(No Model.) 2 Sheets—Sheet 1.

W. CHRISTIE.

MECHANICAL ASH SIFTER.

No. 514,261. Patented Feb. 6, 1894.

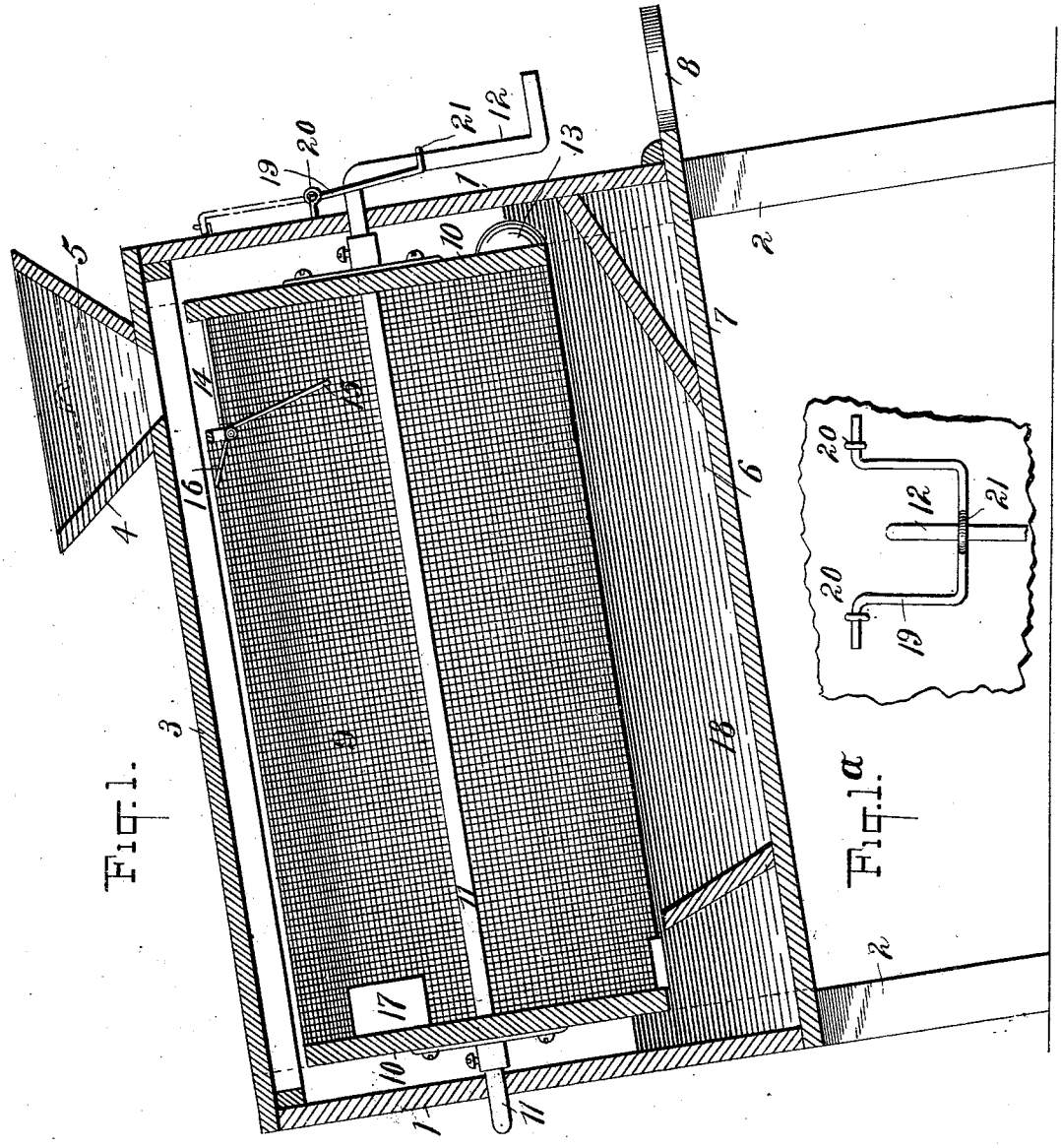


FIG. 1.

FIG. 1a.

Witnesses
Wm. A. Courtland
M. V. Bridgwood

Inventor
William Christie
By Knight Bros
Attys

THE NATIONAL LITHOGRAPHING COMPANY.
WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

W. CHRISTIE.

MECHANICAL ASH SIFTER.

