(No Model.)

# F. H. PERRY.

## COAL SIFTER.

No. 383,412. Patented May 22, 1888.

FIG 1.

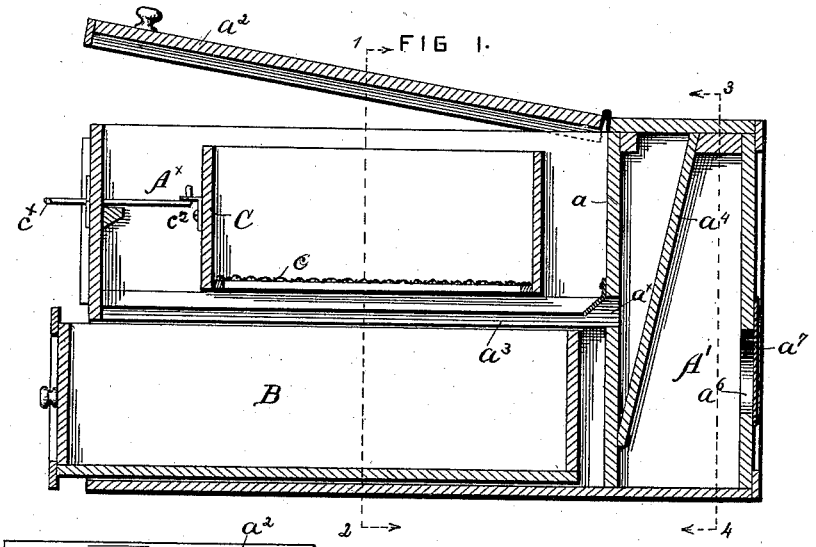



FIG 2

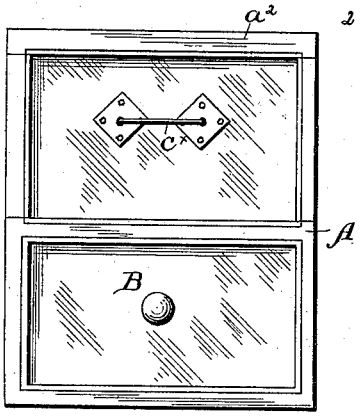



FIG 3

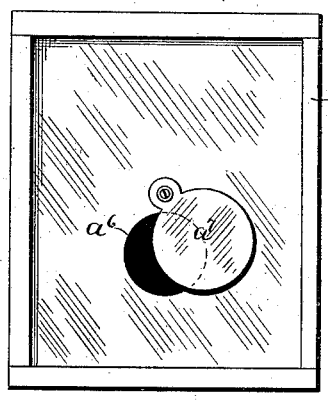



FIG 4

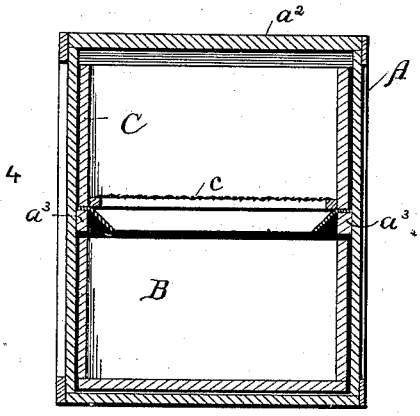
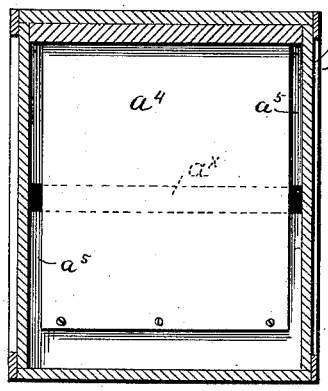



FIG 5




WITNESSES.

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# UNITED STATES PATENT OFFICE.

FRANCIS H. PERRY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CHARLES J. WEBB AND MAGGIE BLANCHE PERRY, BOTH OF SAME PLACE.

## COAL-SIFTER.

SPECIFICATION forming part of Letters Patent No. 383,412, dated May 22, 1888.

Application filed April 9, 1887. Serial No. 234,306. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS H. PERRY, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Coal and Ash-Sifters, of which the following is a specification.

My invention relates to a class of devices intended for employment in apartments, that is to say, within doors,—for sifting dust and ashes from among coal, and its object is the provision of a compact, inexpensive, and serviceable device for effecting said sifting operation unattended by the escape of dust into the apartment.

To the foregoing ends my invention comprehends such an apparatus as is represented in the accompanying drawings and hereinafter described.

