

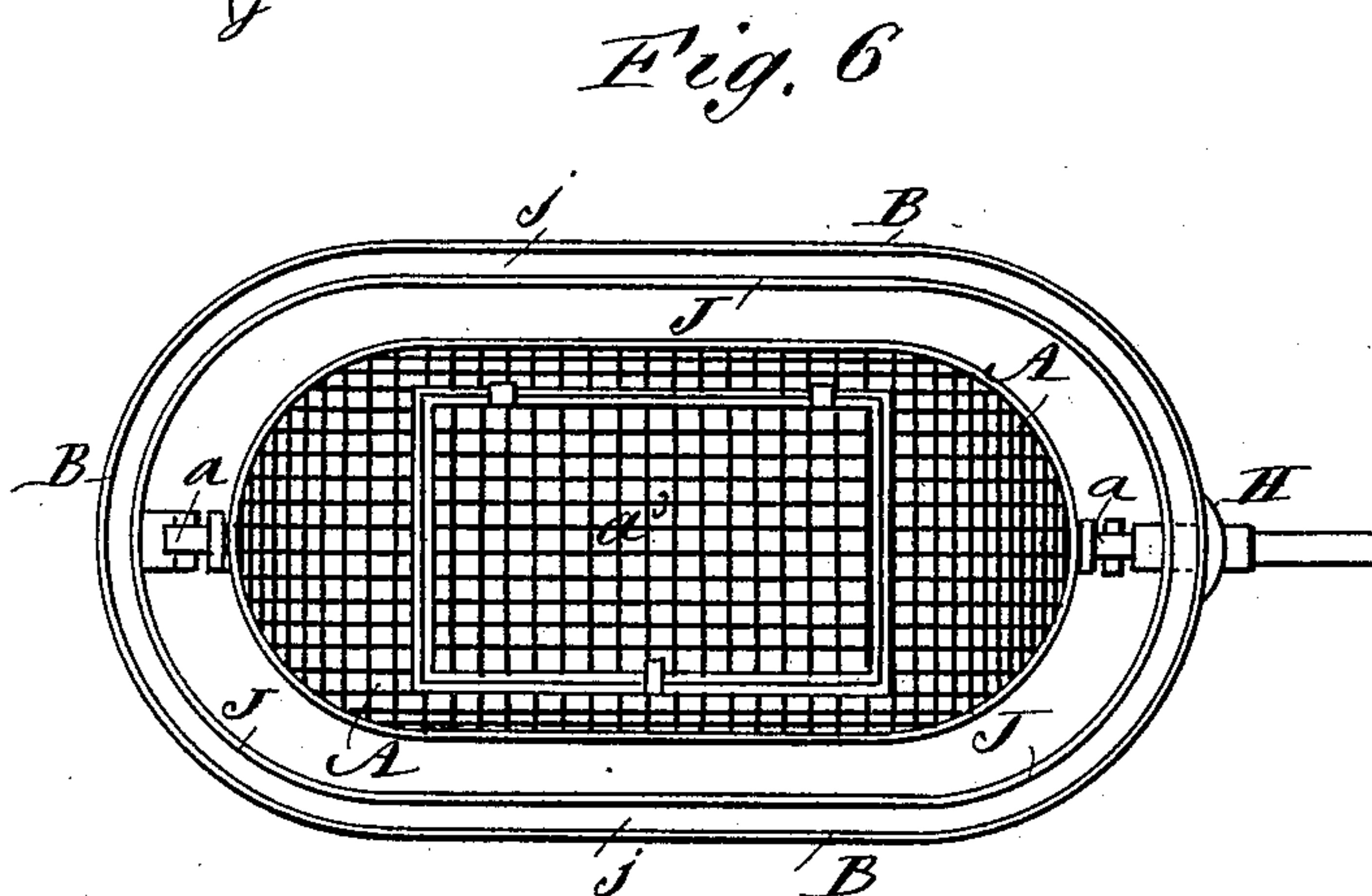
