

(No Model.)

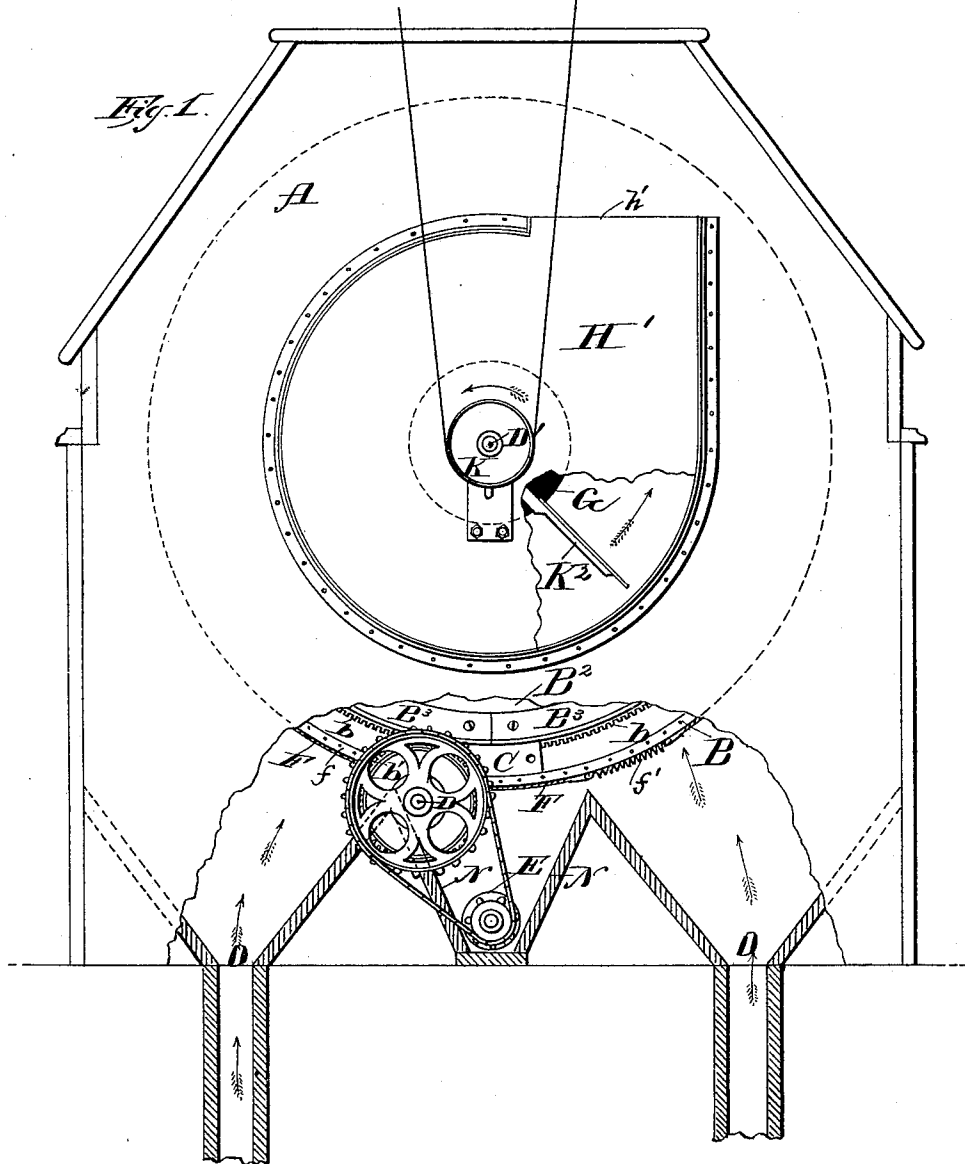
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R. WHITEHILL.

DUST COLLECTOR.

No. 360,130.

Patented Mar. 29, 1887.



Witnesses:

E. G. Somers
Maurice J. Frear.

Inventor:

Robert Whitehill

By J. Stout & Woodward
Attorneys.

(No Model.)

