

May 3, 1938.

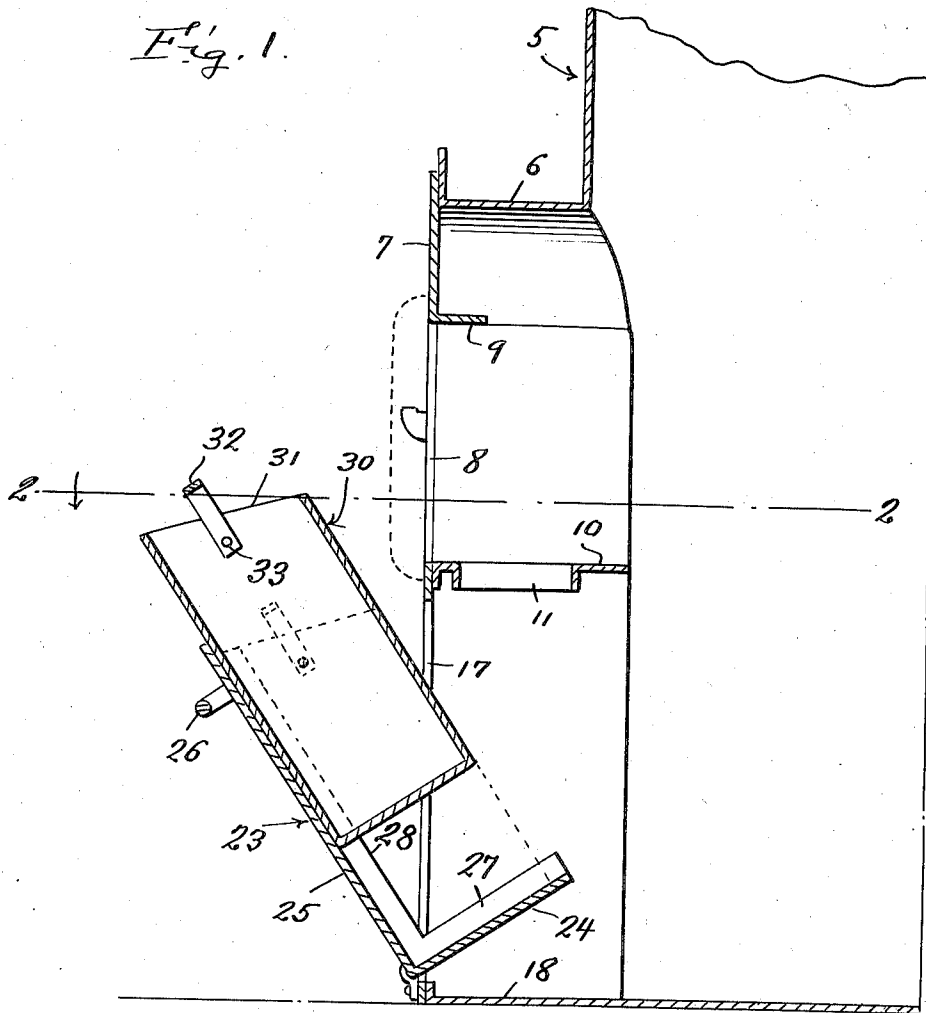
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2,116,017

CLINKER DISPOSAL DEVICE

Filed July 22, 1937

3 Sheets-Sheet 1



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Fig. 2.

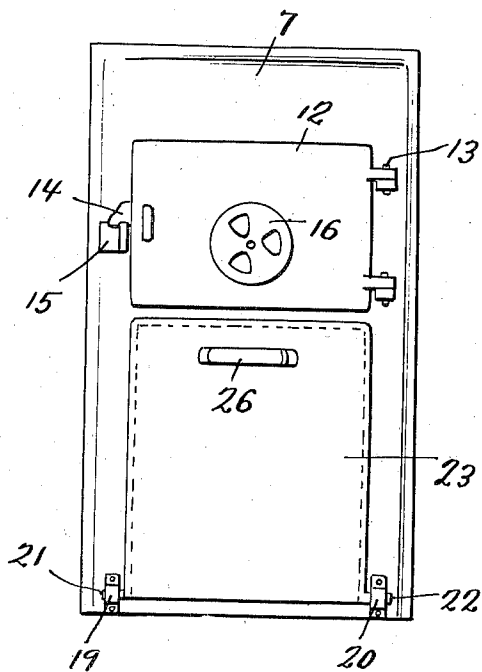
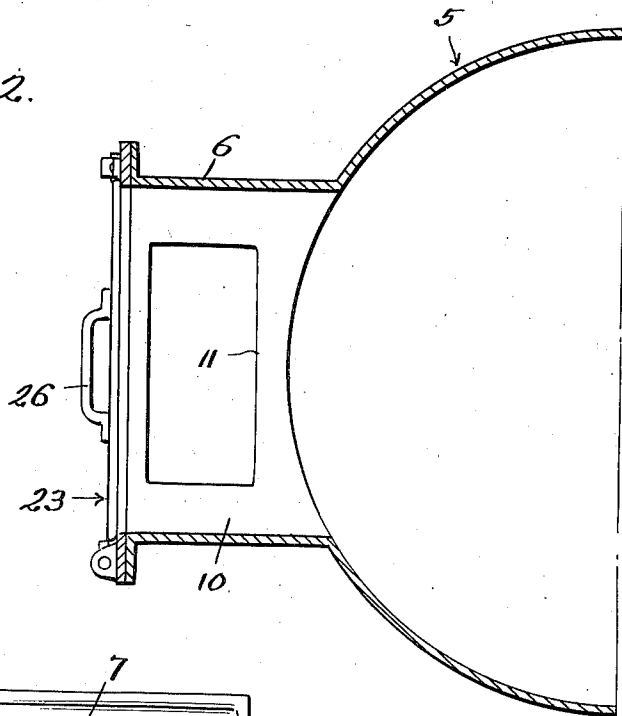


