

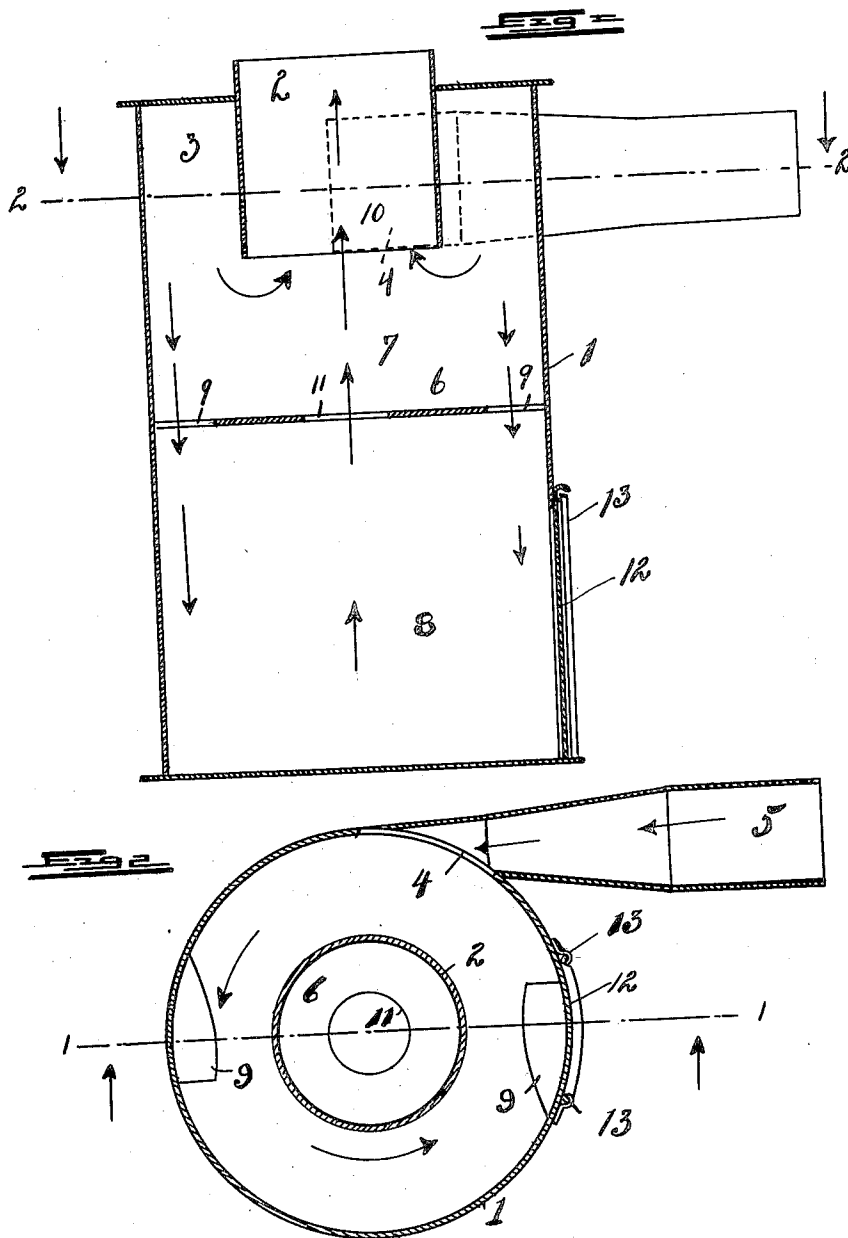
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E. VENDERBUSH & W. J. LOOMAN.
DUST COLLECTOR AND SEPARATOR.

APPLICATION FILED JULY 22, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

ENGELBERT VENDERBUSH AND WILLIAM J. LOOMAN, OF DETROIT,
MICHIGAN.

DUST COLLECTOR AND SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 769,808, dated September 13, 1904.

Application filed July 22, 1903. Serial No. 166,641. (No model.)

