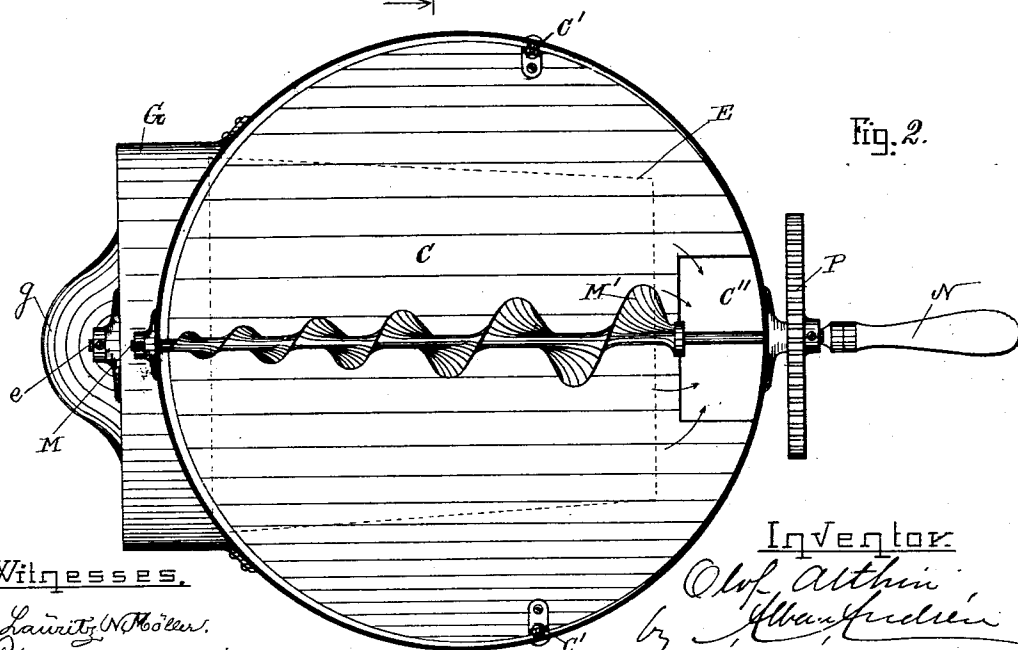
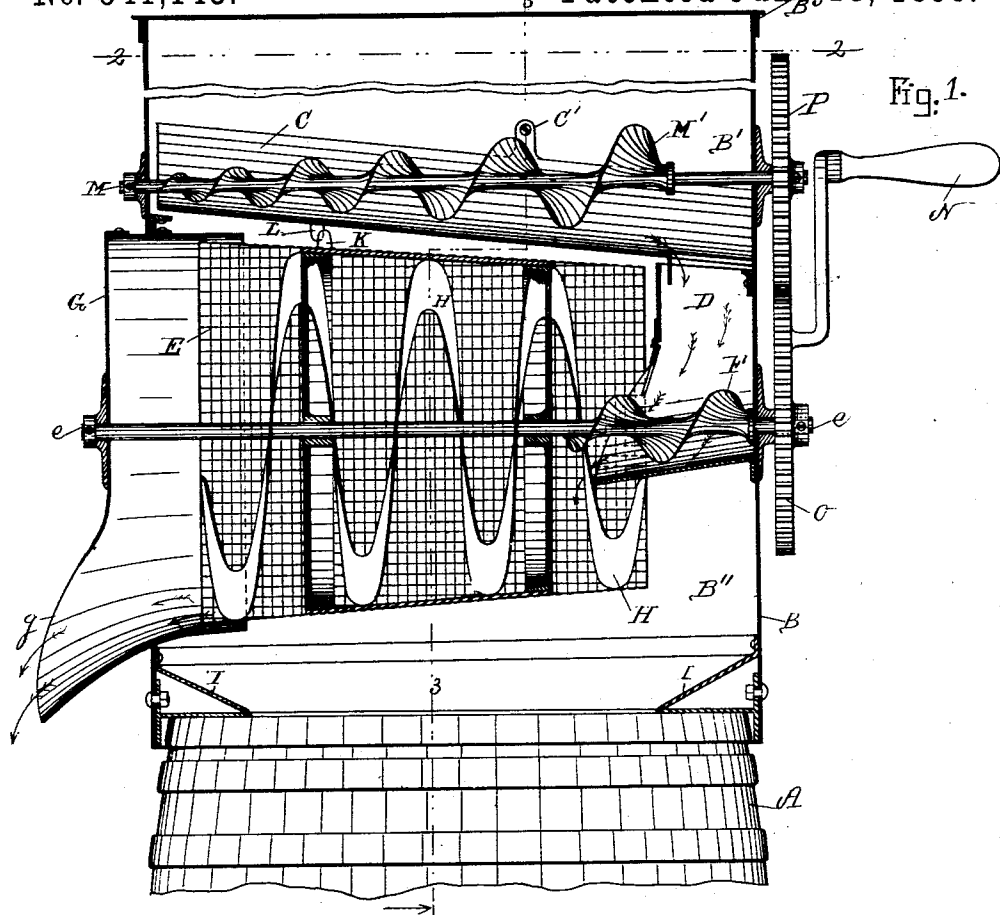


O. ALTHIN.  
ASH SIFTER.

No. 541,143.

