(No Model.)

E. W. HUMPHREYS.

COAL SIFTER.

No. 448,818. Patented Mar. 24, 1891.

Fig. 1.

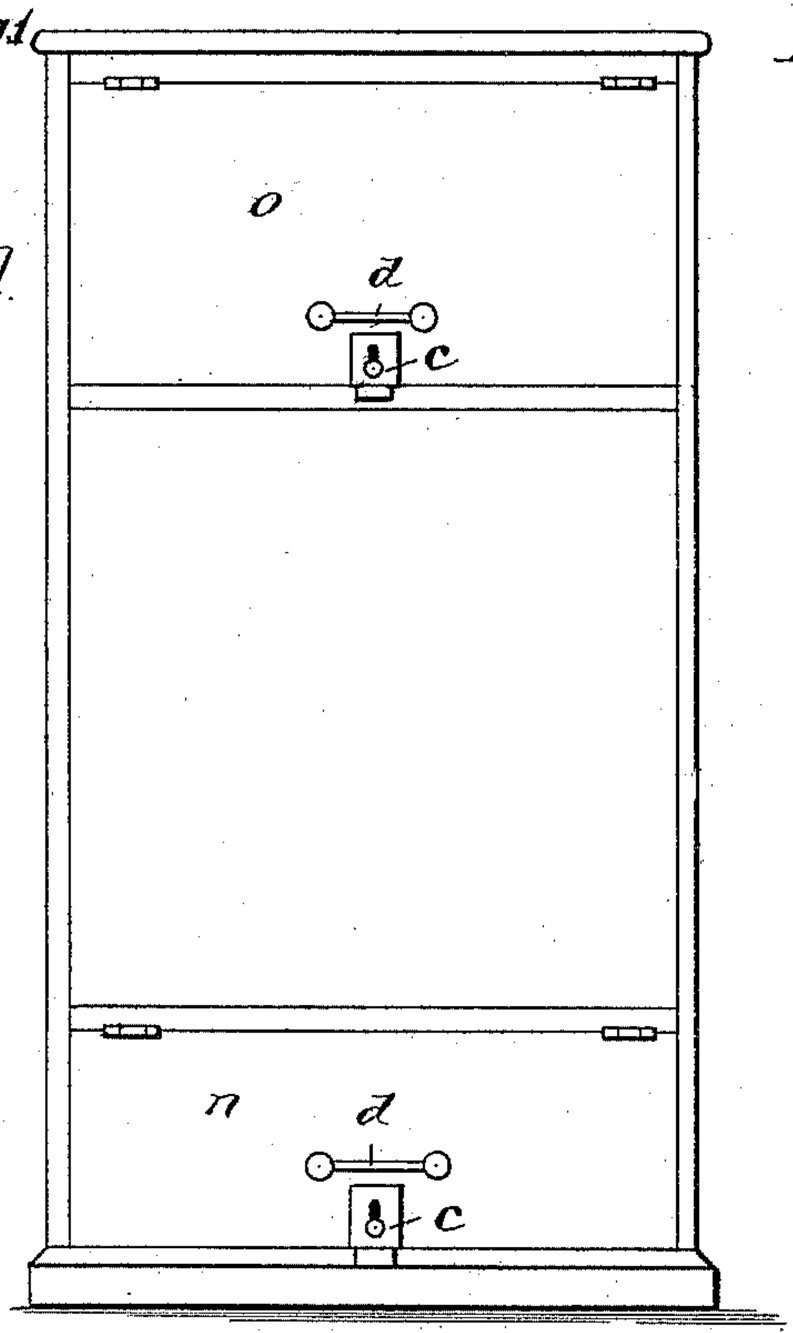

Fig. 2.

