No. 610,635. Patented Sept. 13, 1898.

A. McKAY.

DUST TIGHT SIFTER FOR ASHES.

(Application filed June 30, 1897.)

(No Model.)

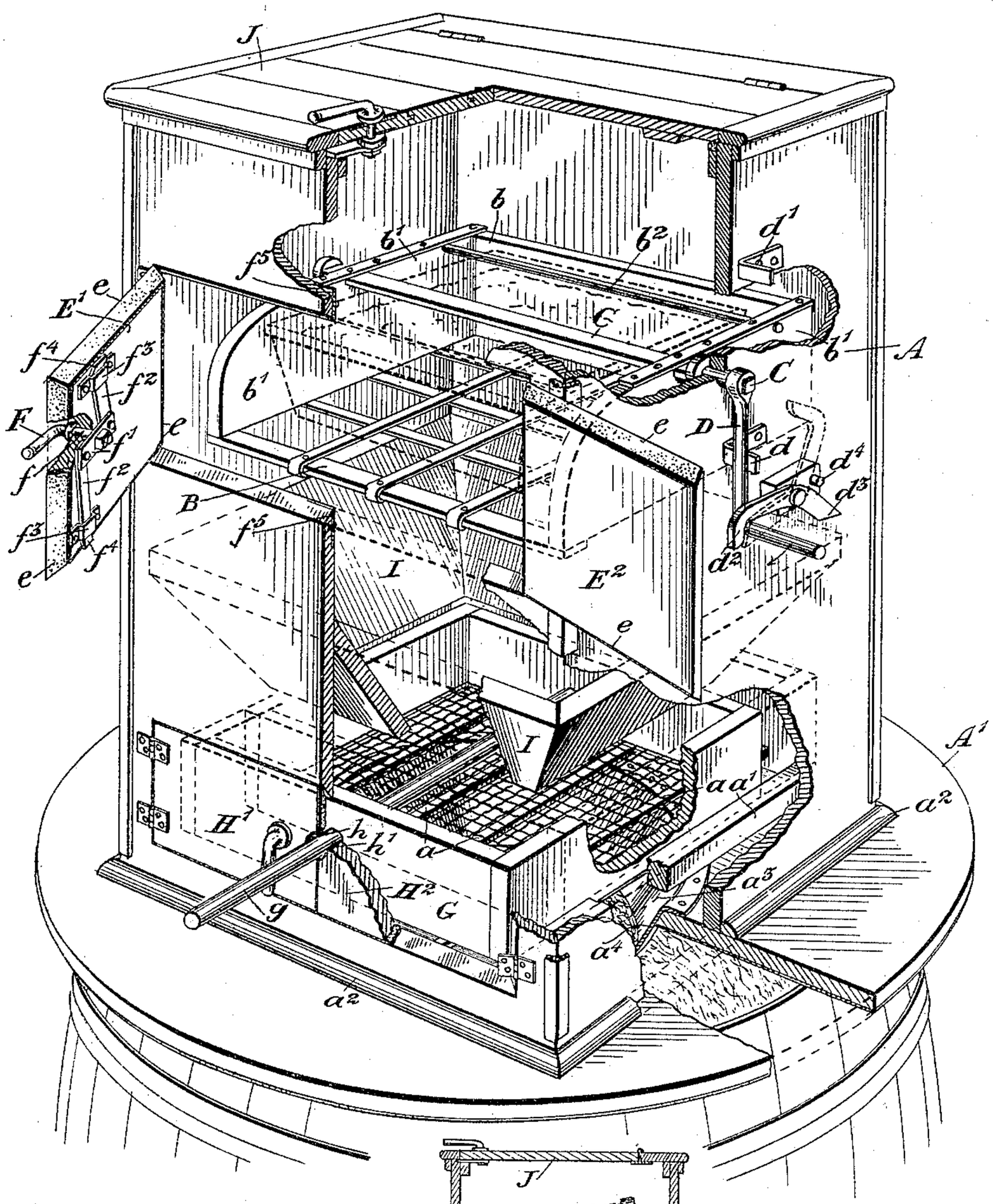

Fig. 1.

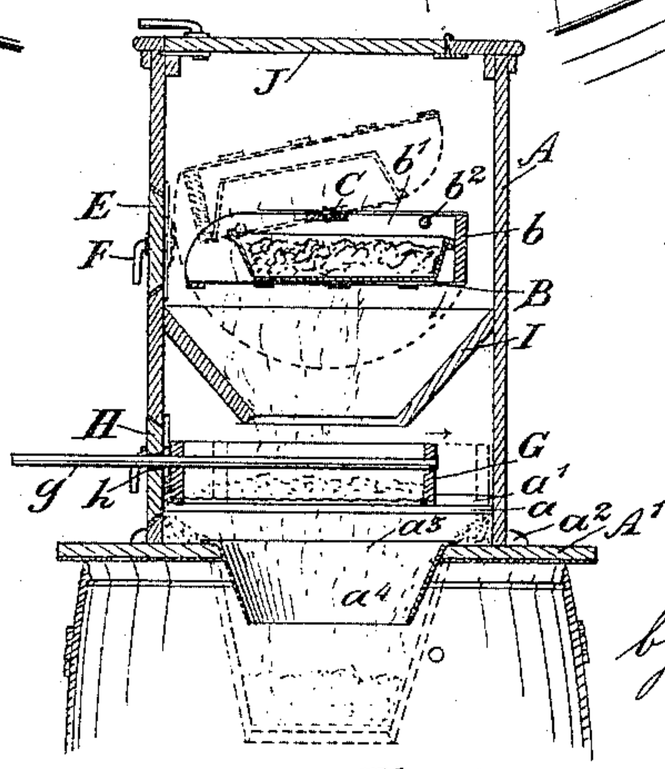

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

ALEXANDER McKAY, OF MONTREAL, CANADA.

