

No. 673,833.

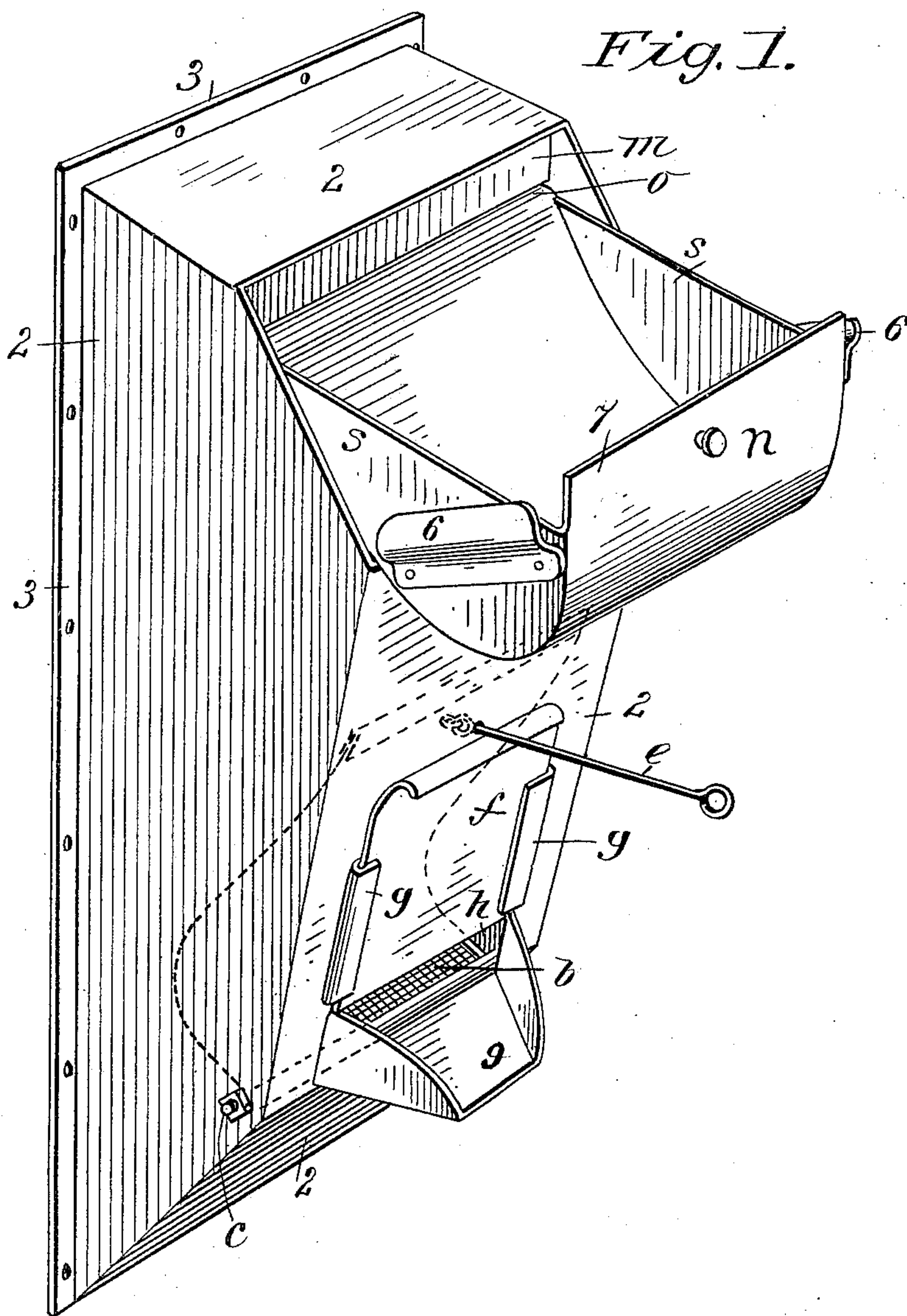
Patented May 7, 1901.

