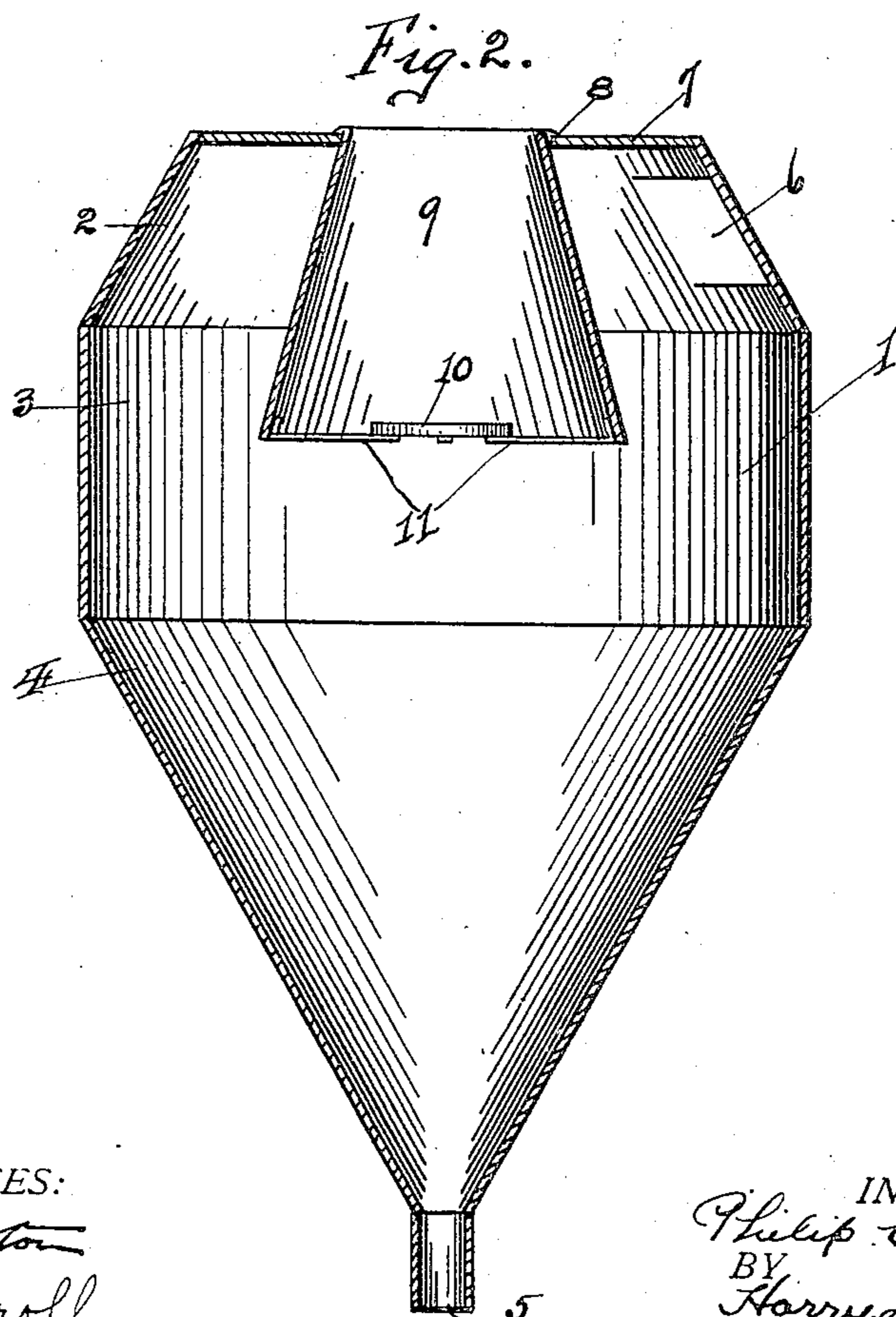