Patented June 18, 1895.



Witnesses.

Lauritz Möller.  
Charles A. Harris

# Inventor

Olof Arthin  
Alvan Fredrick  
his att

(No Model.)

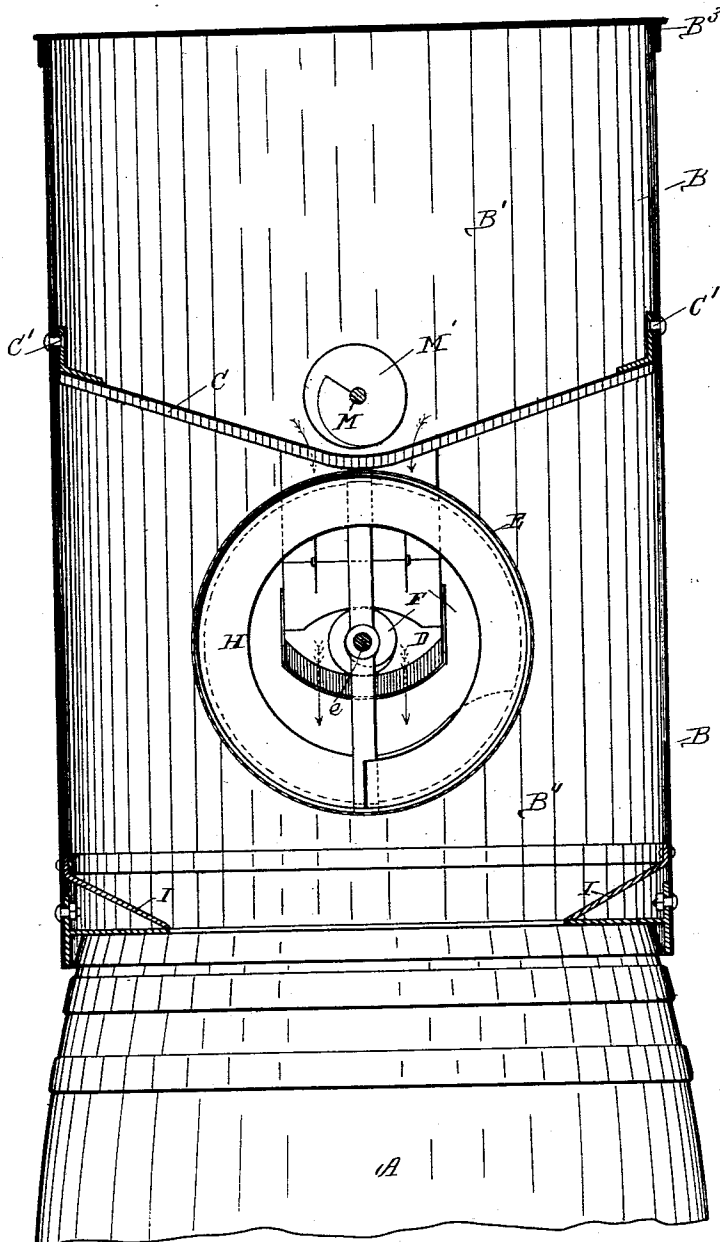
2 Sheets—Sheet 2.

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Fig. 3.



Witnesses.

*Lauretta N. Mollen*  
*Charles A. Harris*

Inventor.

*O. Althin*  
by *W. A. Anderson*  
*his atty.*

# UNITED STATES PATENT OFFICE.

OLOF ALTHIN, OF BOSTON, MASSACHUSETTS.

## ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 541,143, dated June 18, 1895.

Application filed November 20, 1894. Serial No. 529,408. (No model.)

*To all whom it may concern:*

Be it known that I, OLOF ALTHIN, a citizen of Sweden, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Revolving Ash-Sifters, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in revolving ash sifters, for the purpose of separating ashes from the coals as they are taken from stoves or furnaces, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a vertical longitudinal section of the invention. Fig. 2 represents a horizontal section on the line 2 2, shown in Fig. 1; and Fig. 3 represents a longitudinal section on the line 3 3, shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings A represents an ash barrel or ash receptacle as usual. On top of said barrel is made to rest the inclosing case B, preferably made of sheet iron, and divided in an upper coal and ash receiving chamber B' and a lower sifter chamber B'' as shown.

B<sup>3</sup> is a removable cover at the upper end of the case B as shown in Figs. 1 and 3.

