

(No Model.)

O. M. MORSE.
DUST COLLECTOR.

No. 468,935.

Patented Feb. 16, 1892.

Fig. 1.

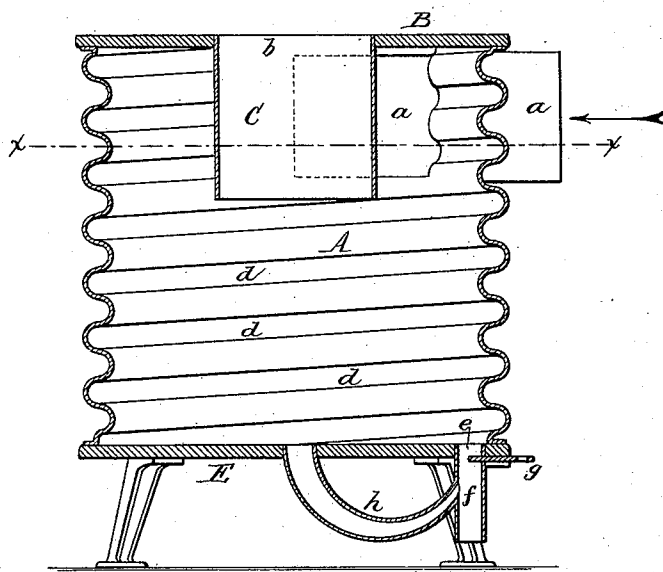


Fig. 3.

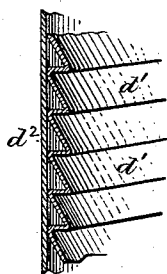


Fig. 2.

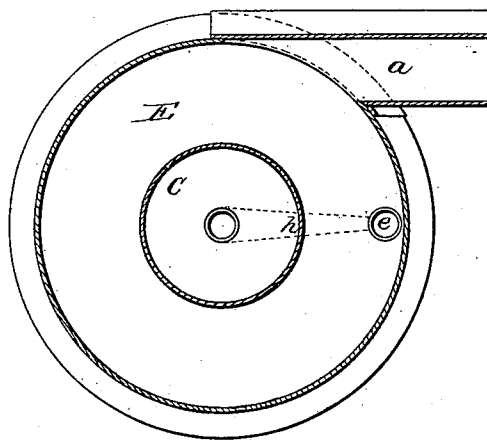


Fig. 4.



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UNITED STATES PATENT OFFICE.

ORVILLE M. MORSE, OF JACKSON, MICHIGAN, ASSIGNOR TO THE KNICKER-
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DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 468,935, dated February 16, 1892.

Application filed June 9, 1886. Serial No. 204,686. (No model.)

To all whom it may concern:

Be it known that I, ORVILLE M. MORSE, of Jackson, in the county of Jackson and State of Michigan, have invented new and useful
5 Improvements in Dust-Collectors, of which the following is a specification.

This invention relates to that class of dust-collectors in which a separating-chamber is employed, which causes the dust-laden air to
10 assume a whirling or gyrating motion, whereby the dust particles are thrown to the periphery of the whirling body of air.

The object of the present invention is to construct a simple machine which, while being
15 applicable to various uses, is especially adapted to separate large dust—such, for instance, as sawdust, shavings, &c.—from the air.

My invention consists to that end of the
20 improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved dust-collector. Fig. 2 is a horizontal section in
25 line *x x*, Fig. 1. Figs. 3 and 4 are fragmentary vertical sections showing modified constructions of the separating-case.

Like letters of reference refer to like parts in the several figures.

30 A represents the separating case or chamber, provided at its upper end with a tangential spout *a*, through which the dust-laden air enters the case.

B represents the head or cover which closes
35 the upper end of the case and which is provided with a central opening *b*, through which the purified air escapes from the machine.

C is a tubular guard secured to the head B, in the opening *b* thereof, and depending in
40 the chamber A, preferably below the lower edge of the spout *a*. The separating-case A is provided with spiral deflectors *d*, inclined from the upper or inlet end to the lower or discharge end of the case. These deflectors
45 may be formed by corrugating the case spirally, as represented in Fig. 1, or by securing downwardly-inclined or tapering spiral deflectors *d'* to the inner side of a cylindrical shell *d''*, as represented in Fig. 3, or by secur-

ing spiral flanges *d'''* to the inner side of the 50 shell *d''*, as represented in Fig. 4.

E represents the bottom or head, which closes the lower end of the separating-case A and which is provided near its periphery with
55 an opening *e*, through which the dust is discharged from the case into a spout *f*. The latter may be provided with a suitable slide *g*.

h represents an air-pipe extending from the spout *f* to the center of the bottom E, where
60 it communicates with the chamber A, so that an excessive volume of air discharged through the opening *e* can return to the chamber A by the pipe *h*. The dust-laden air enters the chamber A and assumes in the same a whirling
65 or gyrating motion, which causes the dust particles to seek the periphery of the whirling body of air and crowds them against the peripheral wall of the chamber A. The spiral deflectors arranged on the inner side
70 of this wall cause the dust particles to move downwardly to the bottom E, from which they are discharged through the opening *e*. The purified air escapes upwardly through the tubular guard C.

I claim as my invention—

75 1. In a dust-collector, a circular separating-chamber provided with spiral deflectors, a peripheral dust-discharge at one end, an air-inlet spout connected tangentially with the opposite end, and a central discharge for the
80 purified air, substantially as set forth.

2. In a dust-collector, a circular separating-chamber A, provided with an air-inlet spout, a dust-discharge, and spiral deflectors arranged between the air-inlet spout, located at
85 one end of the separating-chamber, and the dust-discharge, located at its opposite end, substantially as set forth.

3. In a dust-collector, a circular separating-chamber provided with spiral corrugations, 90 substantially as set forth.

Witness my hand this 5th day of June, 1886.

O. M. MORSE.

Witnesses:

C. H. BENNETT,
C. H. HIGDON.