Fig. 3.

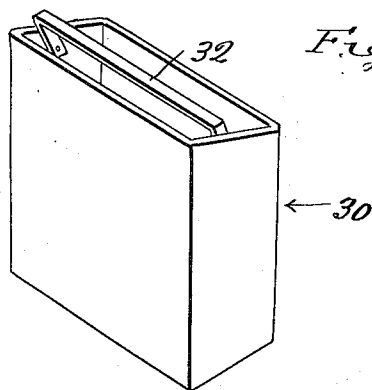


Fig. 4.

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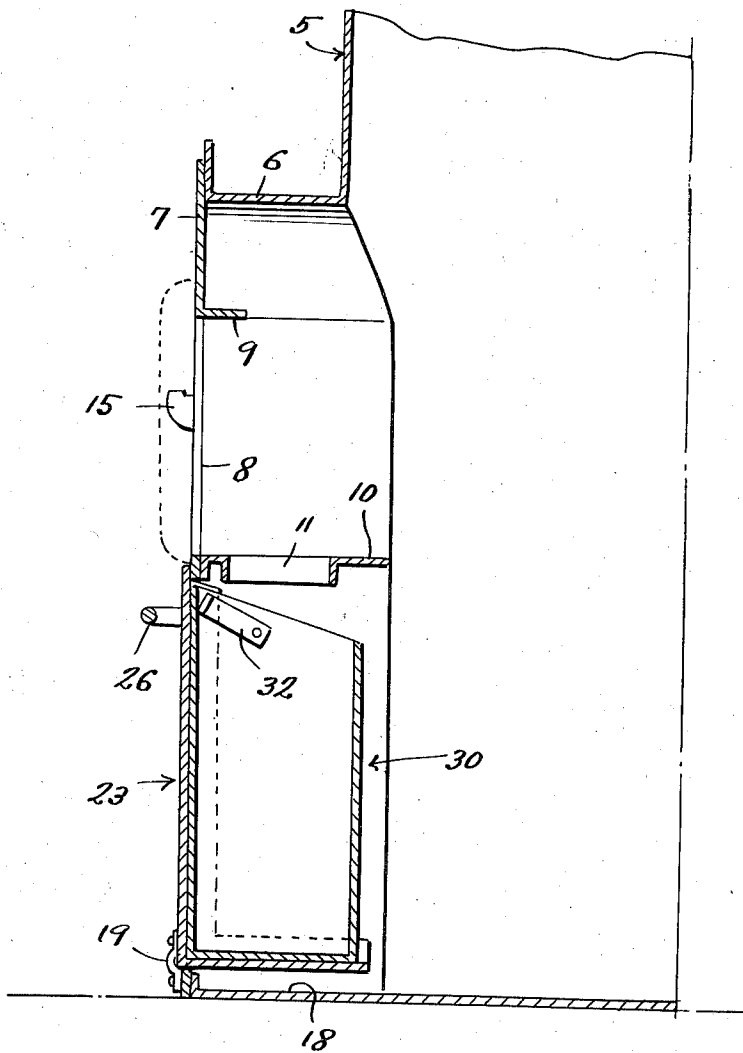


Fig. 5.

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UNITED STATES PATENT OFFICE

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CLINKER DISPOSAL DEVICE

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Application July 22, 1937, Serial No. 155,101

3 Claims. (Cl. 126—245)

My invention relates generally to clinker disposal means for coal stokers, and particularly to a door and clinker box arrangement in conjunction with a service door on a combustion unit, and an important object of my invention is to provide arrangements of the character indicated whereby the ring clinker may be easily removed from the firepot while still hot and disposed in the clinker box until cool in such a way that the heat and gases of combustion are retained within the combustion chamber and prevented from escaping into the room in which the stoker is disposed.