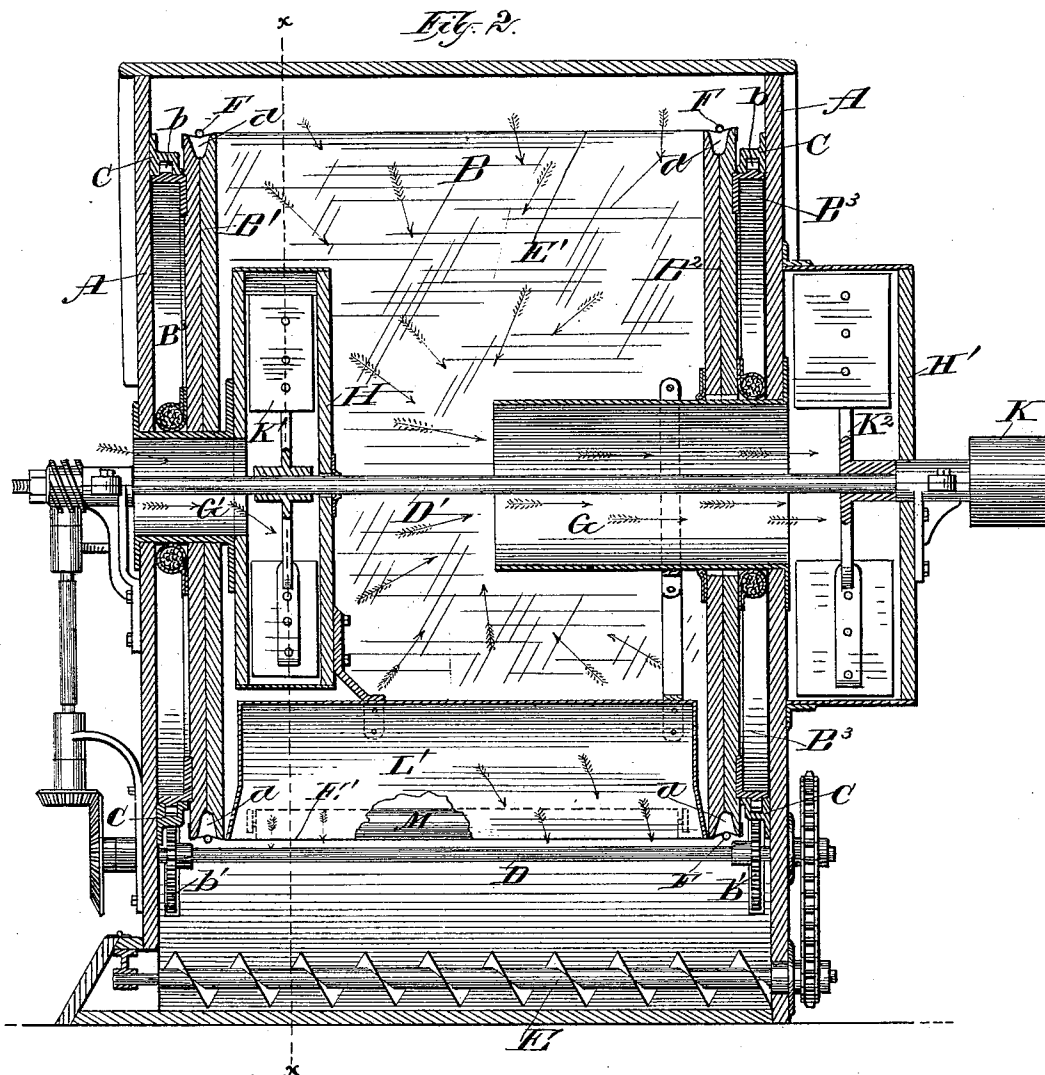
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R. WHITEHILL.

DUST COLLECTOR.

No. 360,130.

Patented Mar. 29, 1887.



Witnesses:

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Maurice J. Fear,

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(No Model.)

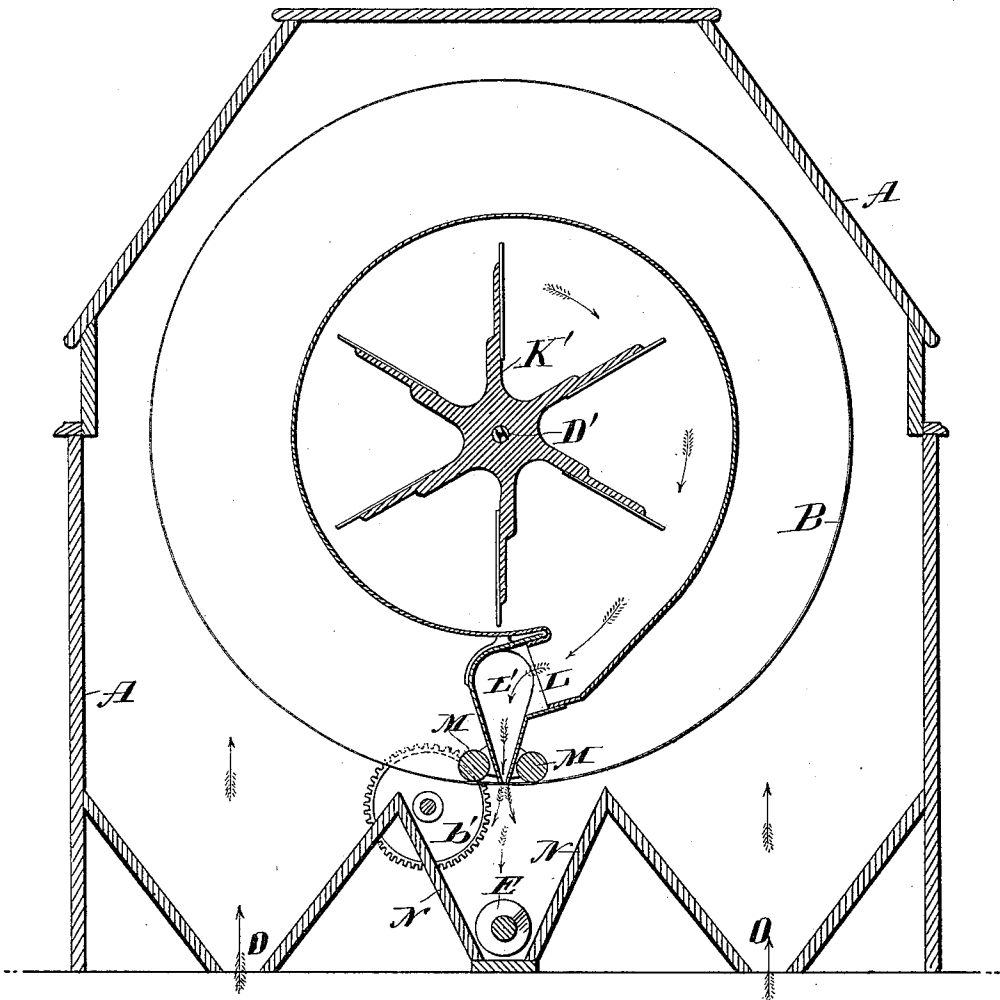
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Fig. 3



