(No Model.) 2 Sheets—Sheet 1.

W. H. BAYLES.

REVOLVING ASH SIFTER.

No. 318,683. Patented May 26, 1885.

Fig. 1.

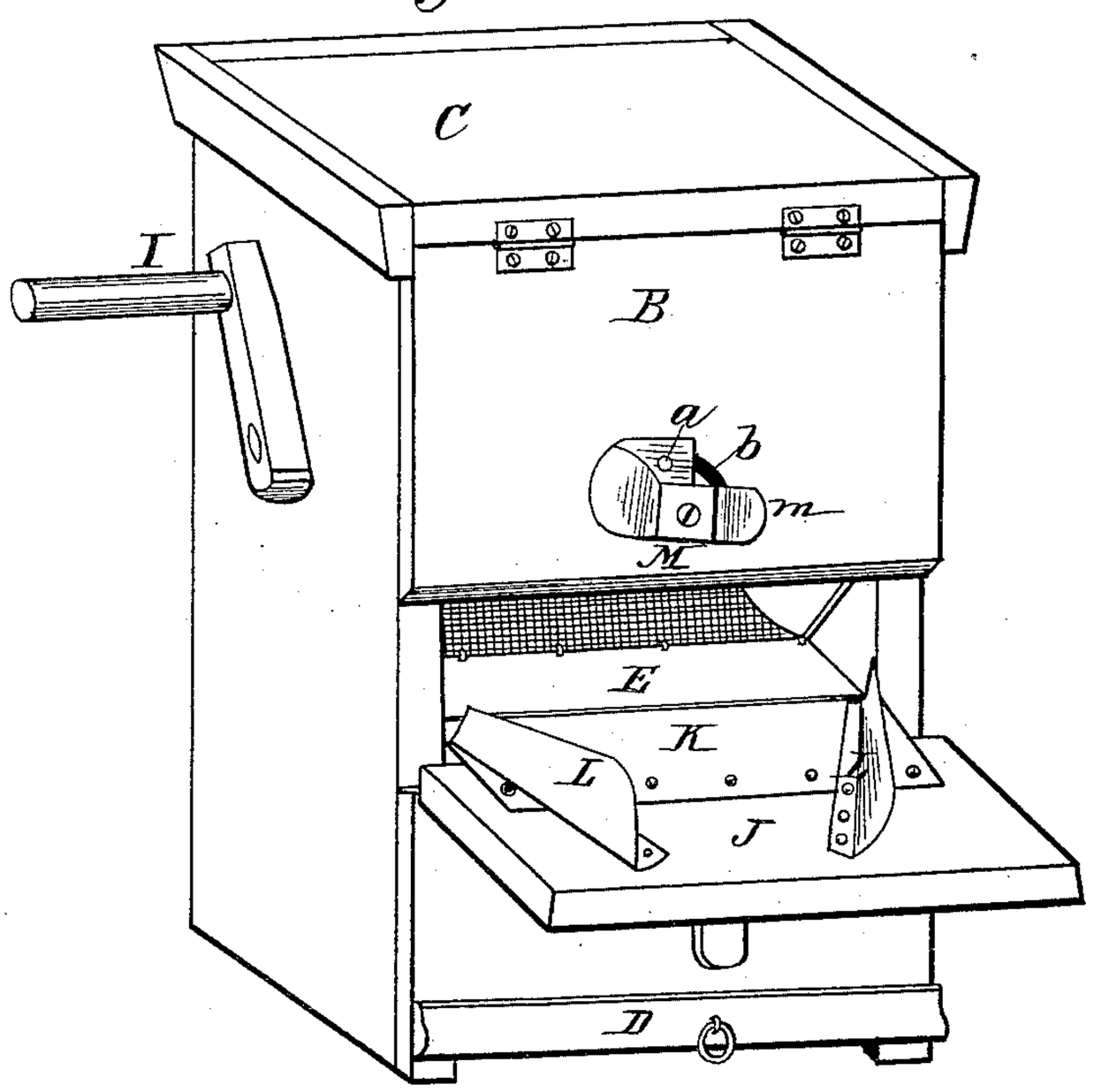
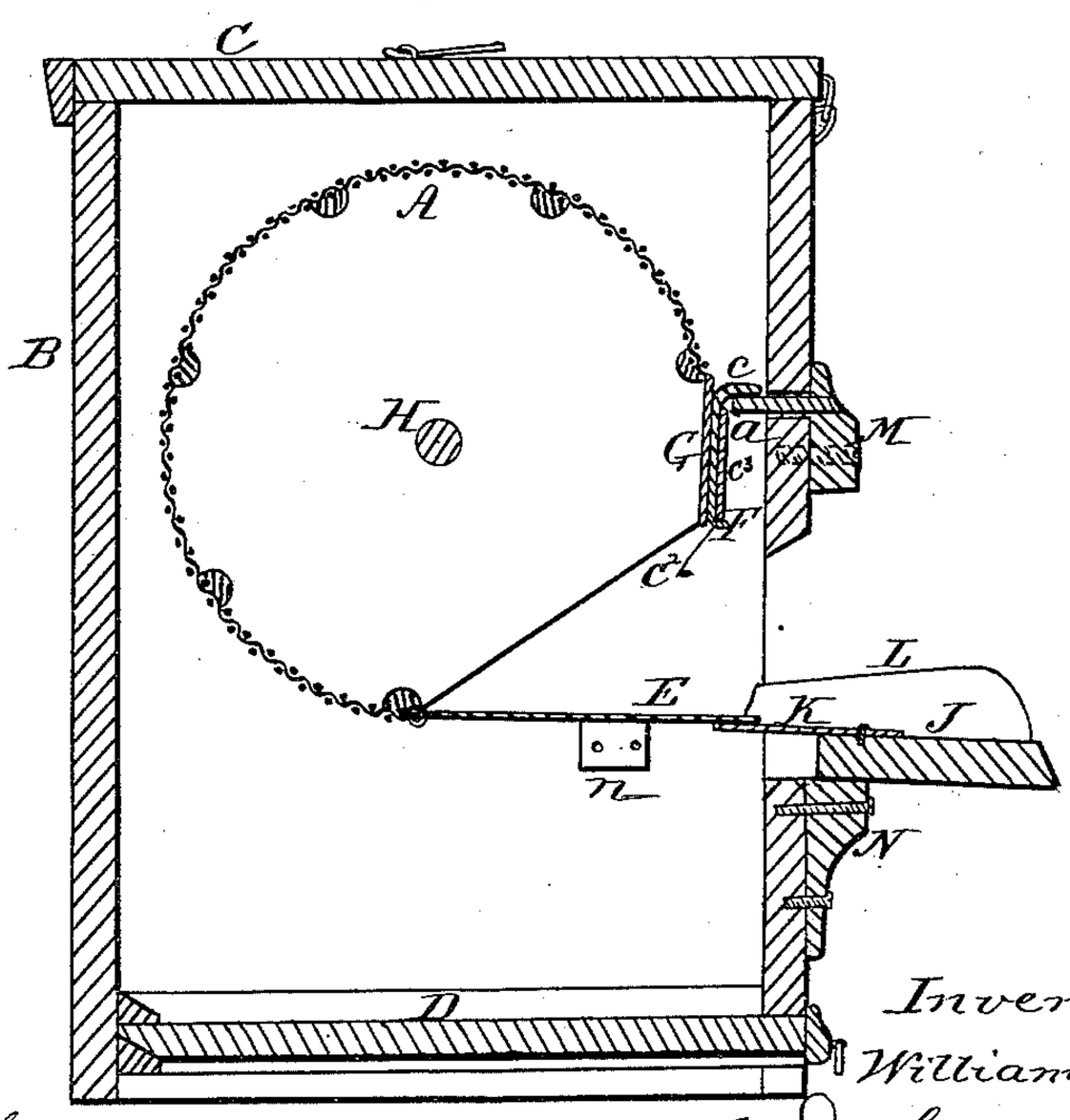


