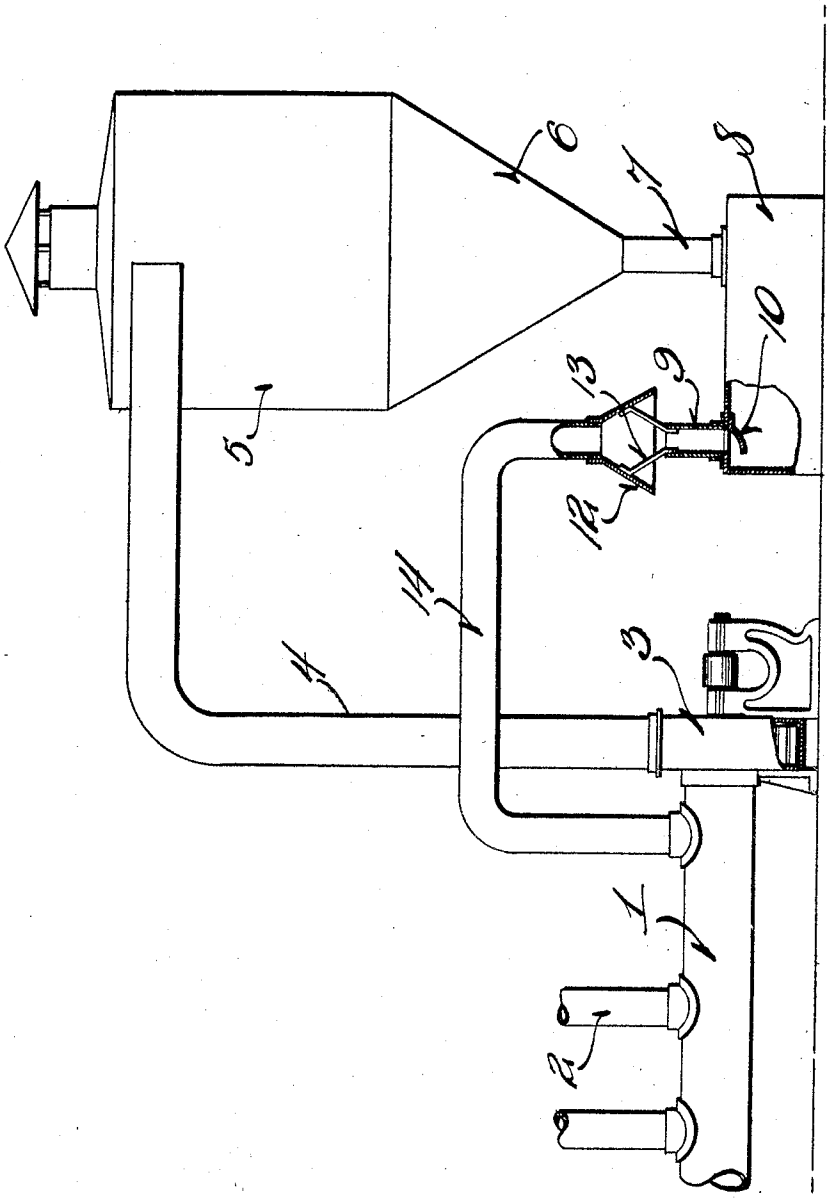
July 1, 1930. G. KOHLMEIER 1,769,182

DUST COLLECTOR

Filed Feb. 23, 1926



Inventor!
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By Attorneys!

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UNITED STATES PATENT OFFICE

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DUST COLLECTOR

Application filed February 23, 1926. Serial No. 90,099.

This invention relates to dust collectors.

In dust collectors as constructed according to the usual practice, it has been customary to provide a suction manifold into which the suction pipes opened. This manifold is connected to a centrifugal separator which in turn is connected through its lower end to a collecting chamber. It has been the practice heretofore to provide a tall stack which opens into the collecting chamber and extends upwardly a great distance therefrom. It is frequently the case that clogging of the apparatus results, and when this occurs, it has been found that spontaneous combustion very often occurs in the apparatus with a consequent flaring back through the suction manifold and the suction pipes with consequent damage to the operators of the machines connected to these suction pipes.

In addition to these defects, the usual practice calls for the elongated vent stack from the collection chamber which is relatively expensive and cumbersome.

This invention is designed to overcome the defects noted above, and objects of such invention are to provide a dust collector which is so constructed that the vent pipe may be made very short and is connected to the suction manifold, thus avoiding the necessity of a tall expensive and cumbersome stack, and also insuring a freer circulation through the apparatus with an increased freedom from clogging.

An embodiment of the invention is shown in the accompanying drawing, in which:

The single figure illustrates diagrammatically, and partly in section, the essential portions of the system.

Referring to the drawing, it will be seen that a suction manifold 1 is connected to a plurality of suction pipes 2 which lead to the machines in the usual manner. This suction manifold is connected to the intake or suction end of a fan 3. The delivery end of the fan is connected by means of a delivery pipe 4 to the centrifugal separator 5. This centrifugal separator is of the usual construction and is provided with a gradually contracting lower portion 6. This lower portion is connected by means of the discharge pipe 7 with the collection chamber 8. It has been the usual practice to provide an elongated stack for this collection chamber. However, this invention avoids this construction and instead, a vent pipe 9 is provided for the collection chamber and preferably a shield 10 is positioned below the vent pipe. This vent pipe is surmounted by a funnel-shaped member 12 which is held in spaced relation thereto by means of the arms 13 or in any other suitable manner. This funnel-shaped member is connected by means of the pipe 14 with the suction manifold 1.

In operation it has been found that the funnel-shaped member collects any dust or floating particles that may pass through the short vent pipe 9 and returns them to the suction manifold. Further, it has been found that the funnel-shaped member insures adequate circulation through the vent pipe.

In actual operation it has been found further that a great freedom from explosion, as discussed above, has been secured by this invention, and that clogging is very much less likely to occur.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. In a device of the class described, the combination of a manifold, a fan having its suction end connected to said manifold, a dust separator connected with the delivery end of said fan and having a discharge chute, a collector connected to said chute and having a vent pipe, and a suction pipe leading from adjacent said vent pipe to said manifold, said suction pipe having a funnel like terminal positioned over said vent pipe and spaced therefrom to permit entrance of air.

2. In a device of the class described, the combination of a suction manifold provided with a plurality of suction pipes, a fan having its suction end connected to said manifold, a centrifugal separator connected with the delivery end of said fan, a collecting chamber communicating with the lower por-

tions of said centrifugal separator, a relatively short vent pipe extending upwardly from said collecting chamber, a funnel-shaped member positioned above and spaced from the top of said vent pipe, and a pipe connecting said funnel-shaped member with the suction manifold.

3. In a device of the class described, the combination of a suction manifold adapted to be connected to a dust source, a fan having its inlet connected to said manifold, an elevated centrifugal separator having a tangential inlet connected to the outlet of the fan, a collection chamber located below said centrifugal separator, a pipe leading from the bottom of said separator into said collection chamber, a short vent pipe extending from said collection chamber, a hood located above said vent pipe and having a wide entrance opening around said vent pipe for the free entrance of air, and a pipe connecting said hood with said suction manifold.

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

GUSTAV KOHLMEIER.