T. EDWARDS.
CINDER AND ASHES SEPARATOR.

(Application filed Mar. 29, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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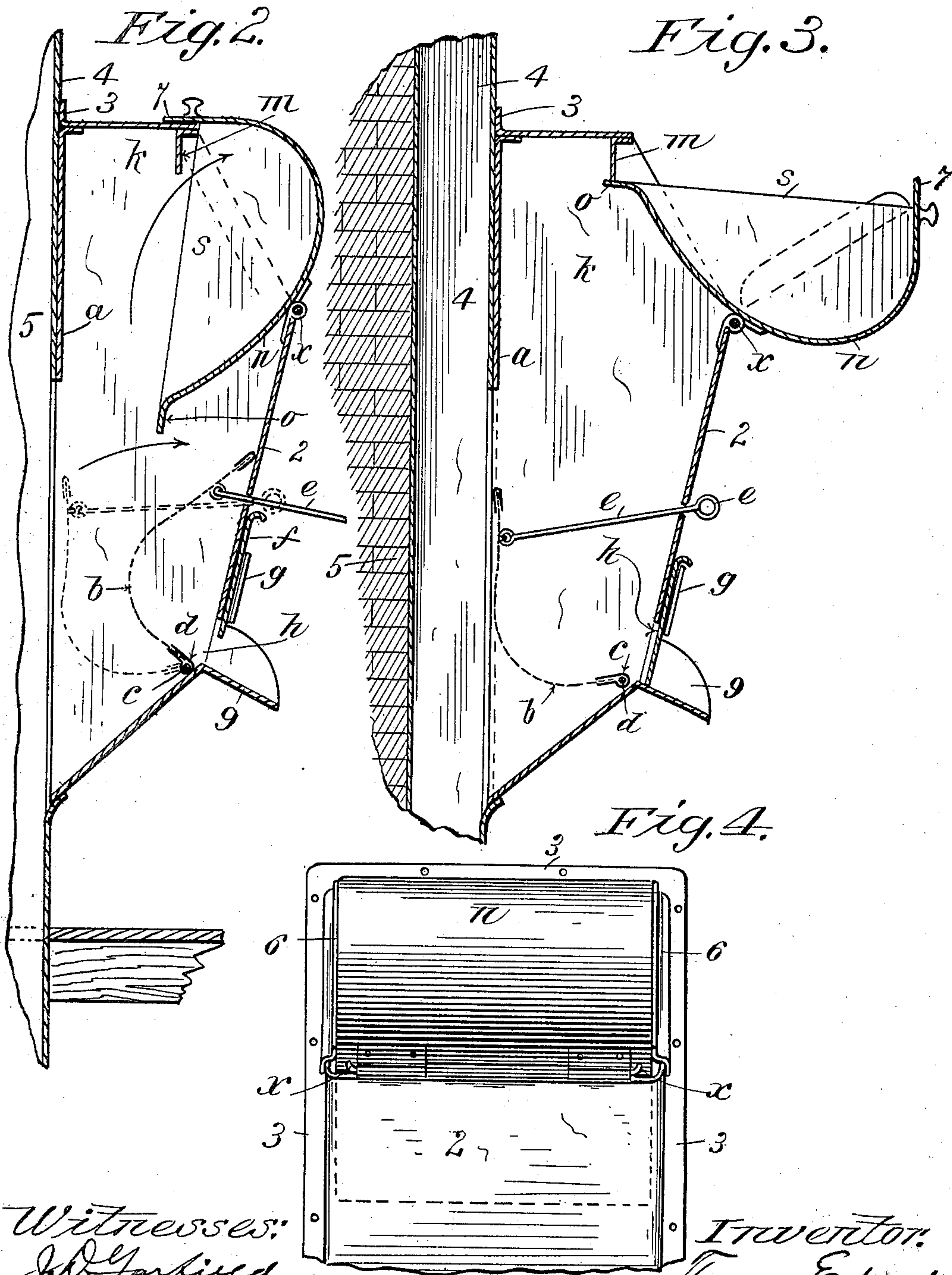
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

THOMAS EDWARDS, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF ONE-
HALF TO CASPAR RANGER, OF SAME PLACE.

CINDER AND ASHES SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 673,833, dated May 7, 1901.

Application filed March 29, 1900. Serial No. 10,615. (No model.)

To all whom it may concern:

Be it known that I, THOMAS EDWARDS, a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Cinder and Ashes Separators, of which the following is a specification.

This invention relates to sifting devices for ashes and similar matter, the object being to provide an improved apparatus of this class for separating cinders or partially burned coal from ashes and conducting the coal into a suitable receptacle; and the invention consists in the peculiar construction and arrangement of the several parts thereof whereby said object is attained, all as hereinafter fully described, and more particularly pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a perspective view of an automatic ash-sifter constructed according to my invention, this figure showing the door of the device in open position. Fig. 2 is a vertical section of the ash-sifter and of parts of the front wall of the ash-chute attached to the rear thereof, this figure illustrating the positions of the parts of the device after having been operated for sifting ashes. Fig. 3 is a vertical section view of the sifter and said chute, showing the positions of the parts thereof when ready to receive matter to be sifted, this figure illustrating a portion of a wall on which the devices may be supported. Fig. 4 is a front elevation of the upper part of the device, the door being shown closed.