To all whom it may concern:

Be it known that we, ENGELBERT VENDERBUSH and WILLIAM J. LOOMAN, citizens of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Dust Collectors and Separators; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a dust collector and separator especially designed for the purpose of receiving, collecting, and separating from the air-blast the lint and dirt from the buffing-wheels.

The invention consists in the construction and arrangement of parts hereinafter fully set forth, and pointed-out particularly in the claim.

The object of the invention is to provide a simple and efficient device in which the arrangement is such as to enable the collecting of the lint and dirt from buffing-wheels in a manner to prevent the escape of said particles and afford a free escape for the air, to avoid creating a back pressure upon the fan, and to prevent the scattering of the lint by the exhausted air.

The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section through a cylindrical case embodying our invention. Fig. 2 is a horizontal section as on line 2 2 of Fig. 1.

Referring to the characters of reference, 1 designates the metallic case or receptacle which is cylindrical in form and of the requisite size and capacity. Located centrally within the top of the receptacle is a collar 2, whose lower end depends within the receptacle and whose upper end projects through the top thereof. This collar is annular in shape, and by reason of its central position within the top of the receptacle an annular way 3 is

formed between the inner wall of the receptacle and the outer wall of said collar. Communicating with said annular way or space 3 through an opening 4, formed in the side of the receptacle, is the air-exhaust pipe 5, which leads from the buffing-wheels, as will be well understood. The entrance of said air-pipe into the receptacle is on a line tangent to the circle described by the wall thereof, so that the air-blast is given a whirling motion as it enters the annular way 3, causing the particles which enter the receptacle with the blast to impinge against the inner wall of the receptacle by reason of the centrifugal force exerted, due to said whirling motion, and follow the curve of said wall as said particles are driven around by the force of the air.

Crossing the receptacle 1 transversely is a diaphragm or partition 6, which divides said receptacle into an upper chamber 7 and a lower settling-chamber 8. Formed through opposite margins of said partition contiguous to the outer wall of the receptacle are the openings 9, through which the whirling particles of lint and dirt are adapted to fall as they drop downwardly in the chamber 7 during their whirling motion after passing below the lower end of the collar 2.

The air which is driven into the annular way 3 finds escape after passing around said way through the central opening 10 of said collar, whereby back pressure in the chamber is obviated, as said opening is sufficiently large to allow of the free escape of all of the air driven into said chamber. The passage of the air through said collar, however, does not carry the lint and dirt therewith owing to the fact that because of the greater specific gravity of said particles they are driven outwardly against the inner wall of the receptacle and follow the circle of said wall until they gradually fall to the floor of said chamber or partition 6 and pass through the openings 9 thereof into the dust-collecting chamber 8.

To provide for the escape from said chamber 8 of any air which may be driven into it through the openings 9, a central opening 11 is formed through the diaphragm or partition

6, which allows of the upward passage from the lower chamber of any air which may be forced into it, as before stated. To provide for cleaning out the dust-collecting chamber 5 8 as often as conditions require, a suitable door 12 is formed in the wall of said chamber, which may be raised to afford access thereto. This door is made to slide vertically in the guides 13, but may be made to open in any 10 desired manner.

Having thus fully set forth our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 In a dust collector and separator, the combination of a cylindrical receptacle, a centrally-disposed partition dividing said receptacle horizontally into upper and lower chambers of approximately equal area, a tubular cylindrical collar depending centrally within 20 the upper portion of said receptacle, there being an annular way between the wall of said receptacle and said collar above and remote

from said partition, the lower end of said collar being open and terminating above the horizontal partition, the upper end of said 2 collar being also open and communicating with the atmosphere through the top of the receptacle, an air-induct pipe communicating with said way in a manner to give the air and dust a whirling motion therein, a dust-receiving 3 chamber below said partition having a closed bottom, there being through said partition a central air-opening of less area than and in vertical alinement with said collar and there being through said partition marginal open- ings for the passage of dust and lint.

In testimony whereof we sign this specification in the presence of two witnesses.

ENGELBERT VENDERBUSH.
WILLIAM J. LOOMAN.

Witnesses:

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