(No Model.)

G. BIGLER.

DUST COLLECTOR.

No. 350,286. Patented Oct. 5, 1886.

Fig. 1.

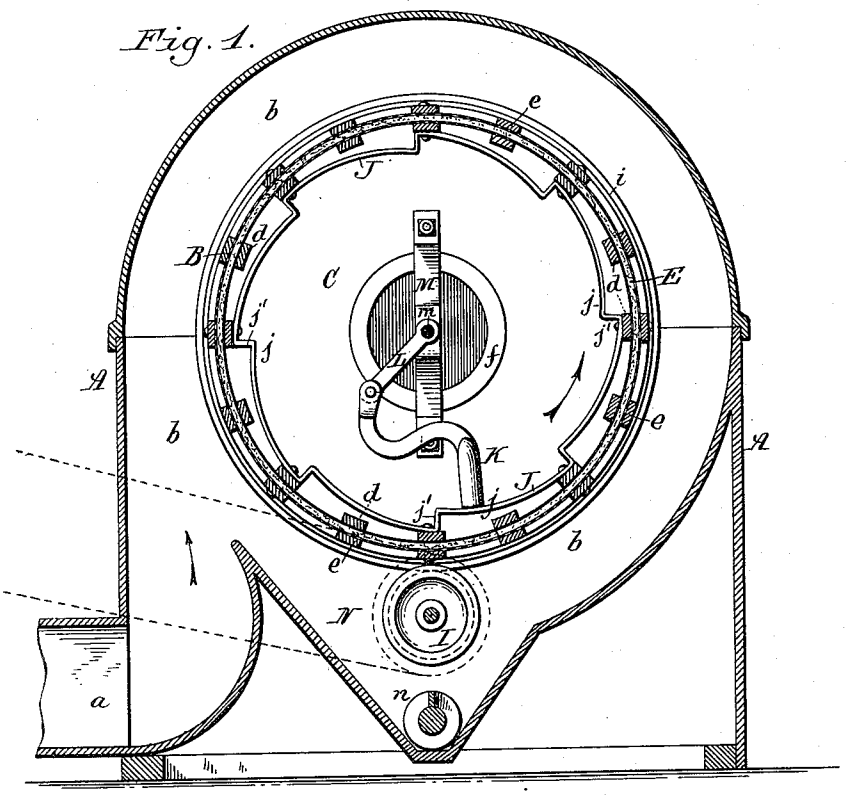


Fig. 2.

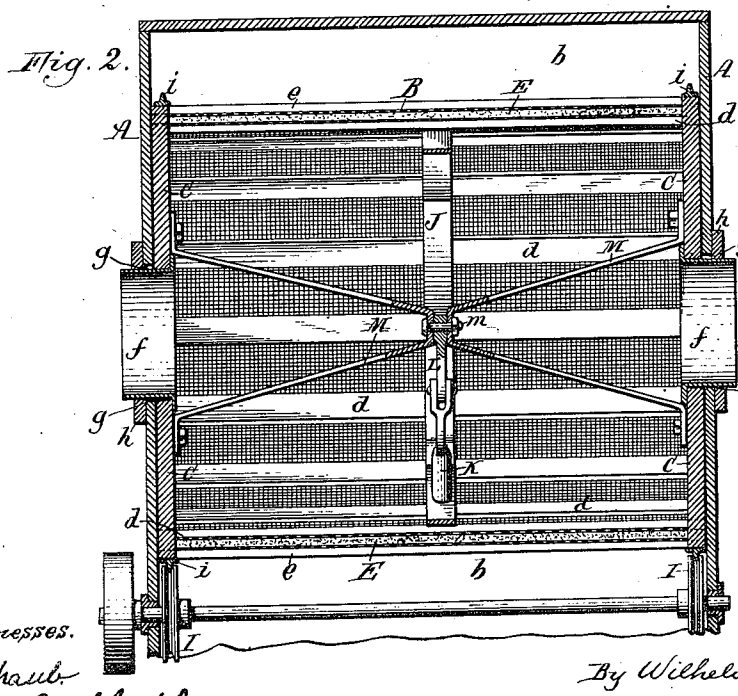
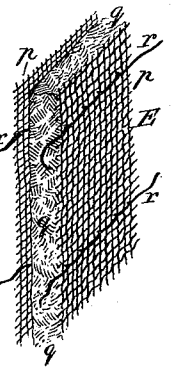


Fig. 3.



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UNITED STATES PATENT OFFICE.

GOTTLIEB BIGLER, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO MARY M. McSHERRY, OF SAME PLACE.

DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 350,286, dated October 5, 1886.

Application filed May 22, 1886. Serial No. 202,955. (No model.)

To all whom it may concern:

Be it known that I, GOTTLIEB BIGLER, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Dust-Collectors, of which the following is a specification.