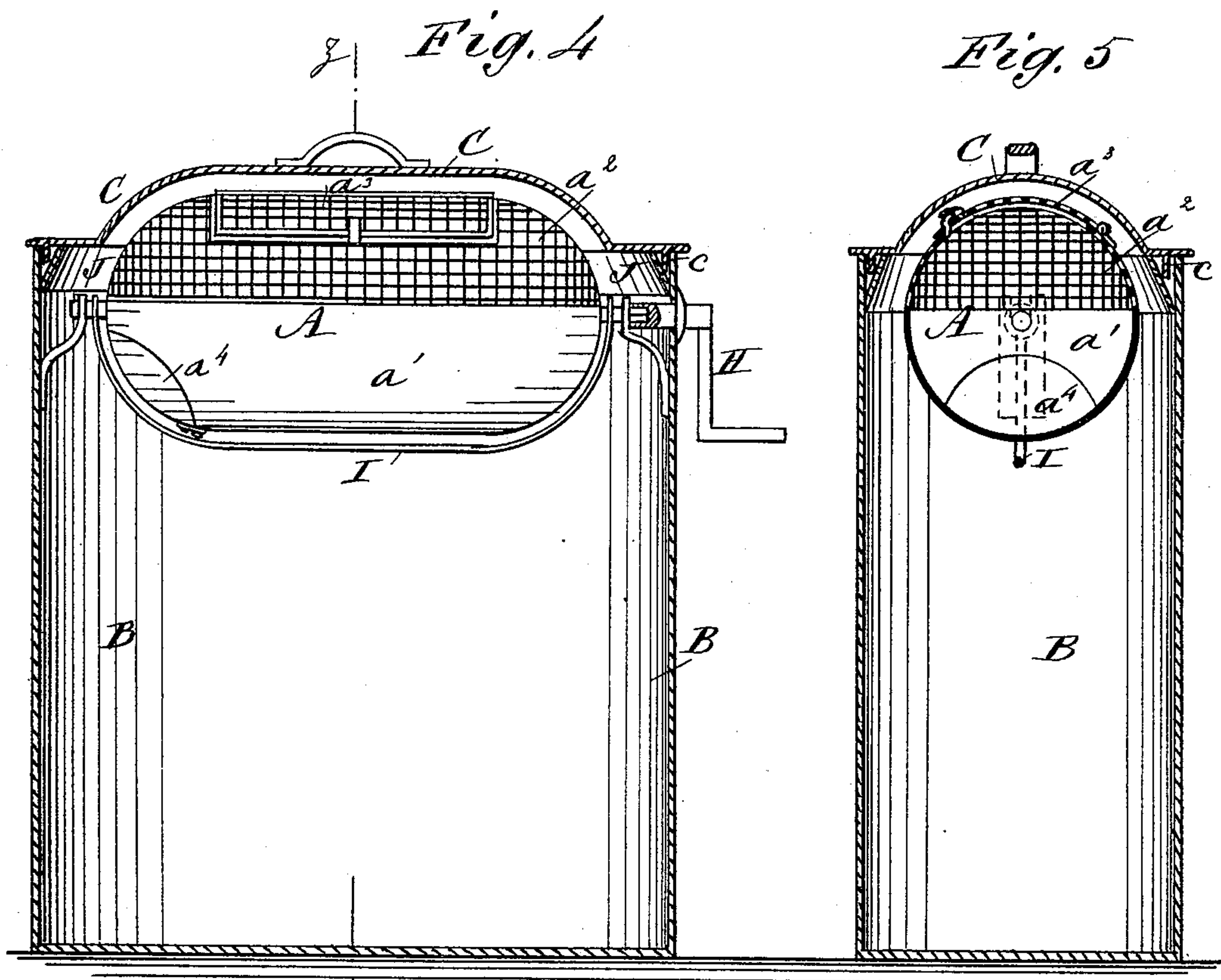
(No Model.)