No. 514,261. Patented Feb. 6, 1894.

Fig. 2.

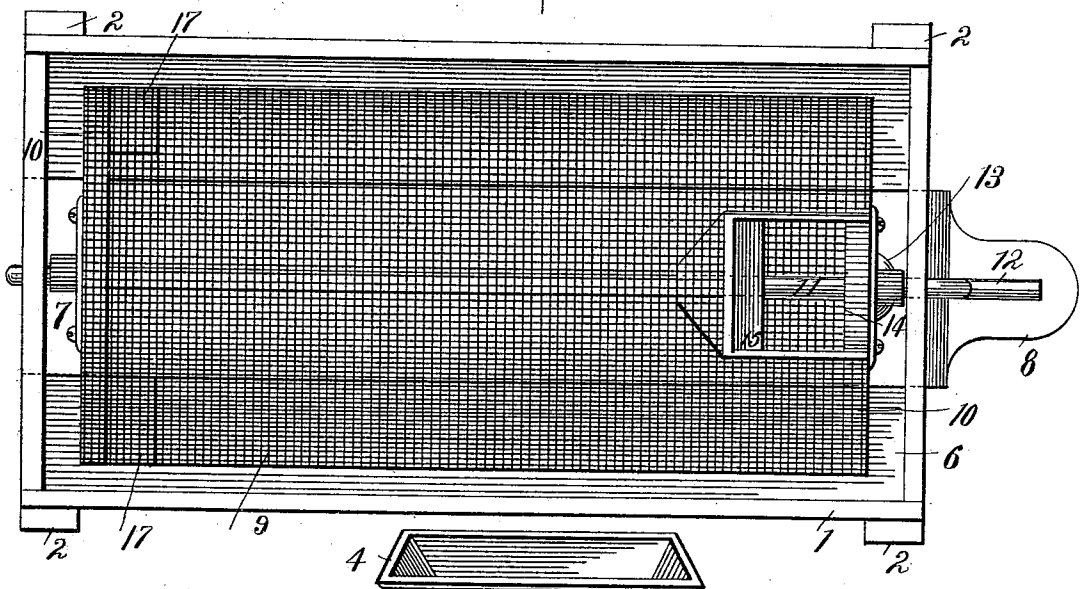
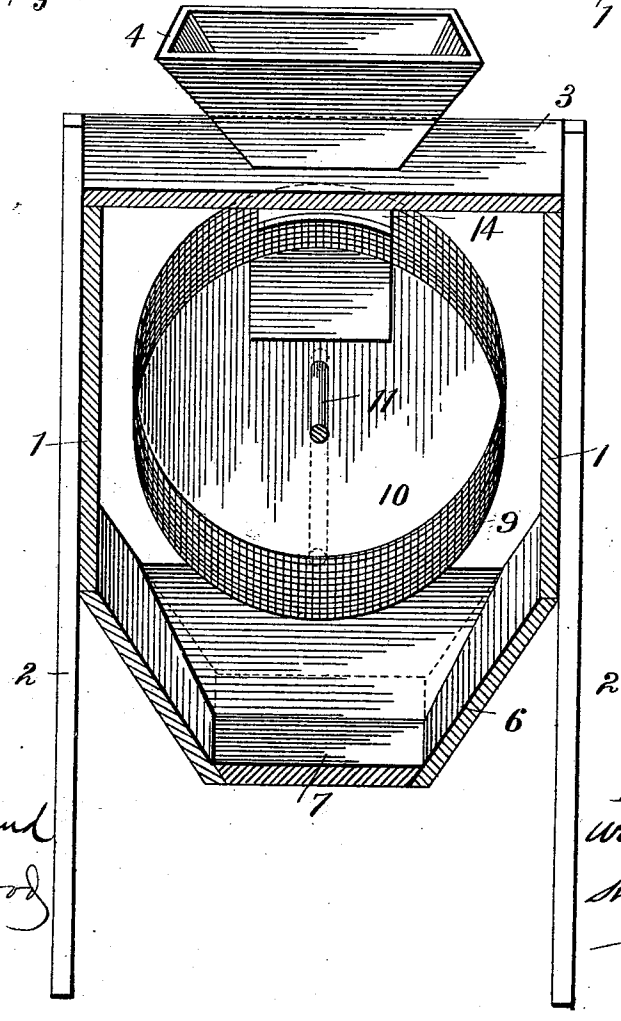


Fig. 3.