DUST-TIGHT SIFTER FOR ASHES.

SPECIFICATION forming part of Letters Patent No. 610,635, dated September 13, 1898.

Application filed June 30, 1897. Serial No. 643,017. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McKAY, blacksmith, of the city of Montreal, in the county of Hochelaga, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Dust-Tight Sifters for Ashes and the Like, of which the following is a specification.

My invention relates to improvements in sifters for ashes, cinders, and other materials which ordinarily throw off a good deal of dust during sifting; and the object is to devise a simply-constructed, easily-operated, cheaply-repaired, and efficient apparatus so arranged as to confine all dust arising during the whole operation of sifting, including placing the ashes, &c., on the sifter, the sifting proper, and the final disposal of the fine sifted refuse, in a suitable receptacle; and it consists, substantially, of a box-like structure having a dumping-platform, a retaining attachment on said platform, dust-tight doors, a hopper and reciprocating sifter below the platform, and a second hopper extending through a dust-tight detachable base, which is designed to be placed on the top of any ordinary barrel, bucket, or other similar receptacle, the parts being constructed and arranged as hereinafter more particularly explained, and shown in the drawings hereunto attached.

In the drawings like letters of reference indicate corresponding parts in each figure.

Figure 1 is a perspective view, partly broken away, of an ash-sifter made in accordance with my invention. Fig. 2 is a central sectional side elevation of the same, showing ash-pan on dumping-platform and barrel beneath to catch ash-dust, with upset position of platform, pan, and bucket-receptacle in dashed lines.

A is a dust-tight box-like structure, preferably constructed of wood, though it might be made of metal or other suitable material.

B is a dumping-platform and made in the form of a swinging shelf approximately centrally hung from but solidly attached to the shaft C, which is centrally journaled in the sides of the box A, sufficiently far from the top to allow the platform B to be revolved into the upside-down position, as shown in dotted lines in Fig. 2. In order to do this, the crank-handle D is provided at one end of the shaft C, by which the shaft, and with it the platform B, may be revolved or turned upside down.

The platform B is preferably hung sufficiently far below the shaft to leave room for any ordinary pan—such as those commonly used in connection with stoves, grates, and in the household generally—to retain ashes, cinders, dust, and other refuse which may be desired to be sifted.

In the front of the box A, opposite the platform B, I place the door E, preferably made in two leaves E′ and E², as shown, and having the edges beveled. The sides of the openings in the box are reversely beveled, so as to form a dust-tight connection when the door is closed. In order to provide further against any possibility of dust escaping when the door is closed, I preferably place either on the edges of the door, as shown, or on the edges of the openings in the box strips of felt, rubber, or other suitable soft material.

In order to retain the door closed at will and even to draw it into very close contact with the box and hold it there, I preferably provide on the outside of one leaf E′ the handle F, firmly attached to or formed integrally with the shaft *f*, which passes through and journals in the said leaf and has firmly attached to its inner end the cross-piece *f*′, to the ends of which are pivotally connected the sliding bolts f^2, which are capable of movement in opposite directions through their respective retaining-straps f^3. The outer ends f^4 of the bolts f^2 are preferably bent slightly back from the inner surface of the door and are so arranged that on partly revolving the handles F in the direction indicated by arrow in Fig. 1 the sliding bolts f^2 will be caused to move outwardly past the edges of the door, and the turned-back points f^4 will engage with the inner side of the box and as the bolts are further forced out will draw the door into close contact with the box. On still further forcing the bolts f^2 outwardly their flat surfaces inside the bent points f^4 will be brought behind the edges of the box, thus firmly holding the door in tight contact therewith without any tendency to shake loose, as would happen if the pressure were left on the backwardly-turned points f^4 instead of on the flat portions of the bolts f^3 contiguous thereto.

In order to protect the edges of the box where the greatest wear comes from being destroyed, I preferably provide them with protecting-plates f^5 on the inside.

The door E is made large enough to allow any size of pan likely to be used to be easily placed on or removed from the dumping-platform B, which is left open at the front for that purpose, but is closed at the rear by the back b and preferably at the sides by the side walls b', which act as supporting connections between the platform B and the shaft C. Between the side walls b', at the top and near the rear thereof, I provide the rod b^2, in order to prevent the rear end of the pan from falling when the platform is turned upside down, the shaft C serving to retain the front portion thereof.