This invention relates to that class of dust-collectors which consists of a revolving drum covered with a filtering material, by which the dust-laden air is strained or filtered, the dust being intercepted and deposited upon the covering of the drum, while the air, freed from dust, passes through the filtering material and escapes in a purified condition from the machine.

The object of my invention is to produce a simple and efficient machine of this character which can be produced at comparatively small cost.

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

In the accompanying drawings, Figure 1 is a vertical cross-section of my improved dust-collector. Fig. 2 is a vertical central section at right angles to Fig. 1. Fig. 3 is a perspective view of a portion of the filtering material with which the rotating drum is covered.

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

A represents the casing of the machine, and *a* the spout through which the dust-laden air enters the casing A.

B represents the revolving drum arranged within the casing A, and made somewhat smaller in diameter than the casing, so as to leave a space, *b*, all around the drum, through which the dust-laden air passes. The drum B consists of two end heads or disks, C C, longitudinal ribs or strips *d*, secured to the heads C C, a filtering-cover, E, applied to the outer sides of the strips *d*, and outer strips, *e*, applied to the outer side of the covering E and secured to the heads C C, whereby the covering is securely attached to the drum.

f f represent two collars or short tubes secured in central openings formed in the end heads, C, of the drum and projecting outwardly through openings *g* in the ends of the casing A. The latter is provided with packing-rings *n*, bearing against the outer sides of the rings *f*, to prevent leakage of air around the latter.

i represents ribbed rings secured to the faces or peripheries of the end heads, C C, and running on grooved wheels I, whereby the drum is rotated.

J is a ratchet-ring secured to the inner sides of the inner strips, *d*, centrally between the end heads, C, and composed of a bar, which is bent to form a series of cams, each composed of a curved or inclined front portion, *j*, which gradually approaches the axis of the drum, and a radial abrupt rear portion, *j'*, which recedes from the axis of the drum, as clearly represented in Fig. 1.

K represents a pivoted knocker, which rests upon the lower portion of the ratchet-ring J within the drum, and which is alternately raised by the inclined portions *j* of the cams and permitted to drop by the radial portions *j'* of the same, thereby jarring the drum and dislodging the dust, &c., which adheres to the outer side of the covering E. The knocker K is pivoted to an arm, L, which is attached at its upper end to two brackets, M, secured in the drum. The brackets M are secured with their outer ends to the heads C, and are connected at their inner ends by a bolt, *m*, arranged in the axis of the drum, and to which the arm L is loosely hung, so that the arm L takes no part in the rotation of the drum, except to the extent to which it is moved by the knocker K. The latter is elevated by the ratchet-ring J, which rotates with the drum in the direction of the arrow in Fig. 1, until the angle of the cam which supports the knocker becomes so steep that the knocker slides back by gravity. During this backward movement the knocker passes beyond the abrupt rear end of the cam and drops upon the cam next below, thereby jarring the drum. It is obvious that one of the brackets M may be omitted, if desired. The material which is dislodged from the drum drops into a trough, N, formed in the lower portion of the casing A, and is removed therefrom by a conveyer, *n*, or other suitable discharge device.

The covering E of the drum is composed of two layers, *p p*, of coarse gauze, and an intermediate layer, *q*, of unwoven cotton or cotton

batting, which is secured between the layers of gauze by lines of stitching or seams *r*, whereby the cotton is prevented from changing its position between the layers of gauze under the jarring of the drum. This covering is very strong and pliable, and easily stretched over the strips *d* of the drum, so as to form a tight or smooth covering, from which the dust is easily dislodged by the jarring caused by the knocker. The unwoven cotton forms a permeable diaphragm, which permits of the passage of the air, but intercepts the dust.

The covering constructed as above described forms a cheap and efficient air-filtering material. The dust-laden air enters the case A through the spout *a* and deposits the dust upon the outer side of the drum B. The purified air passes through the covering E into the interior of the drum and escapes through the collars *f* at both ends thereof.

I claim as my invention—

1. In a dust-collector, the combination, with the inclosing-casing A, provided with an inlet-spout, *a*, for the dust-laden air, of a revolving drum composed of two heads, C C, provided with central air-escape pipes, *f*, longitudinal ribs *d*, secured to the heads C, a covering, E, applied to the outer sides of the ribs *d*, and strips *e*, applied to the outer side of the covering and secured to the heads C, substantially as set forth.

2. In a dust-collector, the combination, with the inclosing-case A, provided with an inlet-spout, *a*, for the dust-laden air, of a separating-drum composed of heads C C, provided with central air-discharges *f*, longitudinal ribs *d*, secured to said heads, and a covering, E, composed of two layers, *p*, of gauze, and an intermediate layer, *q*, of unwoven cotton, secured together by seams *r*, substantially as set forth.

Witness my hand this 19th day of May, 1886.

GOTTLIEB BIGLER.

Witnesses:
EDWARD WILHELM,
OSCAR SCHAUB.