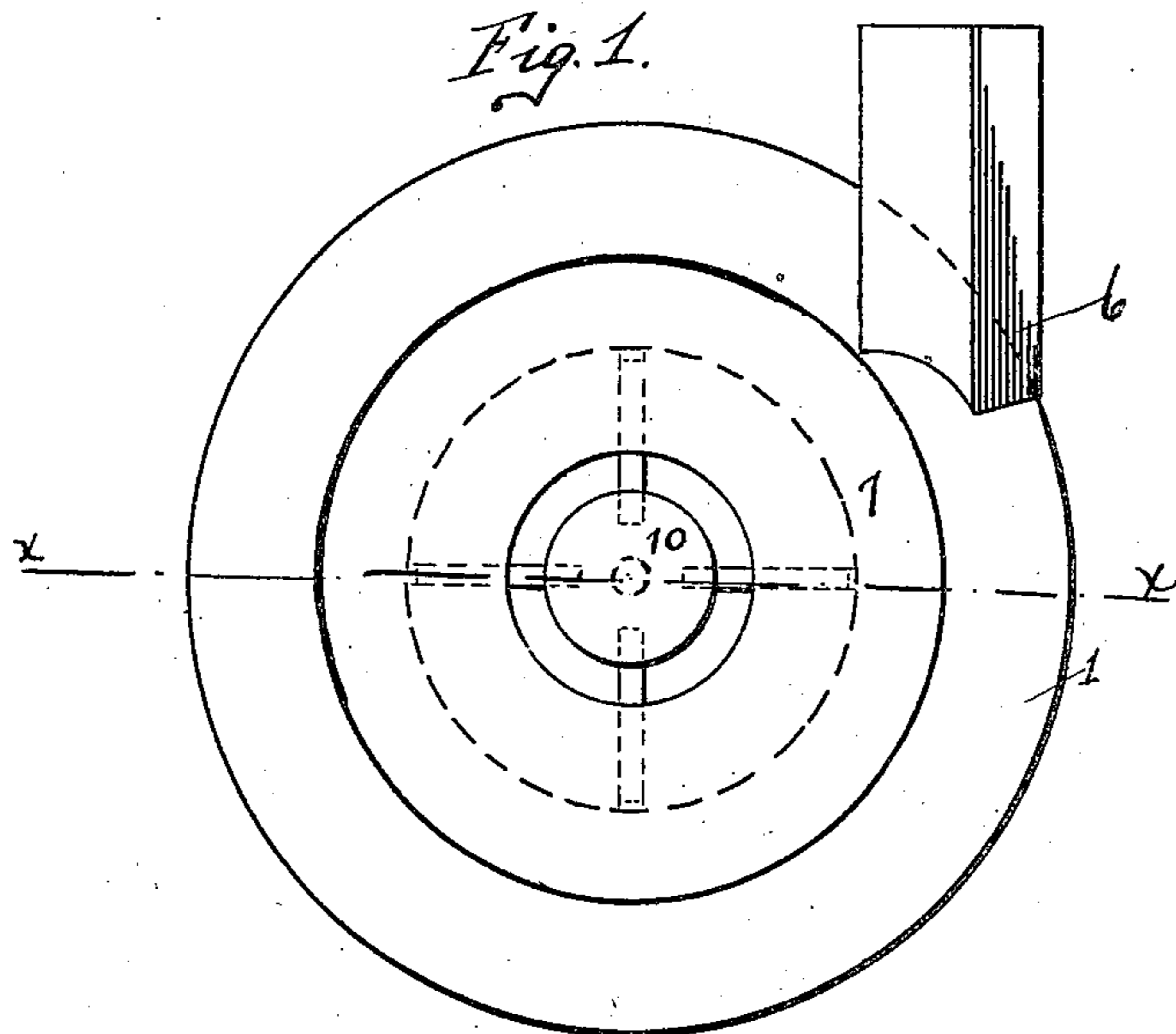