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

W. H. BAYLES.

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Fig. 3.

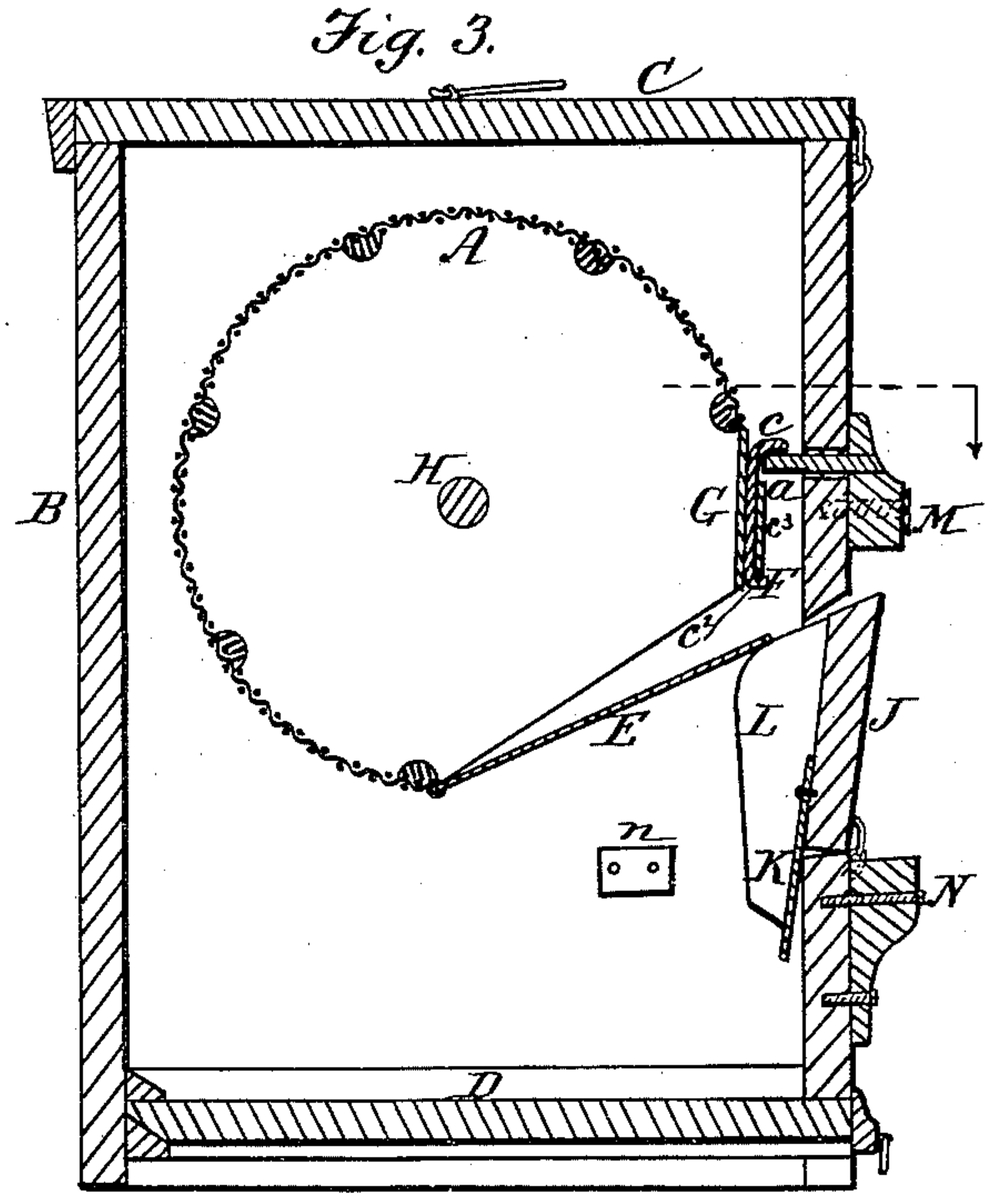


Fig. 4.

