(No Model.)

2 Sheets—Sheet 1.

W. COUGHLIN.

ASH SIFTER.

No. 370,933. Patented Oct. 4, 1887.

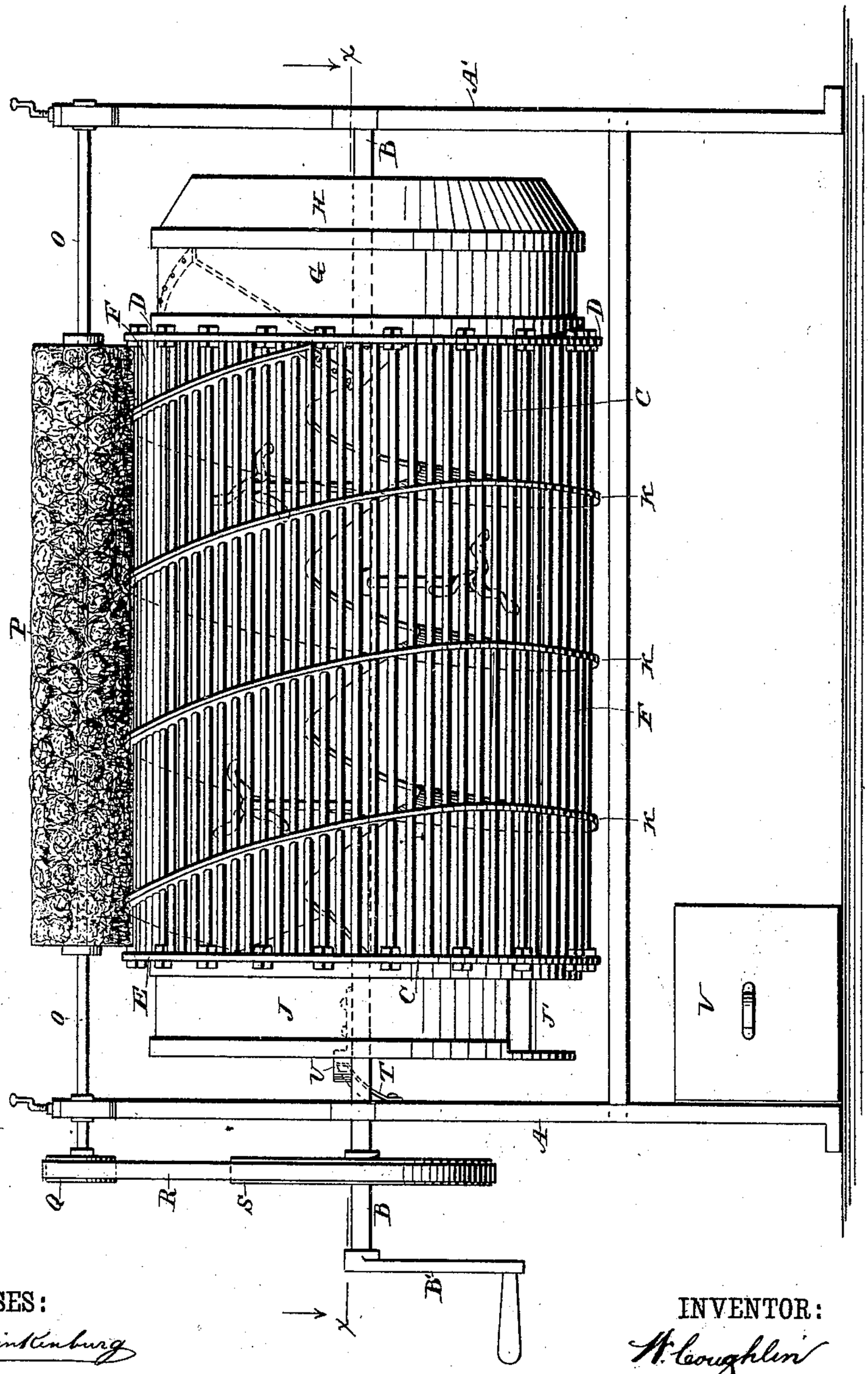

Fig. 1.