In order to prevent the front of the platform from tilting downward and thus allowing the pan or other receptacle placed thereon to slide off, I preferably attach the stop-lug d to the side of the box in such a position that the handle D will be prevented thereby from moving in that direction and thus allowing the front of the platform to be lowered; but the handle is free to move in the opposite direction, as indicated by arrows in Figs. 1 and 2, for the purpose of raising the front of the platform and finally turning it and all its contents upside down. The handle D is restrained in its revolution by the stop-lug d', fixed to the side of the box. This partial revolution, however, is quite sufficient to dump anything on the platform or in any open receptacle placed thereon; but such receptacle will not fall, as it is retained by the shaft C, the rod b^2, and the back b. The platform B may now be turned, or if left alone will naturally fall, back into its normal horizontal position. In order that it may be retained in such position without any danger of movement while the pan is being placed thereon or is being removed therefrom, I preferably provide the pivoted hook d^2, having the bevel-end tailpiece d^3. The hook d^2, together with the stop-lug d, will normally hold the handle, and consequently the platform B, against revolution. When the hook d^2 is thrown up into the dotted position shown in Fig. 1, it is stopped by the stop-pin d^4, and the handle D is free to turn the platform B over. On returning the handle to its normal position it will come in contact with the bevel end d^3 and force it downwardly, and consequently the hook d^2 forwardly, causing it to fall and lock the handle.

G is an ordinary reciprocating sifter, such as are in common use and can be cheaply purchased almost anywhere. The handle g passes through a hole h made in the door H, preferably on the line of junction of the two leaves H′ and H², which are constructed and operated substantially similarly to the door E. I preferably line the sides of the hole h with felt or soft material h' to keep dust from passing out during the operation of sifting. The sifter G slides on a plurality of bars a, suitably arranged across the box A, and is guided by the side bars a'.

Beneath the dumping-platform B, I preferably fix in the box the hopper I, the lower end of which is sufficiently contracted so that any ordinary sifter will always be under it during the movement of the latter, and thus everything falling from above will of necessity drop into it.

The box A is preferably loosely placed on the platform A′, being merely restrained from movement by the cleats a^2, attached to the platform, and which also act as dust-arresters, particularly if lined with felt, &c.

In the center of the platform A′, beneath the sifter G, is a hole a^3, in which is preferably fixed the hopper a^4. The under side of the platform A′ is preferably lined with some soft material, so that when placed on the barrel, bucket, or other receptacle it will make a dust-tight connection therewith.

In the top of the box A I place the dust-tight feed-door J.

I preferably make the platform B open, so as not to retain any ashes, but to allow them to fall freely through.

It will readily be seen that my sifter is extremely simple of operation and readily adjustable to any ordinary form of refuse-receptacle, which on account of rough handling by the scavengers is quickly broken up and has to be replaced. It also receives and dumps any ordinary size or shape of ash-pan, &c. The only part liable to wear and to be renewed from time to time, besides the dust-barrel or other receptacle, is the reciprocating sifter, which may be any of the ordinary cheap ones used everywhere.

One great advantage of my form of construction is that all dust is confined to the interior of the apparatus during the whole operation, which is as follows: The apparatus is of course placed on any barrel, &c., as shown. The front upper door E is opened and the ash-pan, &c., placed on the platform B without in any way causing dust to arise. The door is closed. Then the hook d^2 is raised and the handle revolved in the direction of arrow until it is stopped by the lug d'. By this means the platform is swung into reversed position, (shown in dotted lines in Fig. 2,) the pan, being capsized, dumping all its contents down the hopper I onto the sifter G. The platform may be turned back, or if left alone will now return to its horizontal position and is automatically locked there. The sifter is reciprocated until all ashes are sifted out. After a few moments the dust inside will have settled, when the doors may be opened and the pan and sifter removed. The dustless cinders left in the sifter may now be dumped into the pan or otherwise disposed of without causing any dust to arise.

The great value of my invention will be recognized particularly by householders wishing to economize fuel and yet wishing to keep

dust from flying all about, over themselves or any provisions, &c., stored in the cellar or other apartment where ashes, &c., are sifted.

In summer the box A may be either tilted back or removed from the platform A′, which will then act as a convenient cover for the refuse-barrel, practically keeping dust and odors from arising therefrom and leaving a convenient opening for dumping refuse in.

What I claim as my invention is—

1. In combination, the box, the screen arranged near the bottom thereof, a platform pivotally supported within the casing above the screen adapted to receive an ash-pan, and having bottom, top, sides and rear retaining means for said pan, the front of said platform being permanently open, and means for turning said platform upside down, the open front of the platform moving upward in said movement, and means for preventing the lowering of the front of the platform below its normal plane, substantially as described.

2. In a sifting apparatus, the box, the screen, the platform and shaft, the crank-handle D, the stop-lugs d d' the hook d^2, pivoted intermediate of its ends and having its forward end engaging the handle D and the bevel-ended rearward extension d^3, substantially as described.

Signed at Montreal this 26th day of June, 1897.

ALEXANDER McKAY.

In presence of—
W. J. WITHROW,
M. W. GLENDON.