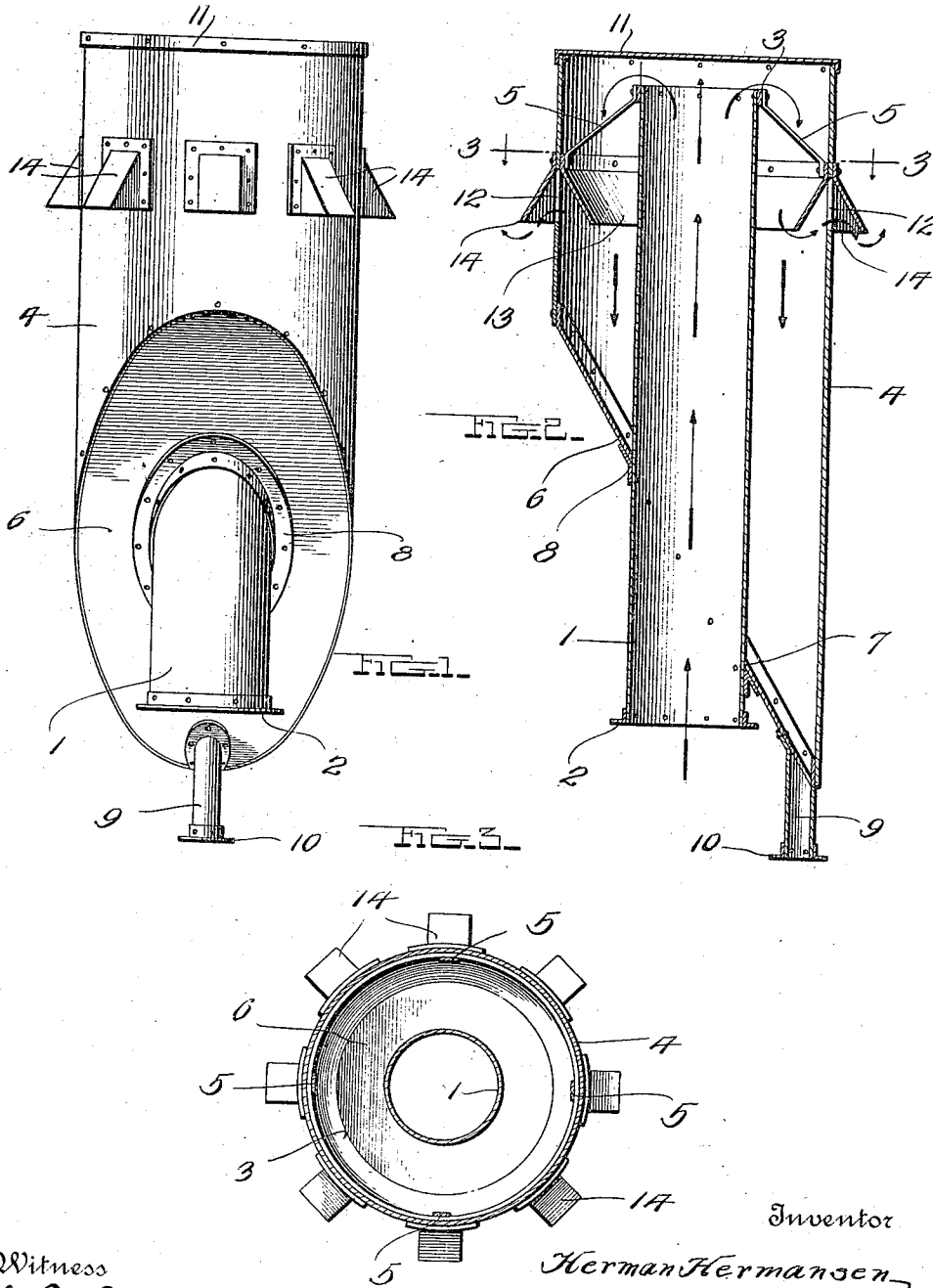


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DUST COLLECTOR.
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1,188,768.

Patented June 27, 1916.



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HERMAN HERMANSEN, OF BAYBRIDGE, OHIO.

DUST-COLLECTOR.

1,188,768.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMAN HERMANSEN, a citizen of the United States, residing at Baybridge, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Dust-Collectors; and I 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.

My invention relates to improvements in dust collecting devices for use in connection with numerous types of flues through which dust laden air or gases travel, the object being to provide a simply constructed yet efficient arrangement of parts which will combine the forces of momentum and gravity in separating particles of dust and the like from the draft in which they are carried.

