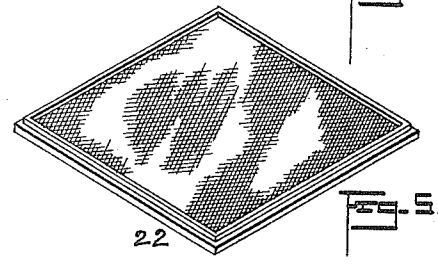

FIG. 5.

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UNITED STATES PATENT OFFICE.

FRED MARX, OF NEWARK, NEW JERSEY, ASSIGNOR TO RUSSELL M. EVERETT, OF NEWARK, NEW JERSEY.

DUST-COLLECTOR.

1,123,564. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed March 13, 1909. Serial No. 483,108.

To all whom it may concern:

Be it known that I, FRED MARX, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in Dust-Collectors, of which the following is a specification.

The objects of this invention are to provide a dust collector in which the screens shall be separated from that portion of the device in which the water tank is arranged; to thus obviate any danger of leakage onto said screens; to arrange the water tank so that free and convenient access may be had to all of its parts without disturbing the rest of the device; to provide a removable water tank and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is a front elevation of my improved dust collector, Fig. 2 is a side view of the same, and Fig. 3 is a plan; Fig. 4 is a vertical section from side to side of the lower portion of my dust collector, showing the screens therein and being taken on line 4—4 of Fig. 2; Fig. 5 is a perspective view of one of said screens; Fig. 6 is a vertical section from front to rear of the upper water tank portion of my device, taken on line 6—6 of Fig. 1, looking in the direction indicated by the arrow; Fig. 7 is a vertical section of the water tank from side to side of the same, near its front, and looking toward the rear, being taken upon line 7—7 of Fig. 3; Fig. 8 is a horizontal section through the water tank near its top, taken on line 8—8 of Fig. 2.

In said drawings, 15 indicates a box-like cabinet of any suitable size or form constituting the base portion of my improved dust collector, and adapted to contain certain transverse screens which effect the first separation of particles or dust from the air drawn into said cabinet through an inlet tube 16. It will be understood that dust collectors of the type herein shown are commonly employed to collect polishing dust and similar particles from the benches of jewelers and other workmen upon precious metal, the collection being effected by suction and then the valuable particles and dust separated from the air. A blower 17 is therefore arranged in my invention upon the top of the cabinet 15, and which blower serves by its connection through a pipe 18 with the cabinet 15, to effect a suction through the inlet pipe 16. Above the said blower is a water tank 19, also supported upon the cabinet 15, and into which the blower 17 discharges the purified air finally escaping through an outlet 20.

Having thus briefly described the general character of the invention, I will now take up its parts in detail.

The cabinet 15 has at its front a door 21, and inside the cabinet are screens 22 arranged transversely of the chamber between the inlet opening 23 and outlet opening 24. These screens may be of any ordinary and well-known construction adapted to sift particles of dust or the like out of the entering air, so that they are collected in the bottom of the cabinet or on said screens. The screens are shown in the drawings as slidably and removably mounted in cleats 25 on the inner walls of the cabinet, but obviously they could be supported in any suitable and well-known manner.

The water tank 19 is shown mounted upon the cabinet 15, directly above the same, by means of legs 26 at the corners of the cabinet holding a support 27 upon which said tank stands or sets. The said tank is adapted to have its lower portion filled with water for a distance up from its bottom, as shown in Figs. 6 and 7, and an inlet duct 28 leads from the bottom of the tank, through which it opens as at 29 to receive the blower discharge 30, upward and curving rearward in the top of the chamber bends downward again, as at 31, to discharge into the water contained in the bottom of the chamber. The said duct 28 occupies about half the width of the tank 19 as shown in the drawing, and the upper part of the other half is occupied by a box-like tray 32 adapted to contain excelsior or the like (not shown). The said tray 32 has for its bottom slats 33 which leave whatever material may be contained in said tray open to the current of air issuing from the water beneath, and directly above the said tray 32 is the outlet 20 from the entire dust collector. I have shown this tray or container 32 as formed by a partition 34 extending downward from

the top of the tank 19 closely adjacent to the side of the duct 28; at its lower edge the said partition 34 provides a flange 35 in horizontal alinement with a cleat 36 on an opposite wall of the tank, said flange and cleat forming rests for the slats 33. A cover 37 is also preferably provided for the top of the tank 19, to provide access to its interior.

The blower 17 employed in my improved dust collector comprises a bracket 40 mounted upon the top of the cabinet 15, said bracket affording bearings for a shaft 41 which carries a pulley 42 adapted to receive a driving belt from any suitable source of power. This pulley 42 preferably projects beyond the plane of the side of the dust collector, as shown in Fig. 1, for convenience. In from the said pulley 42 and the inner bearing 43, the bracket 40 or an upward extension thereof supports a circular blower casing having at one point of its periphery a tangential discharge 30. At its inner side said blower casing receives the pipe 18 from the bottom cabinet 15 and at its other side the said casing is closed.

Having thus described the invention, what I claim is:

1. In a dust collector, the combination of a cabinet providing a dust-separating chamber with an outlet at its top, a tank spaced above said cabinet and providing a dust-separating chamber with an inlet at its bottom, means extending upward from said cabinet and holding the tank in said spaced relation, a blower between the cabinet and tank separate from both said parts and from said means holding them in spaced relation, whereby the blower is accessible and removable independent of all said other parts, and means connecting the outlet of the dust-collecting chamber of the cabinet to the inlet of the blower and the outlet of the blower to the inlet of the dust-collecting chamber of the tank.

2. In a dust collector, the combination of a cabinet providing a dust-separating chamber with an outlet at its top, a tank spaced above said cabinet and providing a dust-separating chamber with an inlet at its bottom, corner legs extending upward from said cabinet and holding the tank in said spaced relation, a blower between the cabinet and tank separate from both said parts and from said legs holding them in spaced relation, whereby the blower is accessible and removable independent of all said other parts, and means connecting the outlet of the dust-collecting chamber of the cabinet to the inlet of the blower and the outlet of the blower to the inlet of the dust-collecting chamber of the tank.

3. In a dust collector, the combination of a cabinet providing a dust-separating chamber with an outlet at its top, a tank spaced above said cabinet and providing a dust-separating chamber with an inlet at its bottom, legs extending upward from the top of said cabinet, a support held by said legs at a distance above the cabinet, a tank removably seated on said support and having a dust-collecting chamber with an inlet at its bottom, a blower between the cabinet and tank separate from both said parts and from said legs and support, whereby the blower is accessible and removable independent of all said other parts, and means connecting the outlet of the dust-collecting chamber of the cabinet to the inlet of the blower and the outlet of the blower to the inlet of the dust-collecting chamber of the tank.

FRED MARX.

In the presence of—
RUSSELL M. EVERETT,
FRANCES E. BLODGETT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."