WITNESSES:

George Binkenburg

C. Sedgwick

INVENTOR:

W. Coughlin

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

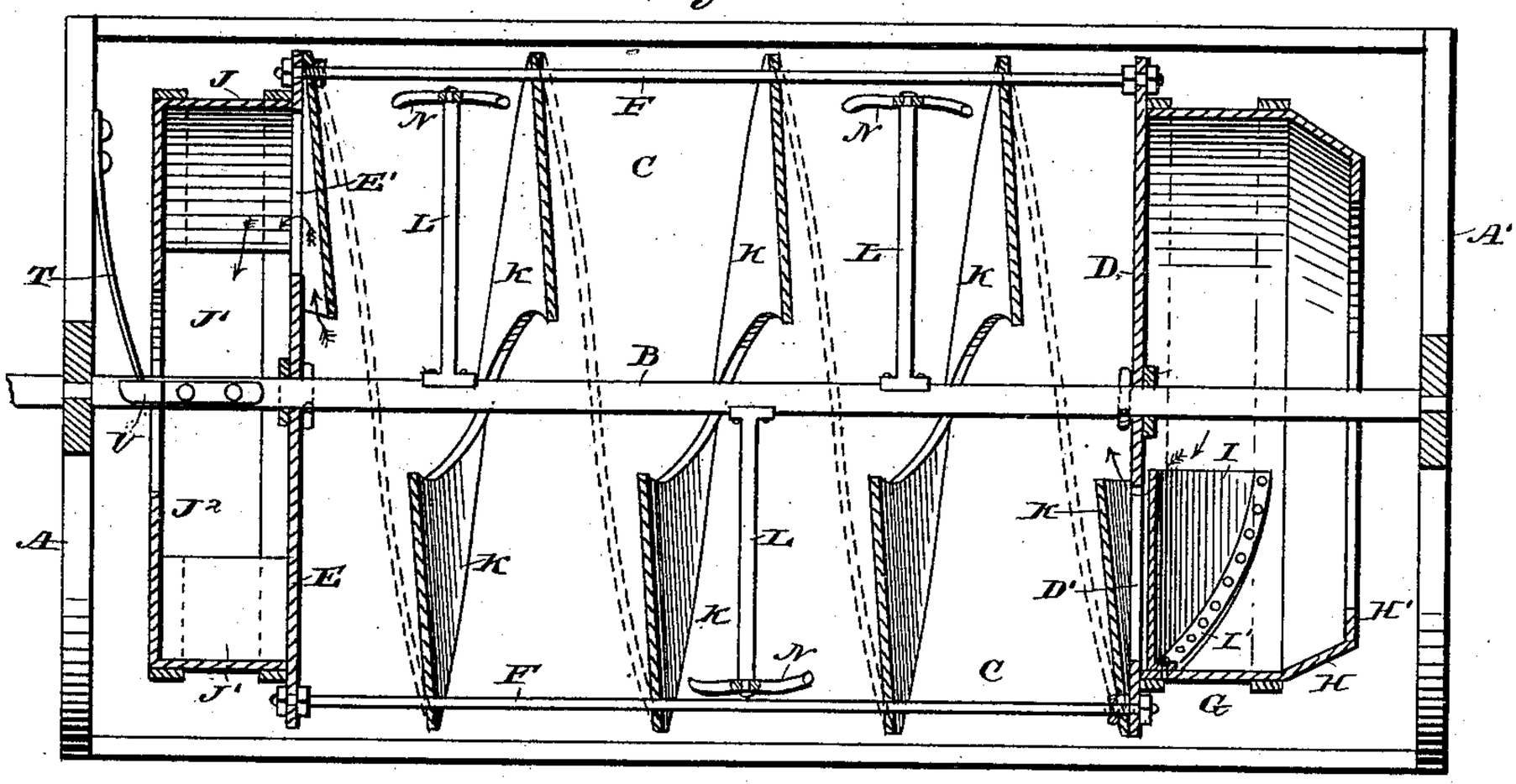


Fig. 3.

