

No. 806,164.

PATENTED DEC. 5, 1905.

C. R. MILLER.
BAG DUSTING MACHINE.
APPLICATION FILED NOV. 19, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

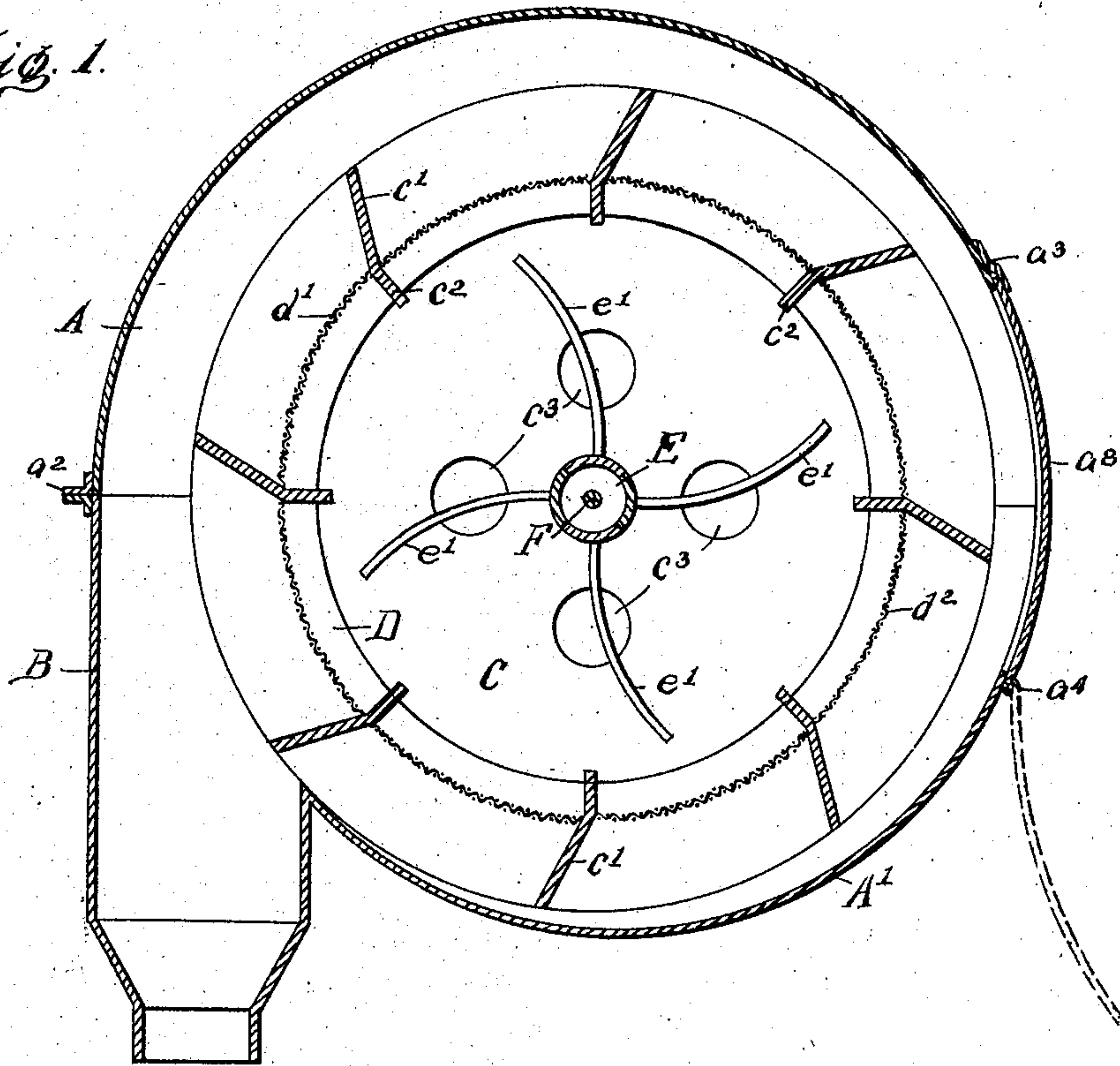
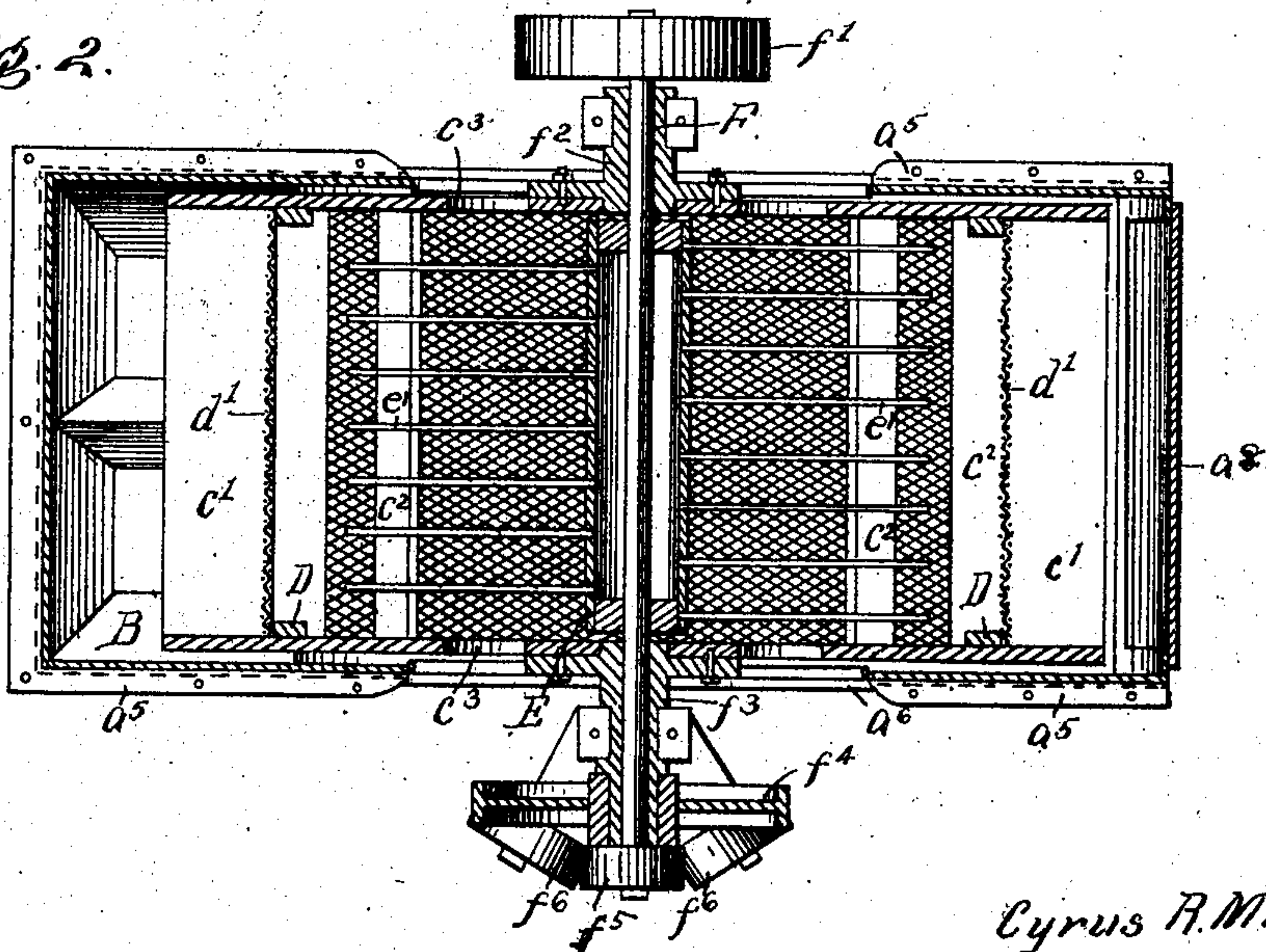