2 Sheets—Sheet 2.

D. L. FALARDEAU.
COAL AND ASH SIFTER.

No. 370,185.

Patented Sept. 20, 1887.



WITNESSES:

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COAL AND ASH SIFTER.

SPECIFICATION forming part of Letters Patent No. 370,185, dated September 20, 1887.

Application filed January 24, 1887. Serial No. 225,307. (No model.)

To all whom it may concern:

Be it known that I, DENNIS LEWIS FALARDEAU, of Cohoes, in the county of Albany and State of New York, have invented a new and
5 Improved Coal and Ash Sifter, of which the following is a full, clear, and exact description.

My invention relates to sifters of that class adapted to sift coal and ashes; and the invention has for its object to provide a simple, inexpensive machine of this character which
10 will assure thorough sifting of the coal or ashes with little or no escape of dust, and with economy of time and labor.

The invention consists in certain novel features of construction and combinations of parts of the sifter, all as hereinafter fully described and claimed.

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

Figure 1 is a longitudinal vertical section of my improved sifter, taken on the line xx , Fig. 2, and shows the parts as arranged for sifting
25 coal or ashes. Fig. 2 is a transverse sectional elevation of the sifter, taken on the line yy , Fig. 1, and shows the body of the sifter about to be turned prior to sifting or to the removal of the sifted coal or cinders; and Fig. 3 is a
30 plan view of the sifter with its cover removed. Fig. 4 is a longitudinal vertical section of a modified form of the sifter. Fig. 5 is a transverse vertical section thereof, taken on the line zz , Fig. 4; and Fig. 6 is a plan view thereof
35 with the cover removed.

I will first describe the sifter with special reference to Figs. 1, 2, and 3 of the drawings.

The sifter proper, A, is a vessel to receive the coal or ashes or other material to be sifted,
40 and is supported within a case or outer vessel, B, which is provided with a cover, C, and also with a pivoted bail, M, to carry it by. The vessel A and case B preferably have the oblong form shown, and the vessel A has short
45 trunnions a at opposite sides, which rest in the forked upper ends of a metal stirrup, D, which is journaled at its lower part at d in lugs fixed to the case. Stop-pins E E, fixed to the case B, limit the oscillating or rocking motion of the stirrup and sifter-vessel A in the
50 case, and the vessel has a perforated lug, f ,

with which the inner end of a shaker-bar, F, may be engaged, said bar having a bearing in a hole in the end wall of the case, and also having a suitable ring or handle at its outer
55 end to allow it to be grasped for conveniently oscillating the vessel A in the case when the cover C is on the case.

The cover C has a convexed central portion giving room for the bodily rotation of the
60 sifter-vessel A beneath it in the case B. The cover is also provided at one side with an opening, c^2 , which is bordered by an outwardly-projecting flange, k , across which a cloth or wire screen, K, is spread and held in place by
65 a ring or collar, L, slipped over the flange k . (See Figs. 1 and 2 of the drawings.) This screen material, K, prevents escape of dust from the case B during the sifting operation, and admits sufficient air when the sifting is
70 finished to cause the dust in the vessel A and case B to settle quickly and allow the cover C to be soon removed to allow the screened coal or cinders to be taken away.

A metal plate, G, which is pivoted to one of
75 the side bars of the stirrup D at g' , has a square open slot, g , at its free end, which may be set over the squared end of the adjacent trunnion a of the vessel A, as shown in Fig. 1, to prevent the tipping over of the vessel on its trunnions, or, in other words, to lock the vessel to the stirrup D, to cause both to rock together on the bearings d of the stirrup when the shaker-bar F is used. At other times, as when the vessel A is to be rotated or turned bodily
85 in the case, the locking-plate G will be allowed to hang down on or from its pivot g' , as in Fig. 2 of the drawings. A crank-handle, H, may be entered by its socketed end through a hole, b , in the side of the case and be engaged with
90 the squared extremity of the adjacent trunnion a of the vessel A, to turn the vessel over during its operation, and as hereinafter explained.

The sifter-vessel A is peculiarly made, as follows: A portion of the vessel—say for a little
95 more than one-half of its depth—is made closed or imperforate, as at a' , and the other part, a^2 , of the vessel is made perforate or in open construction, and preferably of wire cloth or netting, of which sifting material usually is made;
100 or this part a^2 may be made of perforated

metal plates, if desired. A considerable portion of the wire-cloth a^2 of the vessel is made as a door, a^3 , preferably hinged at one side or edge and provided with a latch or lock button at the other edge, and a portion of the imperforate part a' of the vessel is made as a door, a^4 , hinged at one edge and arranged to be buttoned or latched shut at its opposite edge, all as shown in the drawings. The vessel A has a bail, I, hung on its trunnions a , and by which it may be lifted bodily from its bearings at the forked upper ends of the bail D and carried to any place to receive coal or ashes and discharge the sifted coal or cinders.

Around the inside of the vessel B, at its top part, there is fastened a flange, J, of sheet metal, which stands off at its upper edge from the side walls of the vessel, to provide a space, j , all around the vessel, into which the flange c of the cover C may pass when the cover is applied to the vessel, and as the base-plate c' of the cover fits the top of the vessel B and the top of its flange J, and as the flange c of the cover fits the flange J within the recess j , it is obvious that there is very little chance of dust escaping at the joints of the cover with the vessel when the sifter is operated.

