

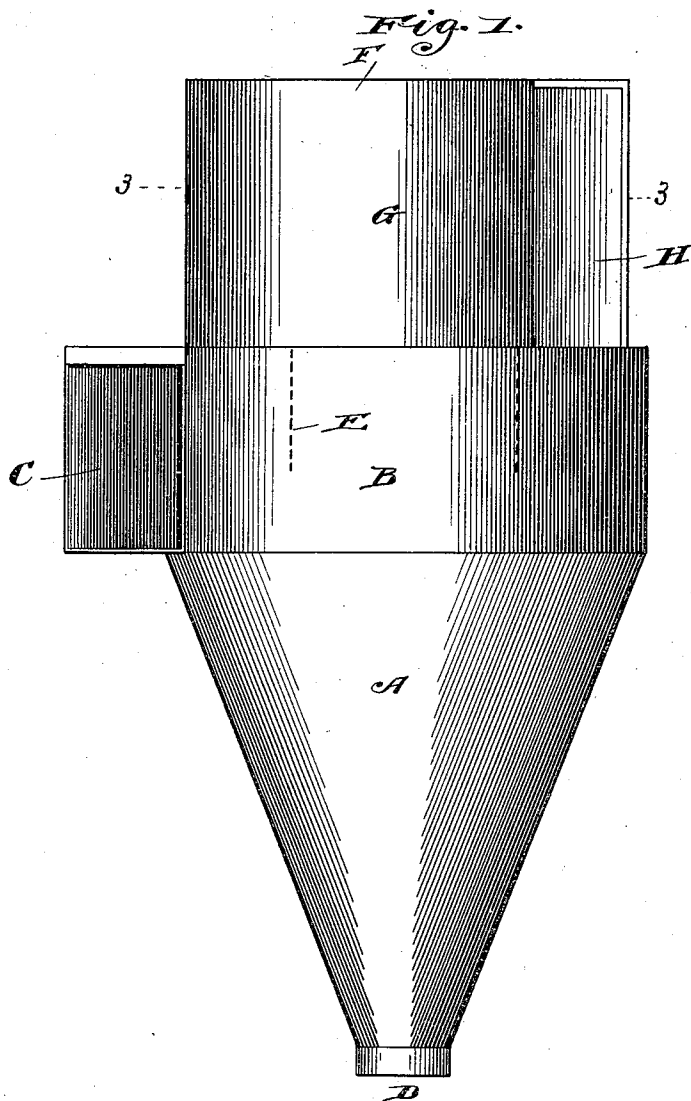
(No Model.)

2 Sheets—Sheet 1.

W. R. MARSHALL.
DUST COLLECTOR.

No. 556,357.

Patented Mar. 17, 1896.



Witnesses,

J. S. Mann,
Frederick Goodrum

Inventor,

William R. Marshall
By *Offield, Towle & Luthicam,*
Attys.

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Fig. 2.

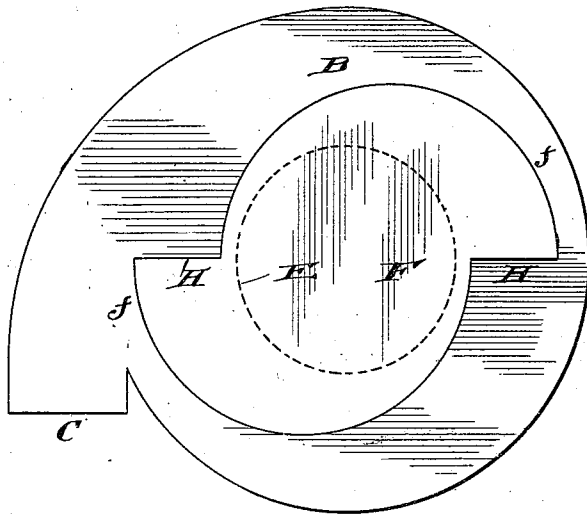
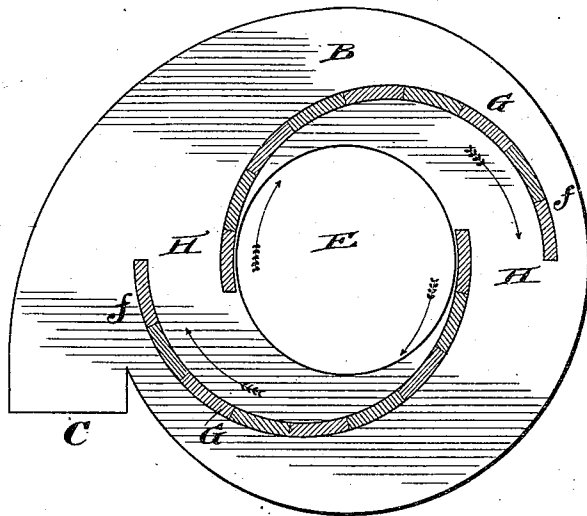


Fig. 3.