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

ROBERT WHITEHILL, OF MILWAUKEE, WISCONSIN.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 360,130, dated March 29, 1887.

Application filed January 21, 1886. Serial No. 189,267. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WHITEHILL, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Dust-Collectors; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to dust-collectors, and will be fully described hereinafter.

In the drawings, Figure 1 is an end view, partly in section, of a dust-collector embodying my invention. Fig. 2 is a central vertical section taken on a line parallel with the axis of the balloon; and Fig. 3 is a cross section taken on line *x x*, Fig. 2.

A is the casing, and B the balloon, which latter has heads B' and B², and on each of these heads is secured an annulus, B³, that has on its periphery a toothed rib, *b*, which enters, when the balloon is in place, into the channel of an adjacent segmental bracket, C, on the end of the casing, and these brackets form the bearings for the balloon as it revolves. A pinion, *b'*, projects up and engages with the teeth of each of the annuli above it. Pinions *b'* are keyed to a shaft, D, one end of which is belted to a screw-conveyer, E, while the other end is geared to the fan-shaft D' in any suitable manner, and these pinions engage each with the teeth of that annulus B³ that is adjacent to it. The cloth E' of the balloon is secured to the heads B' and B² by tacking, or any other means, at *f*, and then bands F are placed about the cloth and connected at their ends by springs *f'*, so as to draw the cloth down into grooves *d* in the edges of the heads, and thus take up the slack of the cloth as it stretches. The casing is provided with circular openings in each end—one to receive a tube, G, that extends through into a like opening in the balloon to its center, and the other to take a tube, G', that extends to a fan-casing, H, that is supported by it inside of the balloon. A fan-casing, H', incloses the outer opening of tube G. Shaft D' extends through the balloon and its casing, and, besides a driving-pulley, K, carries two fans, K' and K². Both of the fan-casings are open to the outer air, the one through tube G' and the other through the opening *h'*, as shown.

The casing of fan K' receives its air through tube G', and has an outlet through a tube, L, to nozzle L', that is suspended in the balloon and extends from one of its ends to the other.

The wind from fan K', after it is drawn through tube G', is forced down into nozzle L', the exit-opening of which is very narrow and almost touches the lowermost portion of the balloon, which at this point is flattened by a pair of rolls, M, which it must pass under as the balloon revolves, and thus the wind from fan K' will be constantly forced through the cloth of the balloon at its lowest point, so as to drive the dust from the cloth as it passes under the nozzle, and this dust will be precipitated upon the conveyer between slanting walls N, said nozzle discharging between the rollers, as shown by Fig. 3.

The openings O from the purifier are guarded by boards placed at obtuse angles to each other to prevent the accumulation of dust about them in the balloon-casing and to direct the dust up into the casing and against the balloon. I carry tube G to the center of the balloon, so as to get an even draft through all parts of it.

By my construction I am enabled to do away with the great amount of cloth heretofore deemed necessary and do the work just as well, as the direct draft from nozzle L' will effectually dislodge the dust from the cloth as fast as it comes into range.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dust-collector, the combination of a main casing, a traveling collecting medium, a pair of fans, one of which is suspended inside the collecting medium and the other outside the main casing, means for conducting the air from the inner fan and discharging it against the inner surface of said medium, and a draft-tube that leads from the interior of the medium to the outer fan, as set forth.

2. The combination, with the casing A, the balloon B, with its heads B' B², and cloth E', of the rollers M M, for flattening the cloth, the fan K', having nozzle L', discharging against the inner surface of the cloth between said rolls, and the tube G and fan K², drawing air from within the balloon and discharging it out of the machine, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

Witnesses: ROBERT WHITEHILL.

FRED SCHEIBER,
MAURICE F. FREAR.