The operation is as follows: When the vessel A is turned with its open or perforated side uppermost, the coal or ashes to be sifted will be passed into the vessel through the open door a^3 and will fall upon the lower or closed side or portion a' of the vessel, and will cause very little dust by comparison with that raised by pouring the coal or ashes directly onto a perforated sifting material, through which much dust may freely escape. When the coal or ashes are passed into the vessel A, as above stated, the door a^3 will be closed and fastened, and the latch-plate G, which had held the vessel A from turning while the ashes were being charged into it, will be swung down from the trunnion a of the vessel and the crank H will be applied to the other trunnion. The cover C now will be put on the case, and the crank will be turned to invert the vessel A, and the cover will be temporarily removed to allow the latch-plate G to be again adjusted to the trunnion of the vessel. When the shaker-bar F is connected to the vessel, it may be shaken quickly by the bar to sift the dirt or ashes through the perforated or netting side of the vessel now lowermost. After the sifting is finished the bar F will be removed and the crank will be readjusted to the vessel A, which will be again inverted to bring its imperforate side or part a' lowermost, and after the dust has settled the cover C will be removed, and the vessel A may then be lifted from the stirrup D and carried about with the sifted coal or cinders in it with little or no escape of dust from it, and the sifted contents of the vessel may be very easily discharged through the opening closed by the door a^4 when the said door is opened. If desired, the sifting may be done by turning the

vessel A bodily by the crank H; but it is preferable to use the shaker-bar F and oscillate the vessel A, as above described.

It is obvious that by using this sifter very little dust will escape in a room or other place where the sifter rests, and time will be economized in the work.

Considering the above description, a brief explanation of the modified form of sifter shown in Figs. 4, 5, and 6 of the drawings will suffice, as follows: The sifter-vessel A is hung on trunnions a at its ends in suitable brackets fixed to the case B, in which the vessel may be rotated bodily by applying a crank, H, to one of the trunnions by passing the crank end through an opening in the case. The vessel has a closed or imperforate portion, a' , and an open netting or perforated portion, a^2 , provided, respectively, with doors a^3 a^4 , substantially as above described with reference to the construction of vessel shown in Figs. 1, 2, and 3 of the drawings. The cover C is fitted by its flange c between a flange, J, fixed to the case and the wall of the case, and the vessel A has a bail, I, whereby to lift it from its bearings and carry it. In operating this modified form of sifter the coal or ashes will be placed in the vessel A while it rests with its imperforate portion downward, and when the cover C is put on the case B the vessel A will be rotated bodily by the crank H to sift the coal or ashes, and when this work is done the vessel will be turned with its closed side a' downward, to hold the sifted coal or cinders which may be discharged through the open door a^4 when the vessel is lifted from the case.

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

1. In a sifter, the reversible sifting-vessel made with an imperforate side or part provided with a door and an opposite perforated side or part provided with a door, substantially as shown and described, whereby the ashes to be sifted may be charged into the imperforate part of the sifter through the door in its perforated part, and the sifted cinders may be carried in the imperforate part and may be discharged directly therefrom through the door therein, as herein set forth.

2. In a sifter, the sifting-vessel made with an imperforate side or part and an opposite perforated side or part, and each of said parts provided with a door, in combination with an outer casing, within which the sifting-vessel is journaled in a manner to permit its removal from the casing with the sifted cinders, substantially as shown and described.

3. The combination of a sifting-vessel provided with trunnions, supports or bearings for said trunnions, an inclosing-casing having an opening opposite one of said trunnions, and a detachable crank adapted to be passed through said opening from the outside of the casing and engage said trunnion, substantially as herein set forth.

4. A sifter constructed substantially as
herein shown and described, and comprising
a reversible sifter-vessel, A, having journals
or trunnions *a*, provided with squared por-
5 tions, a stirrup, D, journaled in the case, and
in which stirrup the trunnions of the vessel
A have bearings, a lock-plate, G, held to the
stirrup, and a shaker-bar, F, passed through
a hole in the case and engaging the vessel A
for oscillating it when inverted, substantially 10
as and for the purposes set forth.

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Witnesses:

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