No. 838,879.

PATENTED DEC. 18, 1906.

P. C. MILLER.
DUST COLLECTOR.
APPLICATION FILED APR. 17, 1905.



WITNESSES:
E. J. Weston
J. H. Carroll.

INVENTOR.
Philip C. Miller
BY
Harry Lea Dodson
ATTORNEY.

UNITED STATES PATENT OFFICE.

PHILIP C. MILLER, OF CHICAGO, ILLINOIS.

DUST-COLLECTOR.

No. 838,879.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed April 17, 1905. Serial No. 255,875.

To all whom it may concern:

Be it known that I, PHILIP C. MILLER, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Dust-Collectors, of which the following is a specification.

My invention relates to that class of dust-collectors in which the dust is separated from the air by means of centrifugal force. In dust-collectors of this type where a conical dust-discharge is used it is a well-known fact that there is a decided ingoing current of air in the center of the aperture provided for the escape of the purified air, as well as the one provided for the discharge of the dust. The incoming current of air through the dust-discharge opening sometimes produces this result where the collector is handling light material: that the two ingoing currents meeting cause a disturbance of the action of the air-currents in the collector, and frequently the dust is drawn to the center of the rotating current of air. When this occurs, it is seized upon by the purified air in its escape and carried with it out through the upper opening. Various attempts have been made to remedy this by placing sometimes one and sometimes a plurality of cones within the conical dust-discharge near the dust-discharge opening. There is, however, no practical way to secure these cones in position. These machines, while comparatively light, are very bulky, and it is customary to secure these cones by the use of angle-irons let down from the head, and this necessitates an exceedingly heavy head, and when projected down into the interior of the dust-collector some six or seven feet, and often more, the cones vibrate, so it becomes necessary to steady them. The only way to accomplish this is by bracing the cones from the side walls of the conical dust-discharge. This is exceedingly bad practice, because of the fact that the braces catch and hold stringy material, such as shavings, &c., and tend to break up the rotating motion.

My invention has for its object to provide a dust-collector in which this decidedly serious objection will be overcome and to provide means for the prevention of the meeting of the ingoing air-currents, to accomplish the same in an inexpensive manner, and which will largely increase the efficiency of the machine. My method of accomplishing this

may be more readily understood by having reference to the accompanying drawings, which are hereunto annexed and are a part of this specification, in which—

Figure 1 is a top or plan view of my improved dust-collector. Fig. 2 is a cross-section taken on the line X X in Fig. 1.

Similar figures refer to similar parts throughout the entire description.

In the drawings, 1 is my improved dust-collector, which is constructed, preferably, of three chambers 2, 3, and 4, the lower part 4 being conical in shape and serves for the dust-discharge chamber. It is provided with a dust-discharge opening 5 at its lower extremity. A cylindrical body portion 3 is mounted upon the conical dust-discharge. Above this cylindrical body portion is placed the truncated cone 2, this cone being provided with a tangential air-inlet 6 and a head 7. This head is formed with a central opening 8, which has mounted therein a downwardly-depending pipe or tube 9, which is commonly called a "tubular guard." This guard is constructed on a taper, the taper running toward the outside. At the lower end of the tapering tubular guard I arrange a disk 10. This disk is secured to the tubular guard by means of the angle-irons 11 or some other suitable form of fastening. By the use of the tapering tubular guard 9 it becomes possible to use the disk 10 without reducing the effective area of the escape for purified air or causing any back pressure on the fan, while the disk 10, mounted in its lower extremity, breaks up the incoming current of air to such an extent that it is scarcely appreciable. The breaking up of this current of air necessarily releases the back pressure which it causes upon the fan which produces the air-current and by reducing the back pressure increases the efficiency of the machine. At the same time it is obvious that the disk effectually prevents the meeting of the two ingoing currents of air. At the same time it can be placed there with a slight increase in the cost of manufacture, and it permits of the use of an extremely light head 7.

Having described my invention, what I regard as new, and desire to secure by Letters Patent, is—

In a dust-collector, the combination with a truncated cone into which the dust-laden

air enters at a tangent, of a sheet-metal body
portion of cylindrical form mounted upon a
conical dust-discharge having an aperture at
its lower end for the discharge of the dust, a
5 head mounted upon said truncated cone hav-
ing a downwardly-depending pipe or tube at
its center, said tube extending some distance
below the inlet-opening, said tube tapering
toward the outside, a circular disk mounted

in the larger end of said tube, said disk being 10
rigidly attached to the side walls of said tube
by means of angle-irons, for the purpose set
forth substantially as described.

PHILIP C. MILLER.

Witnesses:

J. H. CARROLL,
C. M. BURNAM.