Other important objects of my invention will be apparent from a reading of the following description taken in connection with the drawings, wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawings:—

Figure 1 is a general transverse vertical sectional view taken through an embodiment of the invention and showing the auxiliary door in an outwardly swung open position with the clinker box in an elevated position.

Figure 2 is a horizontal sectional view taken through Figure 1 approximately on the line 2—2 and looking downwardly in the direction of the arrows.

Figure 3 is a front elevational view of the embodiment showing the service door and the auxiliary door closed.

Figure 4 is a perspective view of the vertically slidable clinker box.

Figure 5 is a view similar to Figure 1 but showing the auxiliary door in a closed position, and with the clinker box in the depressed position and within the combustion chamber or firebox.

Referring in detail to the drawings, the numeral 5 generally designates the casing or outside wall of the combustion unit of the stoker which has a forwardly projecting housing 6 having a front plate 7 which has a service door opening 8 in its upper part bounded at its upper end by the inturned flange 9. A horizontal partition 10 is disposed approximately on a level with the lower end of the opening 8 and is provided with a flanged opening 11. The service door 12 is hinged as indicated by the numeral 13, to one side of the plate 7 and at one side of the service opening 8, and has a dog 14 engageable with a detent 15 on the opposite side of the service door opening to keep the same in a closed position. A ventilator arrangement 16 may be provided in the service door 12.

Below the service opening 8 and below the par-

tion 10 is the auxiliary door opening 17 which extends substantially to the bottom or floor 18 of the combustion chamber or firebox where hinge bearings 19 and 20 are fastened to the front plate 7 and in which are journaled pins 21 and 22 on the lower end of the auxiliary door which is generally designated 23.

The auxiliary door 23 consists of a bottom 24 which extends into the firebox and a front plate 25 which extends from the bottom 24 to the top of this door and which is provided near its upper end with the handle 26. Respective flanges 27 and 28 on the side edges of the bottom 24 and front plate 25 serve as slide guides and retainers for the clinker box which is generally designated 30.

The clinker box 30 is generally rectangular in form and its open upper end is rearwardly declined as indicated by the numeral 31 and pivoted on the sides of this clinker box adjacent the top are the legs of a U-shaped handle 32 which is riveted or bolted to the interior of the clinker box as indicated by the numeral 33 in Figure 1 of the drawings, so that this handle 32 may be placed in the operative position illustrated in Figure 1 or moved to the inoperative position shown in Figure 5 of the drawings, so as to be out of the way in the latter position.

When clinker is to be removed from the firepot or combustion chamber of the stoker, the service door 12 is opened and the proper tools applied to the clinker ring, and with the auxiliary door 23 in the closed position shown in Figure 5 of the drawings, and with the clinker box 30 depressed in the position shown, the hot clinkers are placed in the clinker box through the partition opening 11 and this is followed by the closing of the service door; and so that the clinkers may cool in the clinker box without sending products of combustion into the room in which the stoker is located. When the clinkers have cooled, they may be removed by emptying the clinker box by opening the auxiliary door and pulling the clinker box upwardly until it disconnects from the auxiliary door and emptying the clinker box. It will be obvious that with the clinkers in the clinker box and the auxiliary door and the service door closed, no products of combustion can escape either from the clinkers or from the firepot of the stoker, into the surrounding room.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials

and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claims.

What is claimed is:—

- 5 1. In combination with a firepot, an upper service door closing a service opening formed in a wall of said firepot, a partition in said firepot substantially on a level with the bottom of said service opening and provided with a clinker passing opening, an auxiliary door closing an auxiliary opening formed in said wall, a vertically movable clinker box mounted on said auxiliary door, said clinker box occupying a position within said firepot in substantial alignment with the said clinker passing opening in said partition while said auxiliary door is closed.
- 10 2. In combination with a firepot, an upper service door closing a service opening formed in a wall of said firepot, an auxiliary door closing an auxiliary opening formed in said wall, a vertically movable clinker box mounted on said auxiliary door, said clinker box occupying a position within said firepot while said auxiliary door is closed, said auxiliary door being hinged adjacent its lower end for forward swinging opening movement; and a partition in said firepot sub-
- 15
- 20
- 25

stantially on a level with the bottom of said service opening, said partition being formed with a clinker passing opening registering with the upper end of said clinker box when said auxiliary door is closed, said partition having a continuous flange depending therefrom at the marginal edge of the aforementioned clinker passing opening. 5

3. In combination with a firepot, an upper service door closing a service opening formed in a wall of said firepot, an auxiliary door closing an auxiliary opening formed in said wall, a vertically movable clinker box mounted on said auxiliary door, said clinker box occupying a position within said firepot while said auxiliary door is closed, said auxiliary door being hinged adjacent its lower end for forward swinging opening movement, and a partition in said firepot substantially on a level with the bottom of said service opening, said partition being formed with a clinker passing opening registered with the upper end of said clinker box and permitting placing clinkers into said clinker box by manipulation of a tool through said service opening with the service door open and the auxiliary door closed. 10 15 20 25

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