

(No Model.)

H. BITTINGER.  
DUST COLLECTOR.

No. 446,053.

Patented Feb. 10, 1891.

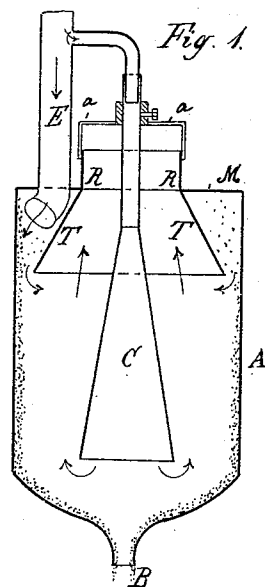


Fig. 2.

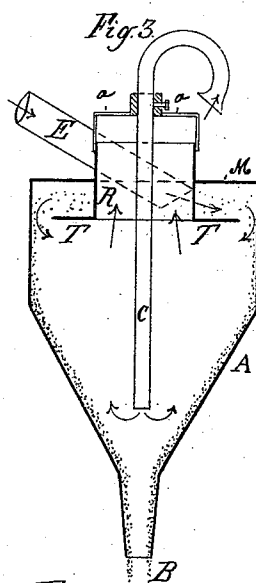
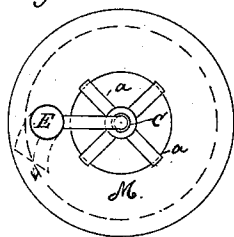


Fig. 4.

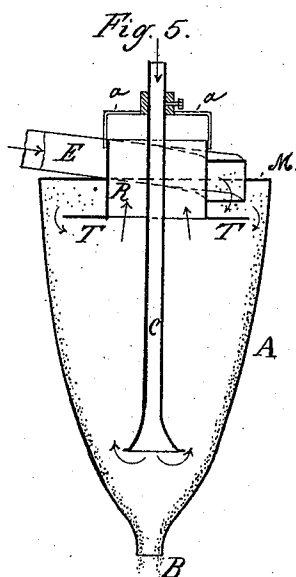
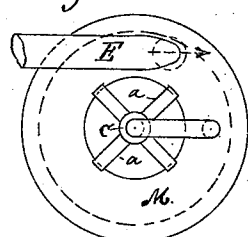
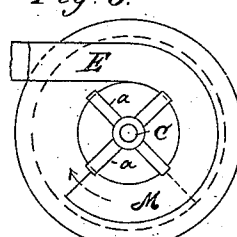


Fig. 6.



Witnesses  
Wm. Wagner  
A. Longmans.

Inventor.  
H. Bittinger  
by his attorneys  
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# UNITED STATES PATENT OFFICE.

HANS BITTINGER, OF BRUNSWICK, GERMANY.

## DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 446,053, dated February 10, 1891.

Application filed October 27, 1890. Serial No. 369,459. (No model.)

*To all whom it may concern:*

Be it known that I, HANS BITTINGER, a subject of the King of Bavaria, residing at Brunswick, Germany, have invented new and useful Improvements in Dust-Collectors, of which

the following is a specification.  
This invention relates to an apparatus for taking the dust and impurities out of the air by centrifugal force.

The object of the invention is to so construct the apparatus that a uniform motion takes place within the same and no agitation caused by the meeting of different currents.

The invention consists in the various features of improvement more fully pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical central section of my improved apparatus; Fig. 2, a top view of the same. Figs. 3 and 4 are corresponding views of a modification. Figs. 5 and 6 are corresponding views of a further modification.

The letter A represents a drum closed on top by a cover M, through which enters the air-inlet pipe E. This pipe may have a curved lower end, as in Fig. 1, or it may be placed in an inclined position, as in Fig. 3, or it may be of helicoidal form, as in Fig. 5.

At the lower end the drum A contracts to form a central dust-discharge opening B, which is opposite the air-admitting cover M. Through the center of cover M there passes the pipe R for discharging the purified air, this pipe being held in place by a suitable cruciform frame *a*. Around the lower end or mouth of pipe R there is formed an annular flange or deflector T. This deflector has for its object to crowd the incoming air against the wall of drum A and to properly separate it from the purified air. The deflector T may

be either hood-shaped, as in Fig. 1, or it may be horizontal, as in Figs. 3 and 5.

In the center of the apparatus a rarefaction of air is of course produced, which has a tendency to retard the exit of the purified air and also to suck impure air up through opening B. To avoid this difficulty a central pipe C is introduced in the apparatus, preferably from the top. This pipe admits air into the central part of the apparatus and prevents the rarefaction. The lower end of pipe C may be either flaring, as in Fig. 1, straight, as in Fig. 3, or curved outward, as in Fig. 5.

The operation of the apparatus will be readily understood. The impurities of the incoming air are by centrifugal force thrown against the inner face of drum A, and are thence discharged through opening B. The pure air leaves the apparatus through pipe R.

What I claim is—

In a dust-collector, the combination, with a separating-drum provided with a dust-outlet at its small end, of the cover therefor having two openings, an inlet-pipe entering one of said openings obliquely to said drum, an air-escape pipe passing through the other of said openings and provided with the annular deflector at its lower end, and the additional air-inlet pipe passing centrally into the drum through the air-escape pipe, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HANS BITTINGER.

Witnesses:

CARL SALOMON,  
LYMAN A. SPALDING.