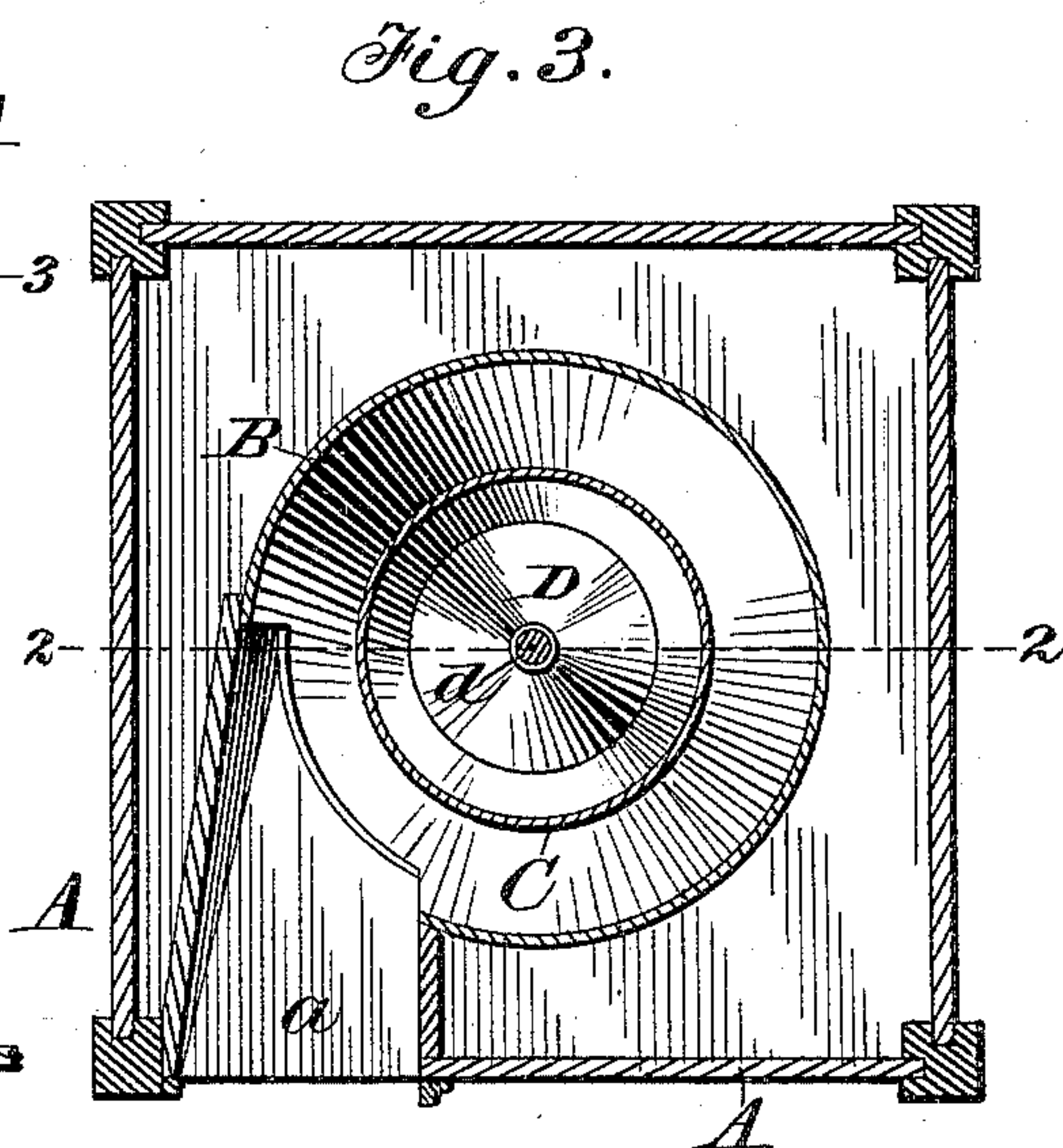