Fig. 2.



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CYRUS R. MILLER, OF MILWAUKEE, WISCONSIN.

BAG-DUSTING MACHINE.

No. 806,164.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed November 19, 1904. Serial No. 233,539.

To all whom it may concern:

Be it known that I, CYRUS R. MILLER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Bag-Dusting Machines, of which the following is a specification.

This invention relates to improvements in apparatus for separating dust from cloth bags, carpets, or other forms of textile fabrics from which the dust can be extracted through centrifugal force and pounding or beating applied directly to the articles by mechanically-operated devices.

The apparatus, which forms the subject-matter of this application and which is shown in a preferred form, consists generally of a casing, a cylindrical drum or cage having its sides covered with wire-netting, expanded metal or other form of reticulated metal and rotatably mounted within the casing, of beater-arms mounted to rotate in a direction opposite to that of the drum, of wings or fan-blades on the cage adapted to drive the dust from the cage, and of a spout or chute through which the extracted dust is driven from the casing.

Certain details of construction and arrangement will be hereinafter set forth.

In the accompanying drawings, which form a part of this application, Figure 1 is a vertical longitudinal section through the center of my improved apparatus. Fig. 2 is a horizontal cross-section through the machine. Fig. 3 is a side elevation of the machine, showing driving means for the beater-arms. Fig. 4 is an enlarged detail of a portion of the beater-arm shaft, and Fig. 5 is a cross-section of same on line 5 5 of Fig. 4.