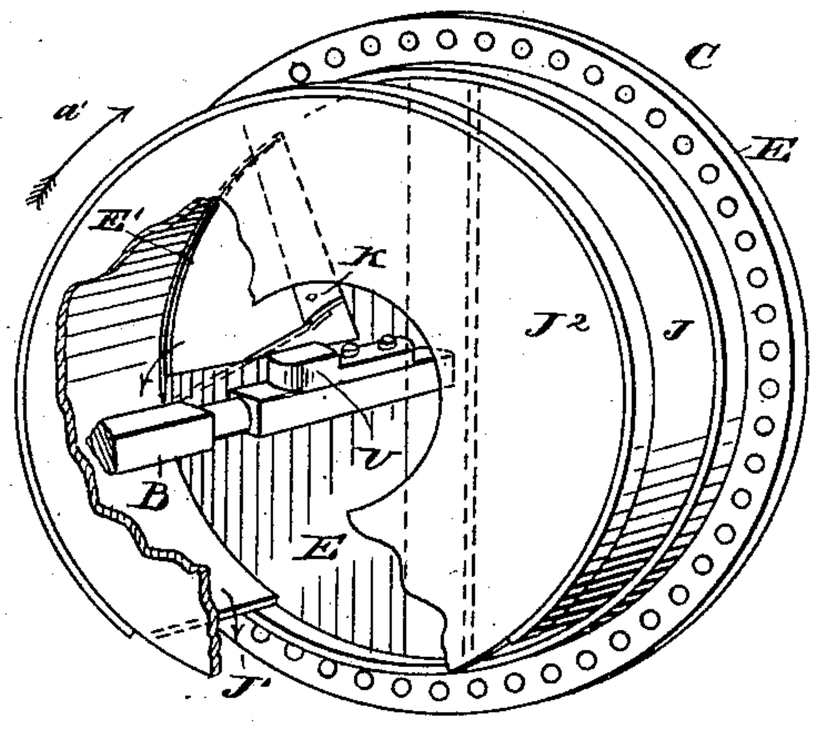
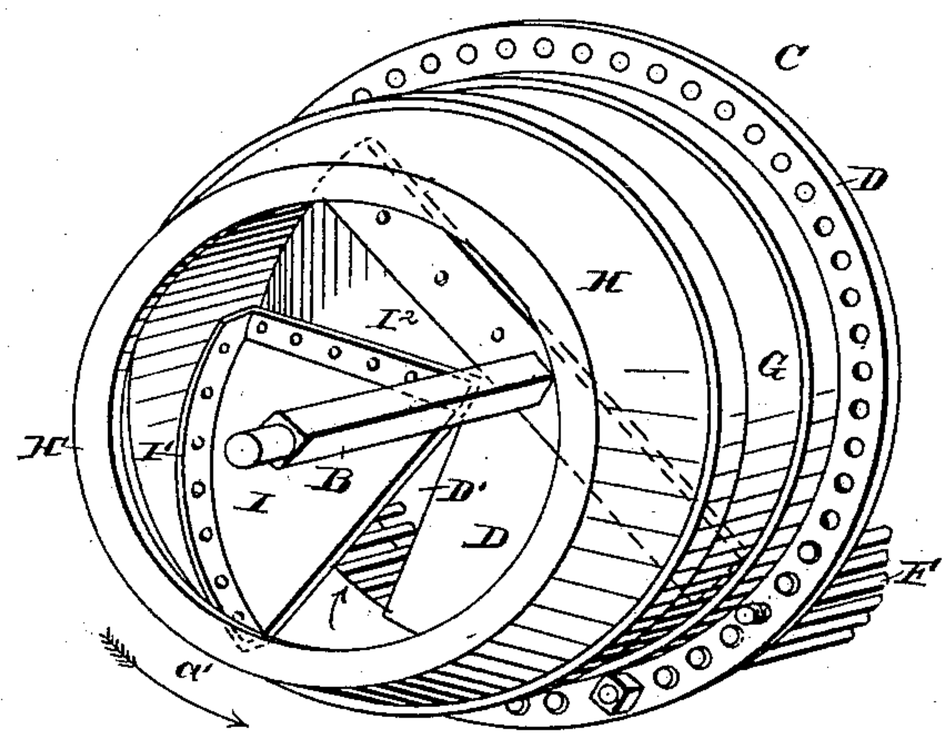


Fig. 4



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ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM COUGHLIN, OF NEW YORK, N. Y.

ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 370,933, dated October 4, 1887.

Application filed March 7, 1887. Serial No. 229,965. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM COUGHLIN, of the city, county, and State of New York, have invented a new and Improved Ash-Sifter, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved ash-sifter which is simple and durable in construction and very effectively separates the ashes from cinders and other bodies.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improvement. Fig. 2 is a sectional plan view of the same on the line *x x* of Fig. 1. Fig. 3 is a perspective view of the cinder-outlet, parts being broken away; and Fig. 4 is a similar view of the inlet.

My improved ash-sifter is mounted on the standards A and A′, in which is journaled the main shaft B, provided with a crank-handle, B′, or other suitable means for turning the said shaft. On the shaft B is secured the sifting-cylinder C, provided with the heads D and E, secured to the shaft B, and connected with each other at their peripheries by the sifting-bars F, placed such suitable distances apart as to prevent cinders from falling through.