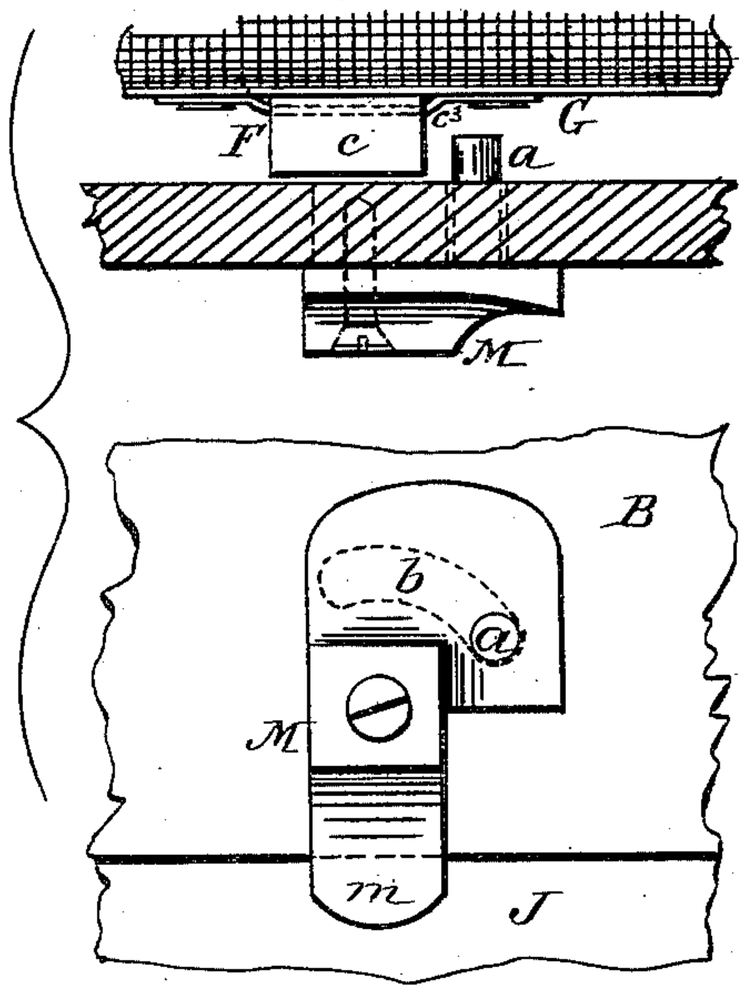
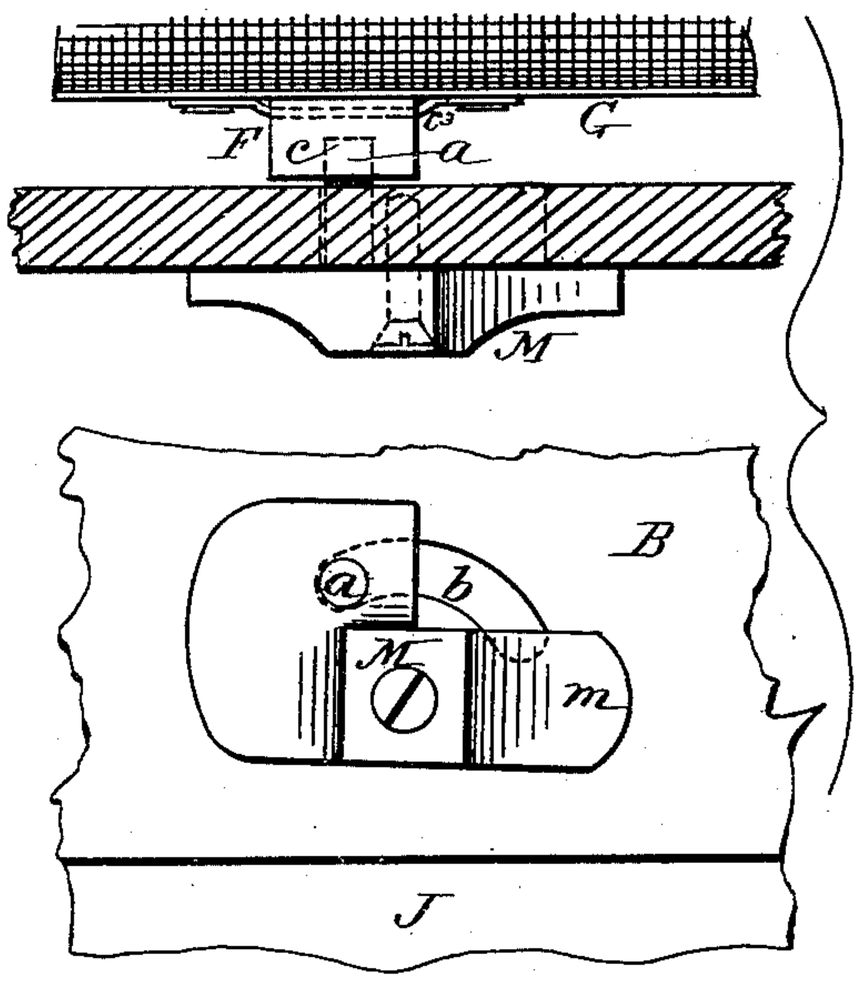


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BAYLES, OF PORT JEFFERSON, NEW YORK.

