J. E. CUMINGS.
Ash-Sifter.

No. 202,157. Patented April 9, 1878.

Fig. 1.

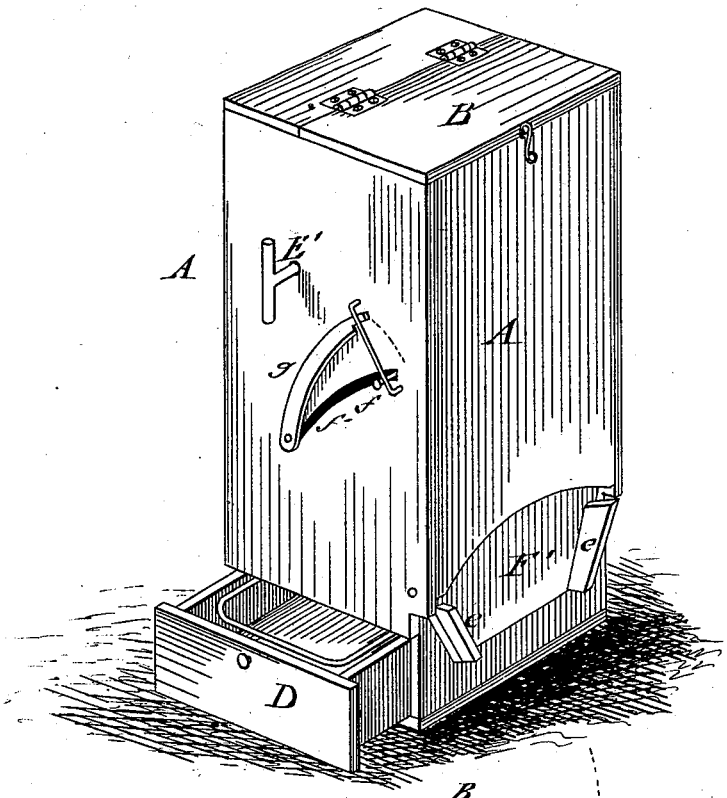
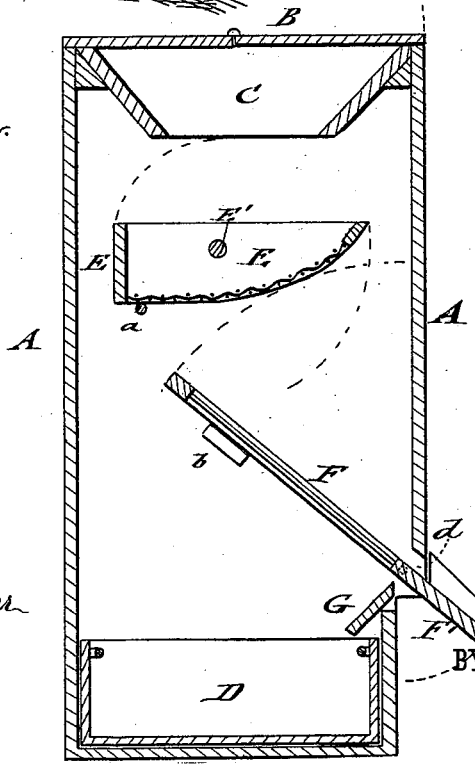


Fig. 2.



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JOSIAH E. CUMINGS, OF UTICA, NEW YORK.

IMPROVEMENT IN ASH-SIFTERS.

Specification forming part of Letters Patent No. **202,157**, dated April 9, 1878; application filed March 21, 1878.

To all whom it may concern:

Be it known that I, JOSIAH E. CUMINGS, of Utica, in the county of Oneida and State of New York, have invented a new and Improved Ash-Sifter, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a perspective view of my improved ash-sifter, and Fig. 2 is a vertical section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an ash-sifter in which the unburned coal particles may be separated from the ashes in quick and convenient manner without any escape of dust, so that the sifter may be used without annoyance at any convenient place, the ashes accumulating in the lower part of the sifter, and being removed from time to time without the inconvenience of the present modes of sifting.