On the outer face of the head D is secured the cylinder or ring G, which continues at its outer edge into the cone-shaped ring H, having the annular flange H′, thus forming a pocket or inlet-compartment for the reception of the ashes to be sifted. In the head D, on one side of the shaft B, is formed the inlet D′, which connects at one side with the cylinder C and on the other side with the said inlet-compartment, and which also opens upon a triangular plate or cover, I, secured by its rim I′ diagonally across the inside rim of the cylinder G, and by the side I^2 is fastened to the head D, while the other side forms a triangular opening with the head D, the said opening leading to the opening D′ in the head D. The said triangular plate I thus forms a pocket in connection with the head D and the cylinder G.

On the outside face of the other head, E, is secured a rim, J, having a cinder-outlet, J′, and an inwardly-extending flange, J^2, forming with the rim J an outlet-compartment for the cinders. In the head E is also formed an outlet-opening, E′, which opens into the said rim J, and on which terminates the plate K, secured spirally to the sifting-bars F, and extending across the entire length of the said sifting-bars and inwardly within a short distance of the main shaft B. The spiral plate K terminates at the other end near the opening D′ in the head D. On the shaft B are also secured the radial bars L, carrying at their outer ends, near the inside of the sifting-bars F, the curved agitators N.

In the upper ends of the standards A and A′ is journaled a shaft, O, carrying a brush, P, which is in contact with the outside of the sifting-bars F. On the shaft O is secured a pulley, Q, connected by the endless belt R with the pulley S, secured on the main shaft B.

On the standard A is secured a spring-plate, T, held with its free end on the main shaft B, on which is fastened the stop U, rounded off at one corner, so as to permit the free end of the spring-plate T to pass freely over the stop U when the shaft B is rotated in one direction; but when the shaft B is turned in an opposite direction then the free end of the spring T engages the square edge of the stop U, thus preventing the rotation of the shaft.

The operation is as follows: The machine is set in motion by rotating the main shaft B in any suitable manner, but in the direction of the arrow *a*′. The ashes to be sifted are now thrown over the flange H′ into the compartment formed by the conical ring H and the cylinder G. The ashes are held in the bottom of the cylinder G until the diagonal plate or cover I at every revolution causes the same to enter through the opening D′ of the head upon the sifting-bars F. The ashes now travel slowly toward the head E, as the spiral plate K forces the ashes toward the said head. In this movement across the bars F the cinders are separated from the ashes, which fall out of the cylinder C through the sifting-bars F at the bottom. The cinders travel toward the head E,

and are forced by the end of the spiral plate K through the opening E′ into the rim J, which dumps the cinders through the opening J′ into the box V at every revolution of the sifting-cylinder.

It will be understood that the ashes remain near the bottoms of the sifting-bars F when the cylinder is revolved, and are constantly agitated by the passing sifting-bars F and by the agitators N, so as to completely separate the fine ashes from the cinders. The sifting-bars F are kept cleaned by the brush P, which revolves with the sifting-cylinder, being driven from the main shaft B.

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

1. In an ash sifter, the combination, with a shaft, a frame supporting the said shaft, and a lug rounded off at one corner and secured to the said shaft, of a sifting-cylinder secured on the said shaft, and a spring-plate secured to the said frame and held in contact with the said lug on the shaft to prevent the said shaft from being turned in the wrong direction, substantially as shown and described.

2. In an ash-sifter, the combination, with the ash-sifting cylinder C, provided with the head D, having an inlet-opening, D′, of the cylinder G, secured to the said head D, the conical ring H, formed on the outer edge of the said cylinder G, and having an inwardly-extending flange, H′, and the triangular plate I, secured diagonally across part of the said cylinder G in front of the opening D′, substantially as shown and described.

3. In an ash-sifter, the combination, with the ash-sifting cylinder C, provided with the head E, having an outlet-opening, E′, of the rim J, secured to the said head E, and having an outlet-opening, J′, and an inwardly-extending flange, J^2, secured to the said rim J, substantially as shown and described.

4. In an ash-sifter, the combination, with the main shaft B, of the sifting-cylinder C, provided with the heads D and E, each having an opening, D′ or E′, the sifting-bars F, the spirally-arranged plate K, and the agitators N, the cylinder G, secured on the head D, the conical ring H, attached to the said cylinder G, and having the flange H′, the cover I, diagonally arranged in the said cylinder G, the rim J, fastened on the head E, and having an opening, J′, and the flange J^2, secured to the said rim J, substantially as shown and described.

WILLIAM COUGHLIN.

Witnesses:
THEO. G. HOSTER,
C. SEDGWICK.