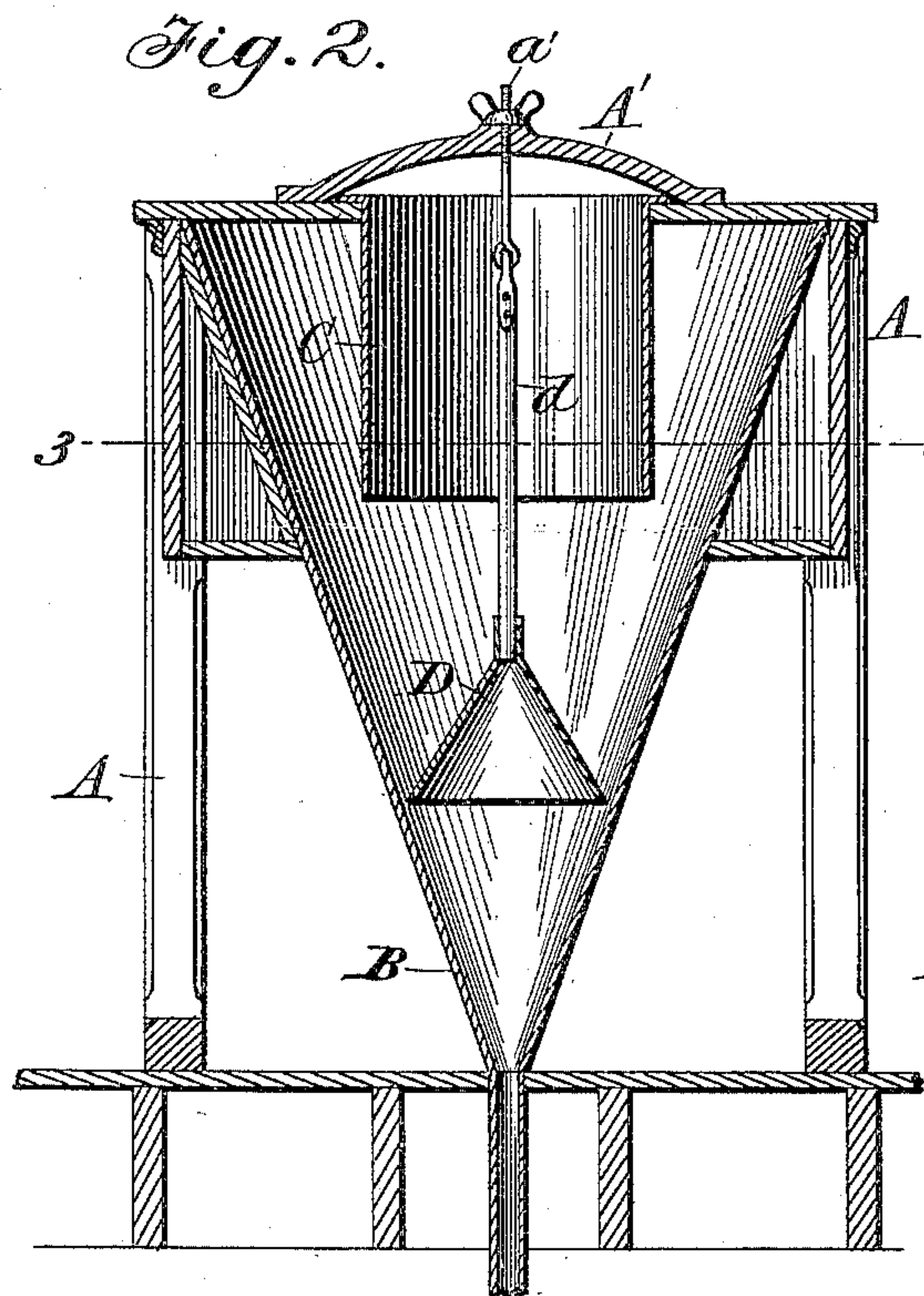