Referring to the details of the drawings, A and A', respectively, represent the upper and lower sections of the cylindrical casing, which are secured together by flanges a^2 and form a housing for the operative parts of the apparatus, to which access is had by means of a door a^8 , hinged at a^4 on section A' and latched at a^3 on section A. From one side of the casing extends downwardly a spout B, which may be connected with any suitable means, for carrying away or receiving the dust which is driven into the spout in a manner to be explained. This casing is supported on a base H, and iron frames a^6 surround and extend across the central openings a^5 in the heads of the casing and furnish suitable bearings for

parts to be described. Extending through the casing and eccentric thereto is a shaft F, on which is keyed a pulley f' , which is driven from any suitable source and in any approved manner, and on the opposite end of the shaft is a smaller pulley f^5 . Journaled on the shaft are hollow trunnions $f^2 f^3$, which are bolted to the respective heads of the cage C. On the trunnion f^3 is fixed a pulley f^4 , which is driven by a belt f^7 , which, after passing around pulleys $f^6 f^6$, travels over the pulley f^5 on the shaft F, by which it is driven. The pulleys f^6 are mounted on suitable stud-shafts extending from the portion a^7 of the frame. This arrangement of pulleys and belt effects the driving of the cage in a direction reverse to that of the shaft F, as will be readily understood.

On the shaft F within the cage is a drum E, which is made in semicylindrical sections, secured together and bound on the shaft by bolts c^2 , as indicated by dotted lines, Fig. 5. Extending radially from this drum and staggered are a plurality of beater-arms e' , which are preferably made of leather, but may be of any suitable flexible material. These arms pass through the walls of the drum E and have their inner ends bent up, as at e^3 , and secured by screws, as clearly indicated in Fig. 5.

The cage C is made up of wooden ends, through which are cut openings c^3 of rings D, which are secured to the inner sides of the ends, and of wire-netting d' , which is secured to the rings and forms a cylinder, access to the interior of which is afforded by a hinged door d^2 . Connecting the two heads of the cage and extending radially from the cage are blades $c' c^2$, the former projecting outwardly from the cage and the latter inwardly relative to the cage. The wings c' are preferably inclined away from the direction of rotation of the cage, which is indicated by an arrow in Fig. 1. The direction of rotation of the beater-arms is indicated by an arrow in Fig. 1. It will be noted that the cage is concentric with the shaft F and is therefore eccentric to the casing, thus bringing it nearer the spout B.

An apparatus constructed and arranged as described will operate as follows: Assuming that power is applied to the pulley f' and that dust-laden bags have been placed in the cage, the cage and beater-arms will be driven in opposite directions, as indicated, whereupon the bags will be thrown by centrifugal force against the wire-netting, will be carried

around by the blades c^2 , and beaten by the arms e' . Air will be drawn in through the openings in the heads of the casing, and dust will be driven out through the wire-netting
 5 by centrifugal force and the revolving arms, and the blades c' will carry it over the upper end of the spout B, through which it will be forced by the draft thus created, it being understood, of course, that a suitable outlet is
 10 provided for the spout which will not check the draft.

There may be various modifications in the details of construction of my dust-extracting apparatus without affecting the principles in-
 15 volved therein. I do not, therefore, wish to be limited by my patent to such details; but,

What I claim, and desire to obtain by Letters Patent, is—

1. In a dust-extracting apparatus, a casing
 20 having a suitable discharge-spout, air-inlets and door, a cylindrical cage rotatably mounted in said casing and having its periphery formed of reticulated material and provided with suitable air-inlets in its heads and having a door,
 25 flexible beater-arms mounted within said cage to rotate in the direction opposite thereto, and means for driving said cage and for operating said beater-arms.

2. In a dust-extracting apparatus, a casing
 30 having suitable discharge-spout at one side

thereof, air-inlet openings in its heads, and a door in its periphery, a cylindrical cage rotatably mounted within said casing and arranged eccentric thereto, said cage having its periphery formed of reticulated material, pro-
 35 vided with a suitable door, and with openings in its ends, beater-arms mounted in said cage and adapted to rotate in the direction opposite thereto, and means for driving said cage and for operating said beater-arms. 40

3. In a dust-extracting apparatus, a cylindrical casing having suitable discharge-spout, openings in its heads and door in its periphery, a cage rotatably mounted within said casing, said cage having its periphery formed of re-
 45 ticulated material and provided with radial blades extending externally and internally from its periphery, said cage having a suitable door and with openings in its heads, flexible beater-arms mounted in said cage and
 50 adapted to rotate in the direction opposite thereto, means for driving said cage and means for operating said beater-arms.

In testimony whereof I affix my signature in presence of two witnesses.

CYRUS R. MILLER.

Witnesses:

ANDREW LEE,

CHARLES SCHNEIDER.