Referring to the drawings, 2 indicates the case of the ash-sifter, which is preferably of suitable sheet metal and comprises a back section *a*, extending about half-way from the upper end downward, and the sides, top, and front portion, as clearly shown in the drawings. The borders of said case are provided with a suitable flange 3, which furnishes means for securing the devices against the chute 4, which is located against a wall 5. The sifter element proper, of perforated material, (preferably of coarse wire-cloth,) is indicated by *b* and is hung within said ash-sifter case 2 upon a bolt *c*, having a head on one end, (not shown,) passing through the case

from side to side and through a metallic tube *d*, to which the lower end of the sifter *b* is fixed, a nut on the second end of said bolt *c*, as shown in Fig. 1, securing it in the case 2, so that it may be withdrawn to permit the sifter to be removed for repairs or for renewal. The lower end of said case 2 is engaged by an outturned lip on the side of said chute, as shown in Figs. 2 and 3.

A sifter-operating rod *e* of convenient outer end form to be grasped by the hand passes freely through the front wall of the case 2 and has its opposite end loosely connected to said sifter, and thereby the latter may be given shaking vibratory motion, which serves to cause ashes to drop through it, leaving clean unburned coal and cinders in the sifter. Ashes and other matter so dropped from the sifter fall through an opening in the rear wall of the case 2 (below said back-wall section *a*) into said chute 4. The said vibratory movement of the sifter *b* (the upper end of which swings from the back position shown in Fig. 3 to the forward one shown in Fig. 2, and vice versa) causes the ashes and cinders contained therein to be so violently thrown back and forth that very few of such movements are required to cause all the ashes to be separated therefrom. In the upper front side of the case 2 is the receiving-opening *k*, and opposite the lower end of said sifter *b* an opening *h* (see Figs. 1 and 2) is made, through which coal or other matter is thrown when the sifter is swung forward, as in Fig. 2, and matter so thrown is caught on the trough 9 and from thence may slide into any suitable receptacle placed thereunder. The upper border of said opening *k* is nearest the back of the case 2, to the end that inclined borders of said opening shall be presented, against which the cover shall lie and close the opening by gravity.

A sliding door *f*, held between two border-clips *g*, secured to the front of the case 2, closes or opens said opening *h*. A depending strip *m*, of metal, is fixed on the inner wall of the top of the case 2, back of the border of said receiving-opening *k*, in the position shown in Figs. 1, 2, and 3 and coöperates with the cover *n* of the device in the manner and for the purpose below described. Said cover

is concave or trough-like in cross-section and has the ends *s s* and is adapted when opened to receive the ashes and cinders which are to be treated, and when in that position the horizontally-extending lip *o* on its rear border engages said strip *m* and practically prevents communication between the upper and lower ends of the case. Said cover has the lips *6 6* on its ends, which shut over the end borders of said opening *k*, and an extending lip *7* on its outer border, which shuts over the upper border of said opening when the cover is shut, as in Fig. 2. Said lips *6* and *7* serve to so close the borders of said receiving-opening *k* when ashes are emptied from the cover into the sifter below that dust is prevented from escaping from the case. Said cover is hinge-connected to the lower border of said receiving-opening, as shown. If desired, said cover may be connected to the case *2* by a hinge-bolt having a nut on one end, like the bolt *c* in Fig. 1, and the usual head on the opposite end.

The operation of the complete device is as follows: When the cover *n*, the sifter *b*, and the sliding door *f* occupy the positions illustrated in Fig. 3, the matter to be sifted is poured into said cover, and the latter is then shut, thereby discharging its contents into the sifter below. The sifter is then given a swinging movement by means of the rod *e*, thus causing the ashes and fine parts of the

cinders to be dropped into the lower part of the case *2* and thence into the chute *4*. The door *f* is then lifted. The sifter is drawn forward with a quick movement, throwing the cleansed cinders or coal forward through the trough *9* into a suitable receptacle.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

A hollow case having an opening in the rear wall thereof for the escape of ashes and like matters, an opening in the front side of said case, a receiving-trough hung on the lower border of said last-named opening serving to close the same when swung to deliver its contents into a sifting device within the case, an opening through the front side of said case below said trough, through which sifted matter is delivered, a sliding gate temporarily closing said discharge-opening, a sifting device hung on the inner wall of the case below said discharge-opening, and an operating-rod connected to said sifter extending through the front wall of the case, whereby said sifter is manually operated between the inner walls of the case, and its sifted contents are thrown outwardly through said discharge-opening, substantially as described.

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