A. C. FERRIS.

Ash-Sifter.

No. 167,655. Patented Sept. 14, 1875.

Fig. 1.

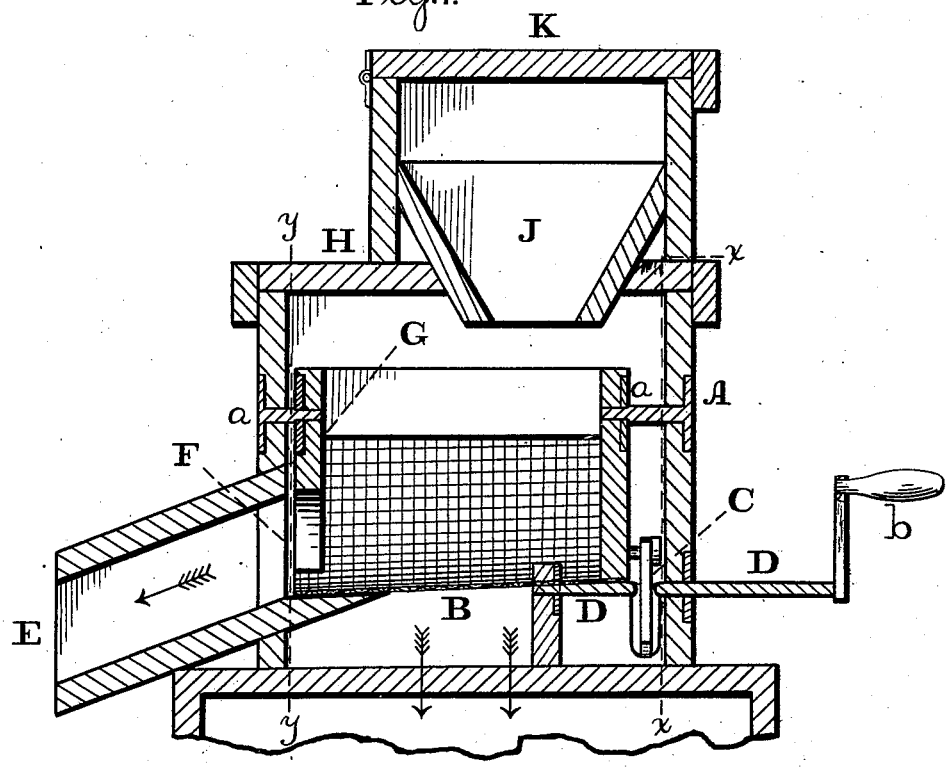


Fig. 2.

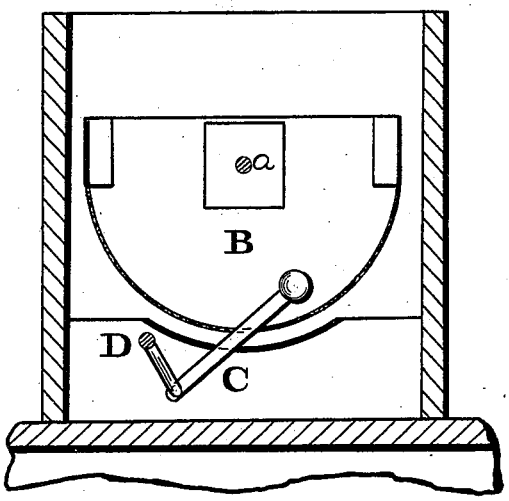
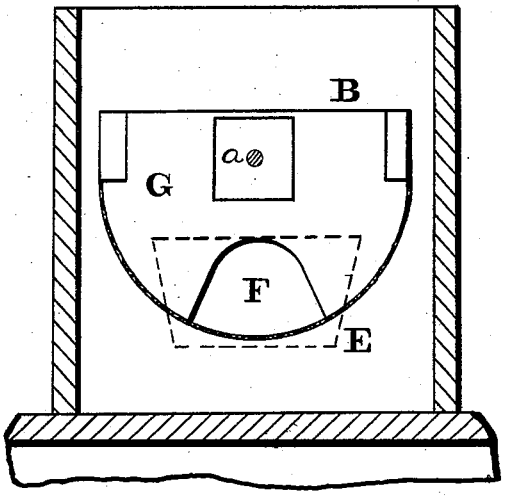


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED C. FERRIS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ASH-SIFTERS.

Specification forming part of Letters Patent No. **167,655**, dated September 14, 1875; application filed May 12, 1875.

To all whom it may concern:

Be it known that I, ALFRED C. FERRIS, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Ash-Sifters; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a central longitudinal vertical section of the device embodying my invention. Fig. 2 is a transverse vertical section of a portion in line *x x*, Fig. 1. Fig. 3 is a similar view in line *y y*.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in a cradle-sieve, which is suspended within a box or casing, and receives oscillating motion for quickly and easily sifting the contents. The box has a spout for discharging the cinders, while the ashes fall into the barrel or article on which the box is located. The sieve is deeper at one end than the other, and being hung on axes or suspended the cinders are caused to traverse a great distance before being discharged. The cover of the box carries a hopper, by which the sieve is properly supplied with unsifted material. The end board of the sieve, adjacent to the discharge-spout, is formed with an opening communicating with the spout, and so constructed that the communication with the spout is only partly uncovered, whereby the dust is obstructed in its attempted passage out of the spout.

Referring to the drawings, A represents a box or casing, which is open at top and bottom, and provided at its lower end with a rim or collar for application to a barrel or other receptacle. B represents a sieve, which is of cradle form, and suspended within the box A by means of axes *a* at its upper end, so that it will swing freely on said axes. To the lower portion of the sieve there is pivoted an arm, C, which is jointed to a crank-shaft, D, whose handle, pulley, or other operating medium, *b*, is conveniently situated. At one end of the box A there is secured a spout, E, which communicates with the interior of the box, and with an opening, F, formed in the board G, at the end of the sieve adjacent to the spout, and the sieve at said end is deeper than at the other end, which is caused by the inclined direction of the bottom of the sieve. The opening F is smaller than the opening in the box, into which the inner end of the spout E is fitted. H represents a cover for the box A, and J represents a hopper secured thereto, and provided with a lid, K, so that when the parts are in position, as shown at Fig. 1, the top of the box is entirely closed.

The operation is as follows: The ashes are placed in the hopper J and the lid K is closed. The crank-shaft D is rotated, thus operating the arm C, and imparting an oscillating or rocking motion to the sieve B, thus agitating the contents thereof. The cinders or pieces of unconsumed coal are directed toward the opening F of the sieve, and discharged on the spout E, from which they will pass to the place of collection or deposit. The ashes will fall through the sieve and into the barrel or receptacle below the box. The cinders at the highest point of the bottom of the sieve cannot reach the opening F, except by traversing the entire length of the sieve. The sieve, suspended at its upper end, receives full swing or oscillation, and causes violent agitation of the contents thereof. The dust that rises may seek to escape at the spout E; but the opening F being small, and at the bottom of the end board G, the latter, during the oscillations of the sieve, will only partially uncover the opening in the box leading to the spout, so that, while the spout is large and ample to direct the discharged cinders, the said opening in the box leading thereto is continually cut off, and thus checks the escape of the dust at the spout.

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

The combination, in an ash-sifter, of the pivoted cradle-sieve B, contracted opening F, spout E, pivoted arm C, and crank-shaft D, constructed and arranged substantially as described.

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