Witnesses
Wm. A. Routtland
D. V. Bidgood

Inventor
William Christie
By
Knight Bros
Attys.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM CHRISTIE, OF PASSAIC, NEW JERSEY.

MECHANICAL ASH-SIFTER.

SPECIFICATION forming part of Letters Patent No. 514,261, dated February 6, 1894.

Application filed June 5, 1893. Serial No. 476,589. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CHRISTIE, a citizen of the United States, residing at Passaic, county of Passaic, State of New Jersey, have invented certain new and useful Improvements in Mechanical Ash-Sifters, of which the following is a specification.

My invention has in view a machine which can be conveniently used to quickly separate ashes from coal and cinders without the escape of dust.

My improved machine comprises a box or casing which can be tightly closed to prevent the escape of dust and which has a suitable hopper and a discharge slide or valve; and a wire cloth bolting or screening cylinder within said box or casing having an operating handle or winch and having suitable inlet and discharge openings and means of retaining the ashes until sifted all as hereinafter more fully described with reference to the accompanying drawings in which—

Figure I is a longitudinal vertical sectional view of my improved machine. Fig. I^a is a detail view of the crank-holder. Fig. II is a plan view of the sifter with the cover removed. Fig. III is a transverse sectional view thereof.

1 represents a tight box or casing which may have suitable supporting legs 2.

3 is the cover of said box preferably made removable, and 4, is a hopper in said cover capable of being closed by a lid 5.

6 is a chute for dividing the fine ashes from the cinders while 7 is a slide or valve having a projection or handle 8 whereby said slide or valve may be withdrawn from the box to permit the ashes to be discharged from the bottom thereof.

9 is a wire screen or bolting cloth of cylindrical or other shape having the closed heads 10, 10 and having its shaft 11 supported in inclined position in the ends of the box or casing 1.

12 is a handle or winch at one end of said shaft. The wire screen 9 has a weight 13 which may act in conjunction with the handle 12 in causing the screen to return normally to the position indicated in the drawings in which an opening 14 at the end thereof immediately inside of the upper head of the screen lies directly under the discharge aperture of the hopper 4.

15 is a hinged door adapted to act under the influence of gravity or a spring to close the opening 14 automatically when the cylinder, revolving, brings the door to its lowermost position. A projection 16 of said door at the rear of its hinge prevents the door from opening too far. The pivot of the hinge of the door 15 is arranged transverse of the cylinder instead of parallel with its axis, so that it will always close automatically whichever way the cylinder is rotated.

17, 17 are discharge openings for the coal and cinders located immediately within the lower end of the screen. The screen normally rests as shown with the opening 14 directly under the hopper. When therefore, the furnace attendant removes the ashes from the furnace he has but to throw them into the hopper whence they fall into the cylindrical screen. The cover 3 is then placed in the hopper and a few turns causes all of the fine parts of the ashes to be separated which fall into the discharge chute 18 of the casing while the ashes are fed forward by reason of the inclination of the screen and tail off through the openings 17, 17. During this operation the door 15 prevents the ashes from passing out in an unscreened condition through the opening 14 when the screen is so turned as to bring the door and said opening on the under side of the cylinder. After the operation, the slide 7 can be readily pulled out allowing the coal and ashes to fall into separate heaps. To prevent accidental displacement of the screening cylinder from the proper position for receiving its charge of ashes, I employ a lock consisting of a bent wire or rod 19, which is hinged to the head of the casing by screw eyes 20 and which has an outturned portion or notch 21 adapted to engage the handle 12 when the latter is in its lowermost position as illustrated in Fig. I. When the cylinder has received its charge the handle is released from the lock by throwing the latter up against the head of the casing, in which position it is out of the way of the handle. The unlocked position is illustrated in dotted lines in Fig. I.

Having thus described my invention, the

following is what I claim as new therein and desire to secure by Letters Patent:

In a mechanical ash sifter in combination with the revolving screening cylinder having a charging opening in its side, a door for said opening having its axis transverse of the cylinder, whereby the door will close automatically whichever way the cylinder is rotated, substantially as and for the purposes set forth.

WILLIAM CHRISTIE.

Witnesses:
HARRY E. KNIGHT,
CLARENCE PRIOR.