With this general object in view, the invention resides in certain novel features of construction and in unique combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawing which constitutes a part of this application and in which:

Figure 1 is a side elevation of the improved dust collector; Fig. 2 is a vertical section thereof; and, Fig. 3 is a horizontal section as viewed on the plane of the line 3—3 of Fig. 3.

In specifically describing the structure shown in the drawings above briefly described, similar characters will be placed on corresponding parts throughout the several views and reference will be herein made to the numerous elements by their respective indices. To this end, the numeral 1 designates an upright flue section which in most cases is adapted to be secured to the upper end of a stack or flue, but if found desirable, it may well be an integral part of the stack. In the embodiment of the invention illustrated, the lower end of the flue section 1 is provided with an angle metal band 2 by means of which it may be secured to a stack, while the upper end of said section is bound by a metal strap 3.

A cylindrical casing 4 surrounds the section 1 and is supported thereon by inclined bars 5 secured at their upper ends to the strap 3 by riveting or the like, the lower ends of said bars being similarly fastened

to the casing 4. The lower end of the casing 4 terminates in a steeply inclined plane and is closed by a bottom 6 having there-through an opening 7 through which the flue section 1 passes, an angle metal collar 8 preferably surrounding said section at this point, the collar being riveted, bolted or otherwise secured to the bottom 6. At its extreme lower end, that is at the lower extremity of the bottom 6, the casing 4 is provided with a dust outlet which is preferably in the form of a nipple 9 having thereon an angle metal collar 10 for securing it to a pipe which may be used to convey the collected dust and the like from the casing 4 to any desirable point.

Formed through the circular wall of the casing 4 and spaced a considerable distance below the top 11 of said casing is a plurality of circumferentially spaced air or gas outlets 12, these outlets being also disposed below the discharge end of the flue section 1 which end is preferably in close proximity to the aforesaid top 11. An annular baffle plate 13 is secured at its upper edge by riveting or otherwise to the wall of the casing 4 above the outlets 12, said plate inclining downwardly and inwardly throughout its circumference and extending to or below the plane in which the lower edges of said outlets 12 are disposed. The baffle plate 13 thus prevents the direct passage of air or gases from the flue section 1 through the outlets 12, causing the same to pass downwardly on the inner side of said plate 13 and then laterally beneath the latter to said outlets 12. In traveling downwardly in this manner, the particles of dust and the like will gain considerable momentum and the latter will act simultaneously with gravity to prevent such particles from turning laterally with the air or gas current. The result is that the particles in question will continue on a downward path and will thus be separated from the draft in which they have been carried to the upper end of the flue or stack. These particles will fall upon the inclined bottom 6 and will leave the casing 4 through the outlet 9 thereof.

Preferably used in addition to the parts above described, is a plurality of hoods or cowls 14 disposed over the numerous air or gas outlets 12 to prevent the entrance of rain, snow and the like. These cowls and the other parts of the invention described,

however, will not noticeably retard the draft of the flue or stack to which the device is applied in view of the fact that the casing 4 in cross section is several times the area 5 of the stack or flue.

From the foregoing, taken in connection with the accompanying drawing, the construction, manner of operation and numerous advantages of the invention, will be 10 readily understood without requiring a more extended explanation, but in conclusion, I will state that although certain specific details have been shown and described for accomplishing probably the best results, 15 numerous changes may be made within the scope of the invention as claimed, without sacrificing any of the main features thereof.

I claim:

A dust collector comprising a flue through 20 which an upward draft of dust-laden air or gas is adapted to travel, a cylindrical casing surrounding the upper end of said flue and having a closed top and bottom, the latter being steeply inclined and having at 25 its lower end a dust outlet, metal straps secured to the upper end of the flue at one end and to the wall of said casing at their

other ends, said wall having a plurality of circumferentially spaced air or gas outlets disposed below the upper end of the flue, 30 hoods on the exterior of the casing and extending over said air or gas outlets, and an annular baffle plate in said casing secured at its upper edge to the wall of the latter above said air or gas outlets, said baffle plate 35 inclining downwardly and inwardly and terminating in or below the plane of the lower edges of said outlets, said baffle plate serving to cause the air or gas to travel downwardly and then laterally, such downward travel serving to impart momentum to the particles of dust and the like in said 40 air or gas, this momentum acting simultaneously with gravity to separate the aforesaid particles from the draft in which they have 45 been carried.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HERMAN HERMANSEN.

Witnesses:

C. WEBB SADLER,
MARIE McLAUGHLIN.