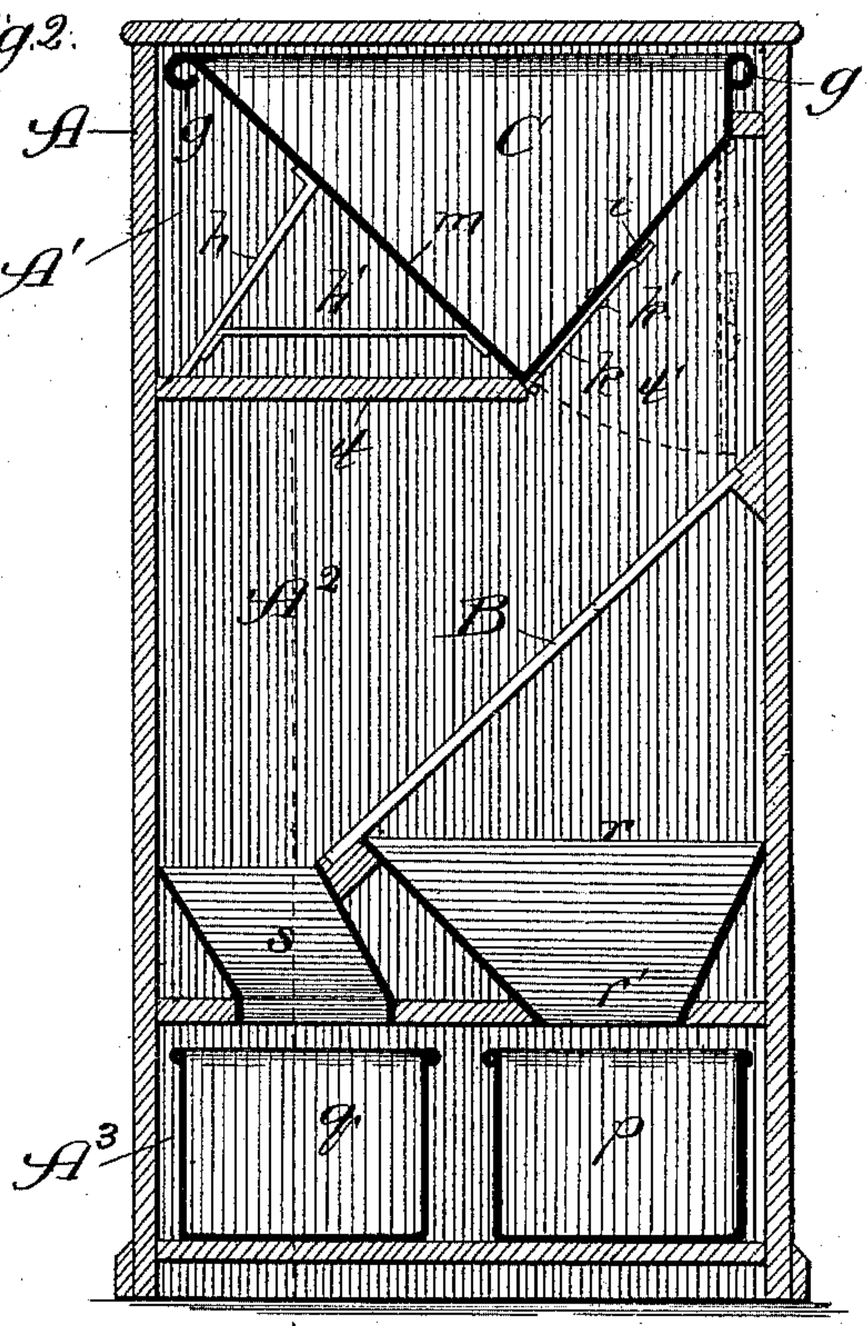

Fig. 3.