REVOLVING ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 318,683, dated May 26, 1885.

Application filed August 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BAYLES, a citizen of the United States, residing at Port Jefferson, in the county of Suffolk and State of New York, have invented new and useful Improvements in Revolving Ash-Sifters, of which the following is a specification.

I have improved the coal-sifter used to separate the unburned particles of coal from the ash cleanings of stoves and furnaces, in which the sifting is effected by a revolving cabinet-screen, within which the ashes, the dust, and the particles of coal are confined during the screening operation.

The objects of my improvements are to provide for the discharge of the cinders and particles of unburned coal from the screen over a hinged side chute of the cabinet without opening the top or cover thereof for access to the hinged section of said screen; to provide for arresting the turning of the screen and holding its discharge-section in proper relation to said hinged side discharge-chute; to effect the opening of the side discharge-chute by the falling or opening action of the hinged section of the screen; to effect the unlatching of the hinged screen-section by the same turn-button which fastens the hinged side discharge-chute; to effect the arrest of the screen and the unlatching of its hinged section by the same means which fastens the hinged side discharge-chute, and to produce a cabinet-sifter which can be used in the house to discharge the sifted coal directly into the hod from the screen, while retaining the ashes for discharge outside of the house.

Referring to the accompanying drawings, Figure 1 represents a view in perspective of my improved coal-sifter, the side discharge-chute being open and the screen hinged section held in position thereon to discharge the contents of the screen over the chute. Fig. 2 represents a vertical section of the same. Fig. 3 is a similar sectional view showing the latch of the hinged screen-section as having been unfastened by the turn-button which fastens the side chute, and the said hinged screen-section resting against the side chute to open the latter by the weight of the former; Fig. 4, a top and front detail view showing the turn-button pin in position to fasten the side discharge-chute and allow the screen to be turned; and Fig. 5, top and front detail views showing the turn-button pin in position to unfasten the side discharge-chute and arrest the turning of the screen and unlatch its hinged section.

The revolving screen A is mounted within a casing or box, B, having a greater height than width, and having a hinged close-fitting lid, C, and preferably a close-fitting bottom slide, D, forming a rectangular cabinet-screen. The screen is fastened to wooden heads, and has a flat metal hinged section, E, which is fastened, when closed, preferably by a sliding latch, F, fitted on a cross-plate, G, against the edge of which the screen hinged section closes at an angle, so that the catch slides over and across the free edge of the hinged section to hold it closed. The latch for this purpose is fitted in a loop, so as to slide crosswise on the cross-plate G, to allow of its being moved by the turning of the screen to open its hinged section, in a manner to be presently stated. The heads are mounted upon a shaft, H, which has its bearings in the sides of the box, and is turned by a hand-crank, I, fixed to the outside projecting end of the screen-shaft. The screen-heads may be braced to each other by ribs fixed to their circumferences at suitable intervals in the usual manner.

A discharge-chute, J, is hinged so as to form a section of the side of the box, being hinged below the lowest part of the screen. It is provided on its inner side, at its hinged edge, with a projecting plate, K, and oblique wings L L near each end, which form the discharge-chute. When closed, it is fastened by a turn-button, M, on the outside of the box, and when opened it is supported in a downwardly-inclined position by a cleat, N, on the outside of the box, and it is hinged so as to fall outwardly upon the cleat-rest.

The turn-button, while serving to fasten the hinged side chute in closed position, is constructed and adapted for two other purposes—viz., to unlatch the hinged screen-section, and to form a stop to arrest the revolution of the