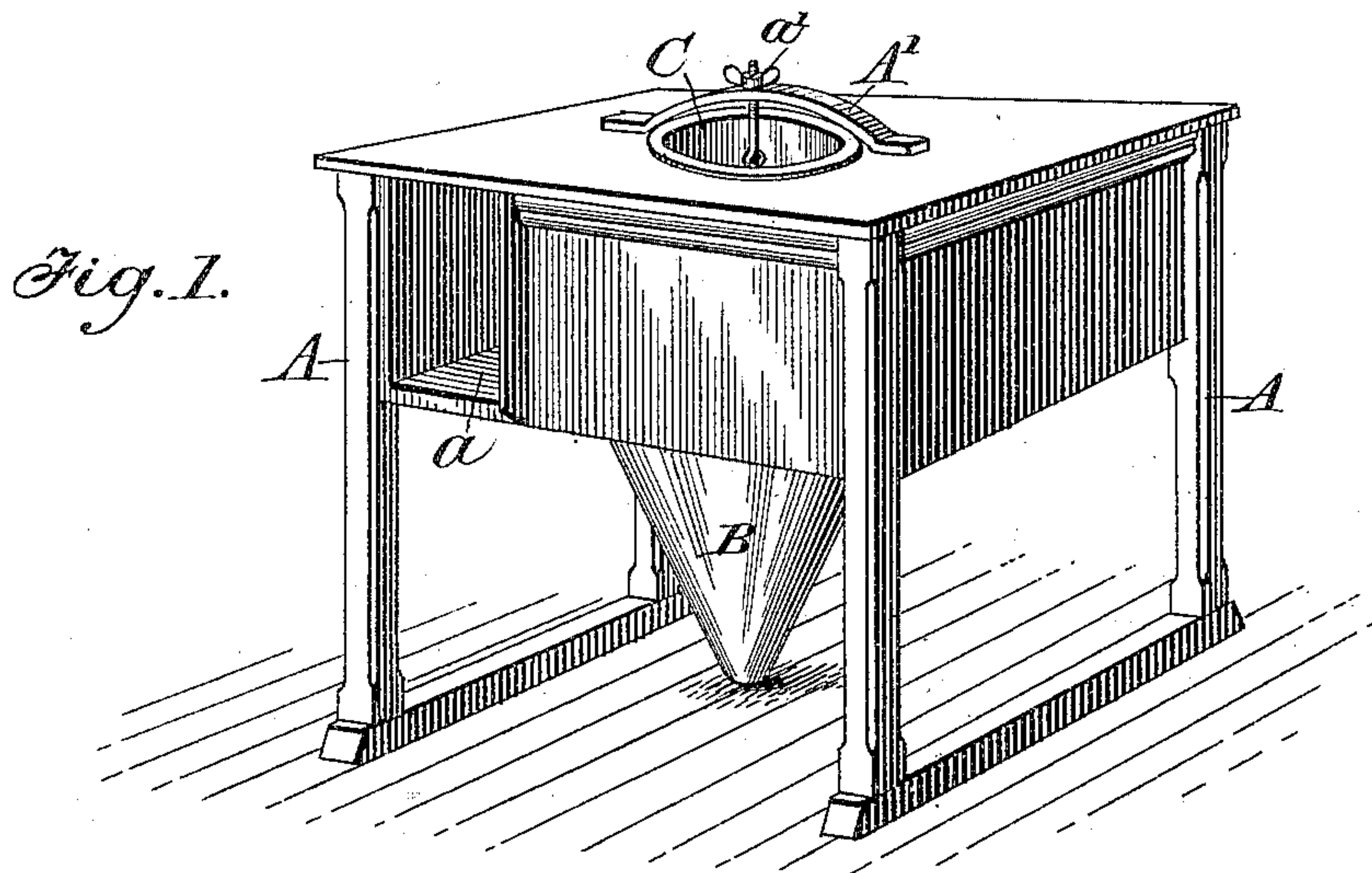