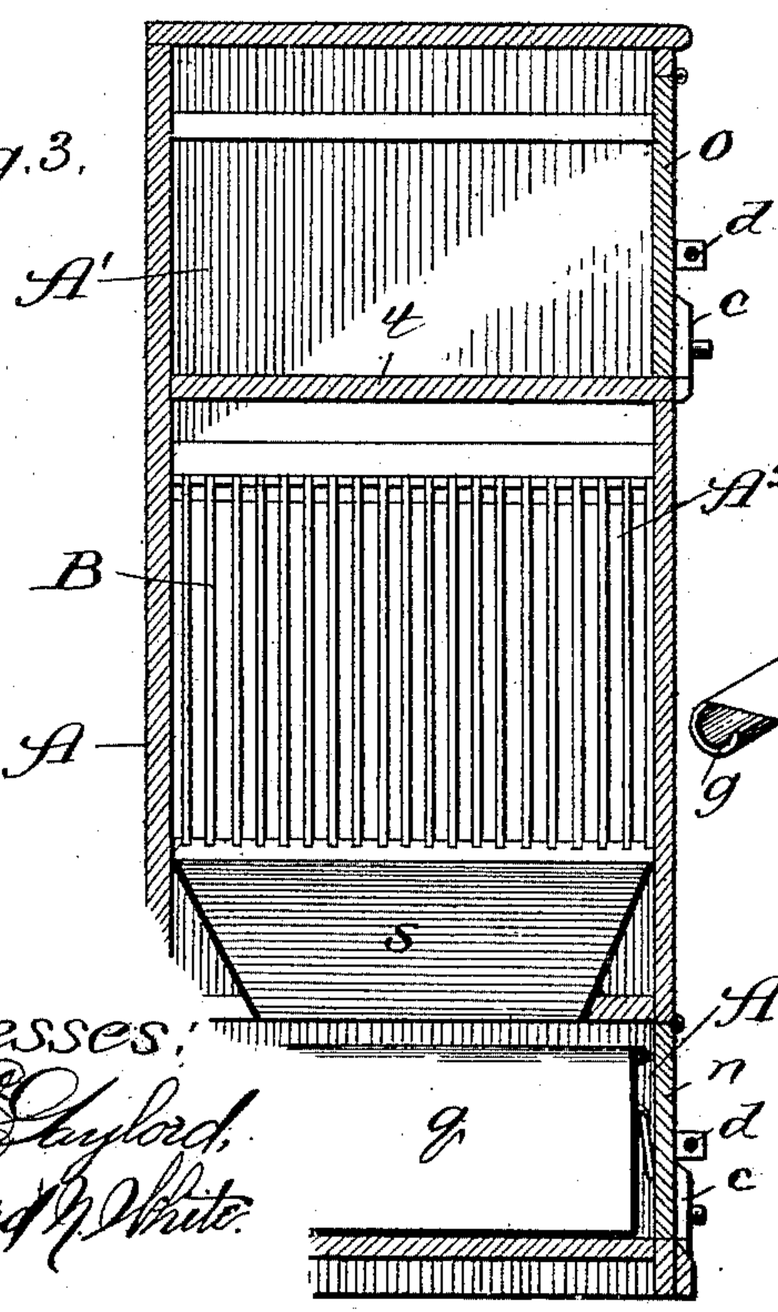

Fig. 4.

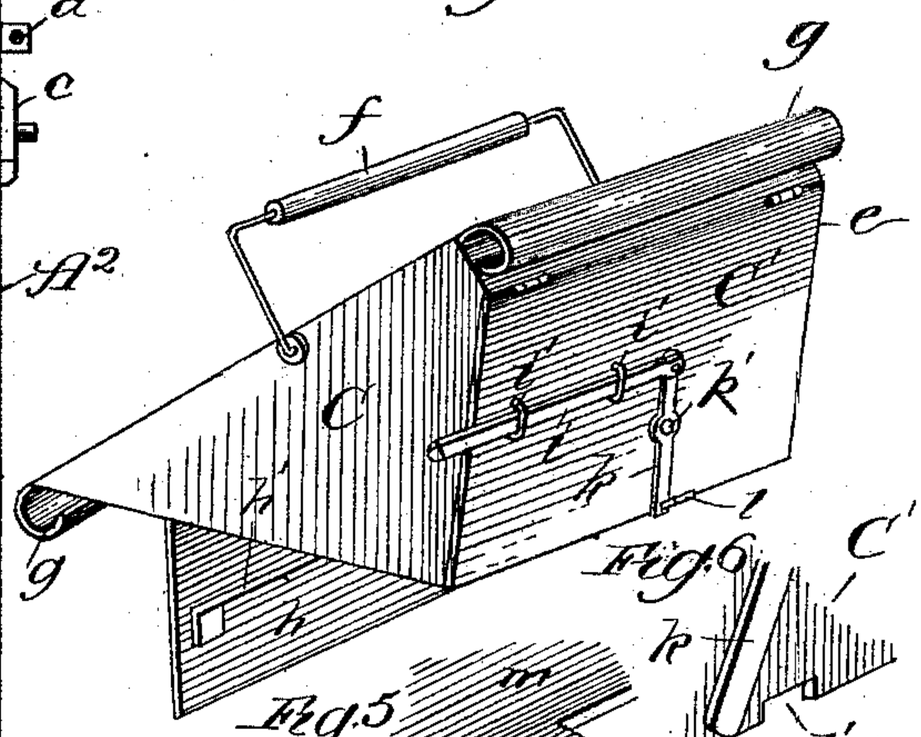

Fig. 5.

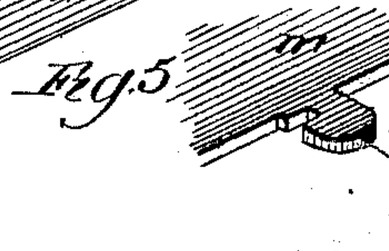

Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN W. HUMPHREYS, OF CHICAGO, ILLINOIS.

COAL-SIFTER.

SPECIFICATION forming part of Letters Patent No. 448,818, dated March 24, 1891.

Application filed December 9, 1890. Serial No. 374,095. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. HUMPHREYS, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Coal-Sifters, of which the following is a specification.

My invention relates to improvements in the class of coal-sifters in which the sifting is produced by dumping the mixed coal and ashes upon an inclined screen within a case; and my object is to provide a sifter of this class of novel construction, which shall render it durable, simple, and economical in its construction and eminently cleanly and effective in its operation.

To this end my invention consists in the general construction, as well as in details and combinations of parts, as hereinafter set forth and claimed.