Witnesses,

J. J. Mann,
Frederick B. Goodwin

Inventor,

William R. Marshall
By *Offield, Fowler & Luthicam*
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM R. MARSHALL, OF EAST SAGINAW, MICHIGAN, ASSIGNOR TO THE
ALLINGTON & CURTIS MANUFACTURING COMPANY, OF SAME PLACE.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 556,357, dated March 17, 1896.

Application filed June 30, 1894. Serial No. 516,186. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. MARSHALL, of East Saginaw, Michigan, have invented certain new and useful Improvements in Dust-Collectors, of which the following is a specification.

This invention relates to an improvement in dust-collectors of that class wherein the separation of dust, &c., from a moving air-current is effected by centrifugal force acting within a casing which is provided at opposite ends with outlets for the purified air and the separated dust, the walls of the chamber converging toward the dust-outlet, which is usually located at the axis of the casing. These dust-collectors are usually placed in an upright position, so that the axis of the chamber is vertical. The air-outlet is usually much larger than the dust-outlet and is generally quite open. When so constructed, sparks, rain, snow, and sleet may freely enter the collector, and descending into and through the dust-outlet the sparks may ignite the dust in the vault, and the rain mingling with dust closes the passage. The air-outlet being free or unprotected, a strong wind will also to some extent interfere with the free discharge of the air-current which issues from the top opening of the collector in planes angular to its axis.

It is the object of this invention to provide means whereby dust-collectors may be protected from the elements and their efficiency increased.

To this end my invention consists in a hood or cover having a closed top, an opening in its bottom, and one or more side openings for the escape of air, the hood being adapted to be placed upon any of the various kinds of dust-collectors of the general class mentioned with its bottom opening over the air-outlet. Due regard is had in the construction to the relative dimensions of the several openings.

In the accompanying drawings, Figure 1 is a side elevation of a dust-collector of the well-known "Cyclone" type having my im-

provements applied thereto. Fig. 2 is a plan, and Fig. 3 is a sectional plan, of the same on the line 3 3 of Fig. 1.

In the drawings, A represents the conical portion, and B the cylindrical portion of the collector, and C the inlet for the current of air to be purified.

D represents the location of the dust-outlet, and E the purified-air outlet. Over the latter I arrange my hood, in which F represents the closed top, G the side or vertical walls, and H the air-escape openings.

By reference to Fig. 2 it will be seen that the top is of peculiar form, the central portion thereof falling within a circle having its center at the axis of the bottom opening which, when the hood is in place, will coincide with the axis of the air-outlet in head of the machine, while the circular portion is enlarged or extended to provide the eccentric wings *f f*. The side walls G are preferably constructed in two sections, which are arranged eccentrically to the opening of the collector, their ends overlapping, as seen in Fig. 3. By this means the collector is protected from the entrance of sparks, snow, rain, sleet, and the danger of explosions and conflagration and interference with the proper action of the collector is avoided.

The lateral openings H are arranged tangentially to the axis of the collector, and the purified-air current instead of issuing from the opening parallel to the side walls of the cylindrical portion of the collector is deflected and escapes through these openings. The arrows indicate the direction of the escaping air-current. Said current issues from the collector near the periphery of the opening and usually with a whirling motion. This whirling carries the air-current into the flaring passages of the hood and out through the openings H. These openings face in opposite directions, so that one of them is always protected from the wind. These openings are preferably equal to or greater in combined area than the air-outlet at the top of the machine.

The precise construction of the hood is not essential, although that described is preferred.

I claim—

- 5 A protecting-hood for dust-collectors constructed with a closed top, opposite eccentric side walls secured to said top and forming oppositely-directed outlets for the puri-

fied air and an opening in the bottom of said hood for communication with the purified-air outlet of the dust-collector, substantially as described.

WILLIAM R. MARSHALL.

Witnesses:

FREDERICK C. GOODWIN,
N. M. BOND.