screen and to hold it in proper position to discharge its contents upon the side chute. For these purposes the turn-button is provided with an outside arm, *m*, and a pin or arm, *a*, at one side of its pivot-pin, which extends through a curved slot, *b*, in the box, the arc of said slot being struck from the pivot of the button. This pin or button-arm *a* extends through said slot into the box a short distance, and has a movement in said slot equal to about one-quarter of a circle, and therefore limits the turning of the button, so that in the turning of the button to fasten the hinged side chute the pin or arm *a* will be brought on one side of the button-pivot, and in turning the button in position to unfasten the side chute the pin or arm *a* will be brought on the other side of the button-pivot, as shown in Figs. 4 and 5. It is in the last-named position of the button-arm *a* that it serves to unlatch the screen-plate section and to form a stop for the screen. For this purpose the button-arm *a*, when so turned, will stand in the path described by the sliding latch F, which has a right-angled lip, *c*, adapted to strike against the button-arm *a* and be moved back upward, as seen in Fig. 3, by it, so as to unlatch the hinged screen-plate and allow it to open by its weight. In this position of the button-arm it also serves to stop the turning of the screen as soon as its hinged plate is opened, and to hold the screen in such position while discharging the cinders therefrom upon the chute. The screen is stopped from turning when it is desired to empty its contents, as stated, because when the button is turned to unlatch the side chute the button-arm will then stand as a fixed projection under the lip *c* of the catch, when the two come together, and the latter will be thereby caused to slide in its guide c^3, so as to unlatch the screen hinged section. As the movement of the latch in its guide is only sufficient for this purpose, and is limited by the lip c^2, the latch is thereby held in its guide and forms a stop to hold the screen until the button-arm is again turned. The button is then turned back to carry its arm out of the path of the screen-latch to allow the screen to be turned, and it is only when the side chute is fastened by the button that the screen can be turned. In this position of the button it closes the slot in which its eccentric arm *a* moves, to prevent the escape of dust during the operation of sifting, and its arm *m* fastens the side chute.

The hinged side chute may be made to fall open when the button is turned to unfasten it, and it may be opened by hand; but I prefer to construct the chute-wings so that the hinged screen-section when unlatched will fall by its weight against the chute-wings and push it open, so that both the hinged chute-forming parts will fall open together.

I prefer to close the bottom of the box by a closely-fitting slide, D, instead of a drawer, as usual, because in pulling out the slide the ashes are scraped off the bottom and left on the ground, or in the receptacle, so as to produce little or no dust. The ashes can be emptied before or after the coal is let out.

After the ashes are put in the screen and the latter and the box closed, the screen is revolved, the ashes falling upon the bottom slide, and the coal is retained in the screen.

The sliding catch may be provided with a plate-spring to hold it when fastening the screen hinged section. I may, however, use a turn-button for the purpose of fastening said sections.

Were it not for the button-arm *a* serving as a stop to arrest the revolving motion of the screen, the hinged section of the latter, when opened, would not be held in position to rest upon and form a continuation of the side chute. Cleats *n* may also be provided on the inner sides of the box for the hinged screen-section to fall upon.

It will be understood that after the screen has been emptied and the button turned to carry its arm free of the latch-lip *c*, the screen can then be turned to bring its hinged plate at the top of the box in a closed position. To again fill the screen the box-cover is opened, and the screen-plate is also opened, and it is fastened by sliding the latch end c^2 over the edge of the plate at its joining line with the plate to which the latch-guide is fastened.

I claim—

1. The combination, with the box having a side hinged chute, a revolving screen having a hinged section, and a catch for securing said section in a closed position, of a button having a pin or arm passing through a slot in the box, the said button being adapted to fasten the side chute when closed, to unlatch the hinged screen-section, and to stop the revolution of the screen, substantially as described, for the purpose specified.

2. The ash-sifter box having a side chute adapted to open outward, and provided with an inwardly-projecting plate, in combination with a screen having a hinged section, a sliding catch, and a turn-button having an eccentric arm passing through a slot in said box, whereby said button is limited in its movement, to fasten said side chute when closed, and to carry its eccentric arm in position to unfasten the screen-catch by the act of unfastening the side chute, substantially as described, for the purpose specified.

3. The combination, with a revolving screen having a hinged section, E, and a fastening-catch therefor, and a box having a hinged side chute, J, provided with the wings L, of a turn-button, M, arranged upon the outside of the box, provided with an outside arm, *m*, and an eccentric inwardly-projecting arm, *a*, the wings L of said chute having such relation to the hinged screen-section E that the latter will, when unlatched, fall against and open the side chute, substantially as herein set forth.

4. The box having the hinged side chute and the curved slot *b*, in combination with a turn-button, M, having an eccentric inwardly-projecting arm, *a*, and a revolving screen having a hinged section and a fastening-latch therefor, the said turn-button being limited in its movement by said eccentric arm and slot, and serving to cover the latter when in position to fasten the chute, as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM H. BAYLES.

Witnesses:
HENRY T. ROBBINS,
VIRGIL RITCH.