The invention consists of an ash-sifter having a hinged top lid and hopper, an interior reciprocating screen, and a bottom ash-receptacle, in connection with a swinging front screen, with lower discharge-spout, and a deflecting-plate below the spout, the front screen being so arranged as to be thrown up into vertical position, so as to close the discharge-opening for the coal, or into inclined position, to receive the coal and discharge it to the outside.

Referring to the drawing, A represents the outer casing or box of my improved ash-sifter, which is made of square or oblong shape, and provided at the top with a hinged lid, B, and hopper C, and at the bottom with a sliding drawer or ash-receptacle, D, having a hinged bail, for the purpose of readily carrying off the receptacle when filled with ashes. Below the hopper is arranged a scoop-shaped screen, E, that is firmly attached to a lateral handle-rod, E′, which is extended through the side walls of the casing to the outside, and guided in holes of the same. The screen E is of less width than the casing A, so as to admit of being reciprocated therein by moving the handle-rod forward and backward in the guide-holes of the supporting-walls of the casing. The rear part of the screen rests on a fixed cross-rod, *a*, that supports the screen in horizontal position for receiving the ashes, and guides it during its reciprocating motion, and prevents it from tipping backward.

When the ashes are screened, the dust is allowed to settle, and the screen is tilted some time thereafter by turning the handle-rod, so that the screened coal is deposited on an inclined front screen, F, that is pivoted to the lower part of the casing A, near the bottom of the receptacle, and supported in inclined position on projecting side lugs or seats *b* of the walls of the casing. The lower part of the front screen F is made of solid boards, and extended through a discharge-opening, *d*, to the outside of the casing, being provided with converging side flanges *e*, so as to form a spout, F′, over which the screened coal passes to the outside when the front section is swung on its pivots into inclined position, as shown in Fig. 2.

At the interior of the casing, below the lower part of the front screen, is arranged an inclined deflecting-plate, G, that conducts any ashes adhering to the screened coal particles into the ash-receptacle as the same are passed down over the front screen, spout, and discharge-opening to the outside of the ash-sifter.

When the front screen is supported in inclined position, the discharge-opening *d* is open, so that the coal may escape to a pail or other receptacle placed below the spout. During the time the ashes are screened, the front screen is thrown into vertical position along the front wall of the casing, so that the spout portion F′ closes the discharge-opening *d*, and prevents any escape of dust from the ash-sifter. The front screen is retained in this position by a pin, *f*, projecting through an arc-shaped guide-slot, *f′*, in the side wall of the casing, and by a recessed pivot-arm, *g*, of corresponding shape, that is arranged and guided along a wire staple at the outside of the casing and placed over the pin, so as to lock the same, and thereby secure the front screen rigidly in vertical position. The curved pivot-arm *g* closes at the same time the guide-slot *f′*, so as to prevent the escape of dust during the shaking of the screen.

When the ash-sifter is used for screening the ashes, every opening of the same is closed, so that no dust can escape from the sifter, so as to annoy the person working the same. The ashes accumulate in the lower part and

are removed from time to time, while the coal particles are drawn off by the front screen to the outside, so as to save all unburned coal, in a convenient manner, without any annoyance from the coal-dust.

The hopper is so arranged above the scoop-shaped screen that all the ashes are carried into the same, at whatever position the screen is left in the sifter, without any escape of the ashes sidewise of the screen. This secures the conveying of all the ashes to the screen and the thorough screening of the same by the working of the reciprocating screen.

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

1. The combination, in an ash-sifter, of the exterior casing, having top lid and hopper, bottom ash-receptacle, and interior reciprocating and tilting screen, with a pivoted front screen, having lower exit-spout, extending through a discharge-opening to the outside, the front screen being so arranged as to be retained in vertical position during the screening operation, and in inclined position for discharging the screened coal, substantially as and for the purpose described.

2. The combination of an ash-sifter having a swinging front screen, with lower spout extending through an opening to the outside of the sifter, and projecting side pin at upper end, with a guide-slot of the side wall, interior lugs or seats, and exterior locking pivot-arm, to retain the front screen in vertical or inclined position, substantially as specified.

3. The combination, with the casing A, having a reciprocating and tilting screen, E, of the swinging front screen F, having lower extension-spout F′, and of an inclined deflecting-plate, G, arranged below the lower part of the front screen, to conduct any screened-off ashes into the ash-receptacle, substantially as set forth.

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