In the drawings, Figure 1 is a view in front elevation of my improved sifter; Fig. 2, a view in sectional elevation, looking toward the back of the device; Fig. 3, a broken section taken on line 3 of Fig. 2 and viewed in the direction of the arrow; Fig. 4, a perspective view of a detail; and Figs. 5 and 6, broken perspective views showing the latch and catch details of the device shown in Fig. 4.

A is the case, which may be constructed, as shown, to represent a cabinet, in order that the device may be a more or less ornamental as well as useful article of kitchen-furniture. The case is divided internally into three compartments A', A^2, and A^3. The compartment A' is divided from the compartment A^2 by a horizontally-extending floor t, which extends from one side of the case part way across, leaving an opening t' of substantially the full width of the case between its free edge and the opposite side of the latter.

B is a screen of substantially the width of the case, and inclining, as shown, from the side of the case at the opening t' down to within a short distance of the opposite side, where it terminates in a chute s. Below the screen is a hopper-shaped compartment r, which ends in a chute r', terminating in the same plane as the chute s. In the compartment A^3, under the chutes s and r', are removable receptacles q and p. The compartment A' is closed by a hinged door o and the compartment A^3 by a similar door n.

C is a receptacle or bucket V-shaped in vertical cross-section, as shown, and closed on one of its inclined sides, which is open, by a door C', hinged at its upper edge near the top of the receptacle. The converging side m, opposite the door C', is provided at about the center of its lower edge with a projection or catch l, which extends from the said edge at an angle making it parallel with the top of the receptacle. At the said catch the door C' is recessed, as shown at l', to clear the catch. Upon the door C' is a latch k, pivoted at k' and pivotally connected at its upper end to a bar i, secured to the door by guides i', which permit the rod to be moved longitudinally. The rod i extends beyond the lateral edge of the door C' and side of the receptacle C. Extending downward from the side m is a supporting-leg h, held firmly in place by a cross-brace h'. At opposite edges of the top of the receptacle are curled flanges g, affording handles, and upon the center of the receptacle is a bail f.

In operation the receptacle C is removed from the case and its door C' secured in its closed condition by means of the catch and latch l and k. It may then be filled at the stove with the coals to be sifted, the door C' preventing the escape of dust and ashes. The receptacle is then lifted and slid into the compartment A' of the case until its side e opposite that beyond which the bar i extends meets the back of the compartment. The receptacle C is about equal in length to the width of the compartment A', so that the bar i extends at its free end into the path of the door o. As the latter is closed it forces the bar i inward, which causes the latch k to be turned out of engagement with the catch l, permitting the contents by their weight to swing open the door C' and flow out of the receptacle down through the opening t' to the screen. The coals and ashes are separated by the screen, the ashes falling through to the chute r' and receptacle p, while the coarser particles of coal run down to the chute s and receptacle q. The doors o and n being closed, no dust will escape into the room during the sifting-operation, so that the device may be kept in the

kitchen or other room of a house without danger of annoyance from its use. When the dust has settled in the case, the receptacle *q* may be withdrawn and its contents saved, and when the receptacle *p* has been filled with ashes it may be withdrawn and emptied. The bucket C rests upon its lower edge and leg *h*, and it may be readily lifted and carried about by its handles *g g* or bail *f*.

The doors *o* and *n* are each provided upon its face with a handle *d* and spring-catch *c* for maintaining it tightly shut when closed.

The closure C′ for the receptacle C performs the function of the valve portion of a hopper, and is such to all intents and purposes, though by reason of the form thereof illustrated it is herein referred to as a "door."

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sifter for ashes, coal, and the like, the combination of a case containing an inclined screen and provided with a door above the screen, a receptacle for the material to be sifted, removable from the case for supplying it with the said material and replaceable therein through the said door, and a valve on the receptacle, provided with means for securing it in place when closed, projecting into position to be opened by closing the door of the case when the receptacle is inserted therein, whereby the contents of the receptacle are emptied upon the screen and escape of dust from the case is prevented in the sifting operation, substantially as described.

2. In a sifter for ashes, coal, and the like, the combination of a case containing an inclined screen and provided with a door above the screen, a receptacle for the material to be sifted, removable from the case and replaceable therein through the said door and formed with inclined sides converging at the bottom, one of the said sides being opened and closed by a valve C′, a catch *l* upon the receptacle, a pivotal latch *k* upon the valve, and a longitudinally-movable bar *i*, with which the latch is pivotally connected, extending beyond the side of the receptacle, whereby when the receptacle is placed in the case the bar *i* will extend into the path of the door of the case and be moved by closing of said door to withdraw the latch and permit the valve to be opened by the weight of the contents of the receptacle, which are thus discharged upon the screen, substantially as and for the purpose set forth.

EDWIN W. HUMPHREYS.

In presence of—
J. W. DYRENFORTH,
M. J. FROST.