(No Model.)

E. BRETNEY.  
DUST COLLECTOR.

No. 446,507.

Patented Feb. 17, 1891.



Witnesses:  
*Alex. Scott*  
*D. W. Edelin.*

Inventor.  
*Engene Bretney,*  
*by E. W. Bradford,*  
*his attorney.*



# UNITED STATES PATENT OFFICE.

EUGENE BRETNEY, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE COCKLE SEPARATOR MANUFACTURING COMPANY, OF MILWAUKEE, WISCONSIN.

## DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 446,507, dated February 17, 1891.

Application filed May 20, 1887. Serial No. 238,851. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE BRETNEY, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Dust-Collectors, of which the following is a specification.

My said invention relates to that class of devices known as "dust-collectors," by which the fine particles of dust from purifiers and other milling machinery are first gathered at a certain point and there separated from the air and discharged in one direction and the air allowed to escape in another.

The principal feature of this invention is that part known as the "deflector," which is a small cone hung inside the casing of the device, and is possessed of certain advantages by reason of its form and arrangement, as will be hereinafter more fully described and claimed. This feature is shown, but not claimed, broadly, in my application, Serial No. 250,428, filed September 22, 1887, being therein only an element of certain novel combinations.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a dust-collector embodying my said invention; Fig. 2, a central vertical section of the same on the dotted line 2 2 in Fig. 3; and Fig. 3, a horizontal sectional view, looking downwardly from the dotted line 3 3 in Fig. 2.

In said drawings, the portions marked A represent the frame-work which supports and incloses the dust-collector; B, the inverted cone or casing of the collector proper; C, the tubular guard extending down from the top to some distance inside said casing, and D the small cone, which is the principal feature of my invention.

The several portions of this device, except the cone D and its support, are dissimilar from the corresponding parts in other collectors which have been previously used in no essential particulars, and therefore will not be further described herein. The cone or deflector D is hung from an appropriate sup-

port (a bridge-tree A' is shown) centrally in the device. It is suspended by means of a rod *d*, which is hinged to the eyebolt *a'*, adjustably secured in the bridge-tree A', and is thus adapted to swing laterally within the casing, as will be presently more fully described. By reason of the vertical adjustment provided for the space between the edge of the cone and the casing B may be varied as the character of the work may require. This feature, however, (the adjustability of the cone,) will not be particularly set forth herein, as the same has been made the principal subject-matter of another application, filed May 21, 1888, Serial No. 274,493.

The operation of my said invention is as follows: The current of dust-laden air enters through an opening *a* in the well-known manner, it being maintained within the casing by the tubular guard C until it has acquired a spiral downward course and reached a plane below the inlet-spout. During the spiral downward course the particles of dust, because of their gravity, are carried against the interior surface of the casing, which they follow down to the bottom of the device, passing between the edge of the cone deflector and said casing, where they pass out through the discharge-opening provided for the purpose. Meantime the current of air meets the cone and is deflected upwardly toward the central opening through the tubular guard, through which it escapes from the machine, the peculiar shape of the deflector, as will be readily understood, operating to give the current the desired direction in a most perfect manner. By this arrangement a chamber is maintained in the lower part of the device which is free from interfering air-currents, no upward current being possible, as but little air can pass below the cone, usually just sufficient to permit a free discharge of the dust. The under side of the cone being hollow and filled with air above any current, an air-cushion is formed which will furnish a resistance to any upward current that might form and tend to throw the dust upward, thus assisting in maintaining an unobstructed discharge for the dust. By reason of the rod on



which the cone is suspended being formed with a joint said cone is permitted to swing, as before stated, and thus when any particle or lump of dust or dirt gets into the machine  
5 which is larger than the width of the space between the deflector and casing it will slide down against one side of said deflector, and, by reason of the shape thereof, push it to one side sufficiently to permit it to drop through,  
10 when said deflector will again resume its normal position centrally within the device, as will be readily understood.

I do not claim, broadly, a separating-case having an imperforate peripheral wall provided with an external tangential inlet-spout  
15 and openings for the escape of the purified air and dust, in combination with a deflector, but limit myself to the particular construction shown and claimed.

20 Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A dust-collector consisting, essentially,

of a casing having an air-inlet, a tubular guard inside said casing, and a cone, also in- 25 side said casing below said tubular guard and air-inlet, whereby interfering air-currents are prevented below said cone, substantially as set forth.

2. The combination, in a dust-collector, of 30 the casing, the deflector having a downwardly inclined top surface, and a jointed rod on which said deflector is suspended, substantially as set forth.

3. In a dust-collector, the combination of 35 the frame-work A, the casing B, the tubular guard C, the cone deflector D, and the jointed rod upon which said deflector is mounted, substantially as set forth.

In witness whereof I have hereunto set my 40 hand and seal, at Indianapolis, Indiana, this 16th day of May, A. D. 1887.

EUGENE BRETNEY. [L. S.]

In presence of—

C. BRADFORD,

CHARLES L. THURBER.