In the accompanying drawings, Figure 1 is a central vertical longitudinal elevation, through a sifter embodying my invention. Fig. 2 is a left hand, and Fig. 3 a right hand end elevational view, of the apparatus represented in Fig. 1. Fig. 4 is a transverse sectional elevation, in the plane of the dotted line 1–2 of Fig. 1, sight being taken in the direction of the arrows upon said line, and the cover being represented as down upon the top of the box instead of raised as in Fig. 1. Fig. 5 is a similar view, section being in the plane of the dotted line 3–4 of Fig. 1, and sight being taken in the direction of the arrows upon said line.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a preferably rectangular box casing or receptacle, provided near one end with a transverse vertical diaphragm *a* which divides it, the said casing, into a charging compartment $A^{\times}$, and what I term a discharging compartment, A′. Of these compartments the charging is preferably of four times the cubic area of the discharging. A transverse slot or kindred opening $a^{\times}$ in the diaphragm *a*, about midway of its height, affords communication between the two compartments. The under portion of the charging compartment is fitted with, and when the same is in place, completely filled by, a sliding drawer B adapted to be withdrawn at will. The charging compartment is also fitted with a cover $a^2$ preferably hinged, and co-extensive with the floor area of the compartment.

A sifter C, the same being a rectangular open-topped box, the floor or bottom of which is composed of a sieve *c* of any desired mesh, is fitted for longitudinal reciprocation upon ways $a^3$, within the upper part of the charging compartment and above that portion thereof which is occupied by the sliding drawer. The sieve is preferably as broad as the charging compartment but considerably shorter. It rests upon the ways or slides $a^3$ which are conveniently attached longitudinally to the inner side faces of the charging compartment and which are parallel, and it is reciprocated longitudinally by means of a shaking handle $c^{\times}$ passing through orifices in the front face of the casing and removably connected in any preferred manner, as for instance by the hook and eye connection $c^2$, with the front end of the sifter.

It is apparent that by means of the projecting portion of the shaking handle the sifter can be shaken or reciprocated upon its ways. An angular flange $c^3$, extending along three sides of the interior of the charging compartment, forms a chute or hopper serving to direct ashes shaken through the sieve of the sifter into the sliding drawer. The flange is omitted from the outer end of the charging compartment because not required there. It may be attached or supported in any convenient manner, but I prefer to mount it, as to the sides of the compartment, as shown, upon the pieces $a^3$, so that the sifter C may run or slide upon the metal of the flange, the pieces $a^3$ affording a good point of attachment for the flange. The flange extends across the inner end of the charging compartment preferably at such a height as to overhang the slot $a^{\times}$.

The discharging compartment A′ is provided with an inclined partial partition or deflecting board $a^4$, interposed between the slot $a^{\times}$ and a vent $a^6$ in the outer wall, said deflector extending from the bottom or near the bottom of said compartment and from the diaphragm, upwardly and outwardly to the rear portion of the closed cover of said compartment. This partition is of less breadth than the interior

breadth of the discharging compartment, and between its sides and the inner faces of the side walls of said discharging compartment are consequently formed openings $a^5$ through which dust passing through the slot $a^\times$ can if necessary pass to the rear of the partition and into what is in effect the rear compartment of the discharging compartment itself,—such rear compartment being provided with a vent or discharge outlet $a^6$ of any preferred character and which is provided with a closed lid or valve $a^7$.

It will now be apparent that the discharging compartment is a compartment having but two openings, one the slot through the diaphragm which separates it from the charging compartment, and the other the vent to the outer air.

Having now described an apparatus conveniently embodying my invention, its operation will be readily understood. The lid or valve $a^7$ of the discharge outlet $a^6$ being first opened and the cover of the charging compartment being raised the material which it is desired to sift is deposited into the shaking sieve, in which operation the dust naturally disturbed, instead of rising in a cloud as usual, is, by reason of a temporary current of air from the discharging compartment through the slot $a^\times$ into the discharging compartment, carried into the discharge compartment and deposited therein. The cover of the casing being then closed, and the lid of the discharging vent likewise closed, the sifter is by its handle reciprocated, and the ashes and dust pass through the meshes of the sieve and are deposited in the sliding drawer, and the coal remaining within the sifter is removed by detaching the sifter from its handle and lifting it out bodily.

An accumulation of ashes or dust in the discharging compartment can be removed through the vent or discharging outlet.

Having thus described my invention, I claim:—

A coal or ash sifter comprising a casing, a diaphragm having an opening through it and dividing said casing into a charging and a discharging compartment, the latter provided with an external vent or discharge opening, a reciprocating sieve and an ash drawer in the receiving compartment, and a deflector in the discharging compartment, substantially as set forth.

FRANCIS H. PERRY.

Witnesses:
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