Within the upper chamber B' is located an inclined rocking plate or chute C, which is pivoted at C' C', inside the case B, and onto said inclined chute, the ashes and coals to be sifted are dumped as taken from the stove or other furnace. The said inclined plate or chute C has a perforation or delivery opening C'' at its lower end through which the coal and ashes to be sifted drop into the stationary conveyer D leading into the rear open end of the rotary ash sifter E, which may be conical or cylindrical as may be desired, and secured in a suitable manner to a central axle *e* journaled in bearings at its ends, as shown in Fig. 1.

The rotary ash sifter E is preferably made of wire netting but may be made of other perforated material as may be desired.

To the axle *e*, within the stationary conveyer D, is secured a propeller or spiral screw or wing F, which during the rotation of said

axle *e* and its sifter drum E serves to convey the coal and ashes from the conveyer D to and into the rear end, of the ash sifter drum E, thus preventing the coal and ashes from accumulating in the conveyer D and causing such to be properly conducted into the drum E, during the sifting operation. The forward end of the sifting drum E fits loosely within a stationary hood G, secured to the case B, and provided with a delivery spout *g* from which the coals are discharged after the ashes have been separated from them during the rotation of the perforated sifter drum E, as shown in Figs. 1 and 2. Within the periphery of the drum E is secured a spiral wing H which serves to conduct the coals from the conveyer D toward the delivery spout *g* as they are being separated from the ashes which pass out through the meshes of the rotary drum E and drop into the barrel or ash receptacle A below the case B.

In practice I prefer to provide the lower end of the case B where it rests on the barrel A with an inwardly projecting tapering annular flange or ledge I, shown in Figs. 1 and 3, so as to prevent the ashes from leaking out around the upper end of said barrel A when being discharged from the rotary sifter E.

On the periphery of the rotary sifter drum E, I prefer to make one or more projections K, adapted to come in contact with a similar projection L on the under side of the rocker chute C as shown in Fig. 1, so as to cause the latter to be shaken and slightly oscillated during the rotation of the drum E for the purpose of causing the coal and ashes on the said chute to be quickly and evenly conducted to and through the opening C'' leading to the conveyer D and thus preventing such coal and ashes from being clogged on said chute C; and for the purpose of still further causing the coal and ashes deposited on the said chute C to be properly carried to and through the said opening C'', I arrange upon a rotary shaft M, arranged in bearings above said chute, a tapering spiral screw blade or propeller M', as shown in the drawings.

The sifter drum E is set in a rotary motion preferably by means of a crank N, secured to its axle *e*, which latter is geared to the upper axle M, by means of the gears O, P, secured

respectively to the shafts *e* and *M* so as to cause the feed propeller *M'* above the chute *C* to rotate during the rotation of the ash sifter drum *E*.

5 The operation is as follows: The coal and ashes to be sifted are placed onto the inclined chute *C*, and the cover *B*<sup>3</sup> closed over the upper end of the case *B*, after which the operator turns the crank *N*, causing the propeller  
10 *M'* to rotate and aid in carrying the coal and ashes to and through the opening *C''* leading to the conveyer *D* from which such coal and ashes are fed into the drum *E* by the action of the feed screw *F*, and during the rotation  
15 of the drum *E* the ashes are sifted through its meshes and allowed to drop into the barrel *A*, and the coals carried by the helical wing or plate *H* toward the hood *G*, and allowed to escape through the spout *g* where such coals  
20 may be collected in a hod or other receptacle as may be most convenient. During the rotation of the drum *E* its projections *K* by coming in contact with the projection *L* on the chute *C* causes the latter to be rocked and  
25 shaken so as to aid in carrying the coals and ashes toward the opening *C''* leading to the conveyer *D* as hereinbefore mentioned.

30 The invention is very simple in construction and can be applied to any barrel or other ash receptacle, is very effective in sifting the ashes and separating the coals therefrom with-

out permitting the ashes to escape in the room in which the apparatus is located.

What I wish to secure by Letters Patent and claim is—

1. The herein described revolving ash sifter 35 consisting of an inclosing case *B*, having a vertically oscillating inclined chute *C* in its upper part with an opening *C''* at its lower end, and a conveyer *D* combined with a rotary perforated drum *E*, having a helical feed 40 wing *H* and a propeller *F* arranged within the conveyer *D*, upon the drum shaft *e*, substantially as and for the purpose set forth.

2. The herein described revolving ash sifter 45 consisting of an inclosing case *B*, having a vertically oscillating inclined chute *C* in its upper part and a rotary propeller *M'* arranged above said chute combined with a conveyer 50 *D* and a rotary perforated drum *E* mounted upon a shaft provided with a feed screw *F* and having an internal helical wing *H*, and a stationary hood *G* having a delivery spout *g* substantially as and for the purpose set forth.

In testimony whereof I have signed my 55 name to this specification, in the presence of two subscribing witnesses, on this 26th day of October, A. D. 1894.

OLOF ALTHIN.

Witnesses:

ALBAN ANDRÉN,  
LAURITZ N. MÖLLER.