Dec. 16, 1930. F. R. DYKE 1,785,481

ASH DUST ELIMINATOR

Filed April 21. 1927

Fig. 1.

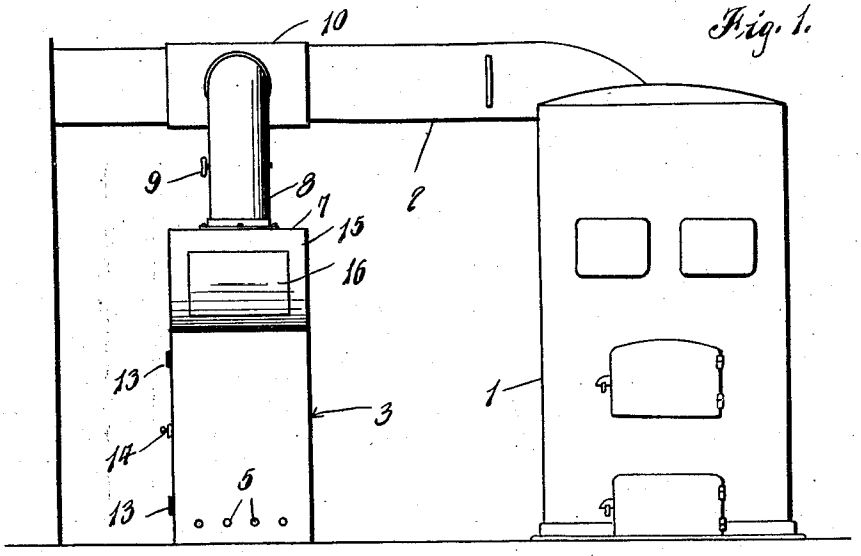


Fig. 2.

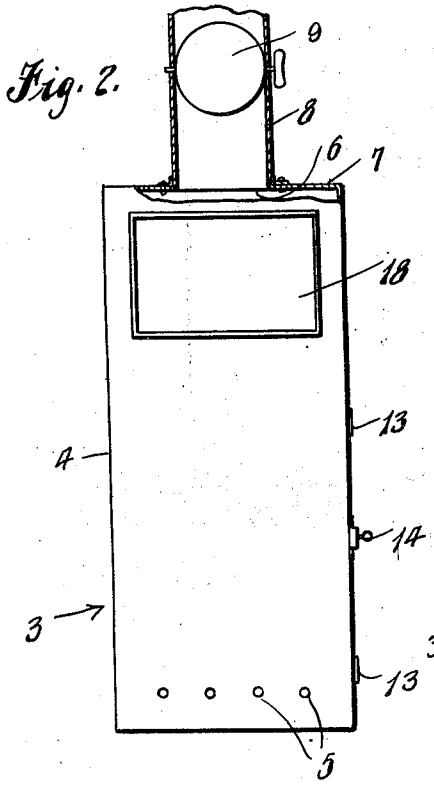
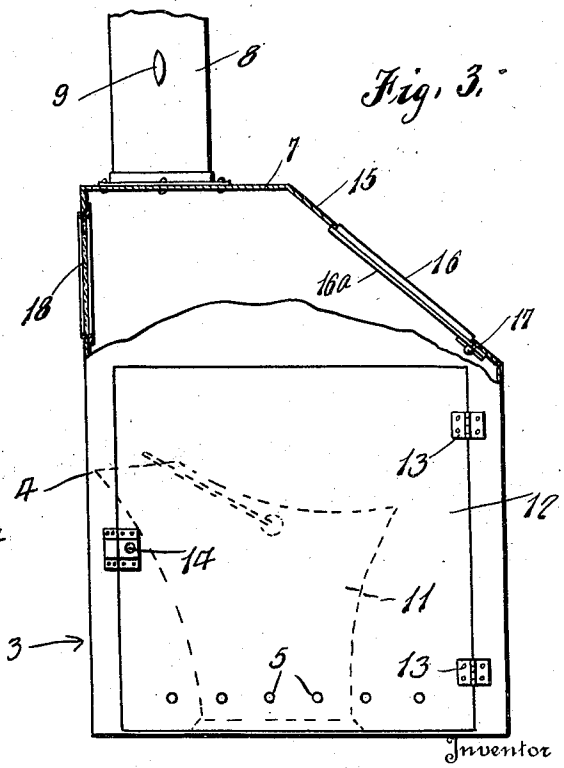


Fig. 3.



Inventor

F. R. Dyke.

By Randolph Jr.

Attorney

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UNITED STATES PATENT OFFICE

FRANCIS R. DYKE, OF DARTMOUTH, NOVA SCOTIA, CANADA

ASH-DUST ELIMINATOR

Application filed April 21, 1927. Serial No. 185,534.

This invention relates to a device through the medium of which ashes may be deposited in a bucket without scattering the ash dust about the furnace room, and has for one of its objects to provide a device of this character which shall embody a casing or cabinet for the reception of the ash bucket, a flue establishing communication between the casing or cabinet and the chimney, and a door located in the casing or cabinet above the ash bucket and normally held closed by a spring, the door being mounted to open inwardly under pressure applied thereto by the toe of the ash shovel so as to permit the ashes to be removed from the furnace and deposited in the bucket without releasing the shovel as would be necessary with the door mounted to open outwardly.

A further object of the invention is to provide an ash dust eliminator of the character stated which shall be simple and durable and capable of being manufactured and sold at a comparatively low cost, and which may be readily installed and will occupy comparatively little floor space.

The invention is hereinafter fully described and claimed, and illustrated in the accompanying drawing, wherein:

Figure 1 is an elevational view illustrating the ash dust eliminator installed in a furnace room,

Figure 2 is a view partly in rear elevation and partly in vertical section of the ash dust eliminator, and

Figure 3 is a view partly in side elevation and partly in vertical section of the ash dust eliminator.

Referring in detail to the drawing, 1 designates a boiler or furnace of the type used for domestic heating, 2 the smoke pipe of the boiler or furnace, and 3 the ash dust eliminator.

The ash dust eliminator 3 comprises a casing or cabinet 4 which is of polygonal contour in vertical and horizontal section and which is provided with air intake openings 5 and an air discharge opening 6. The openings 5 are located adjacent the bottom of the casing or cabinet 4, and the opening 6 is located in the top wall 7 of the casing or cabinet. A flue 8 which is provided with a damper 9, extends from the opening 6 to the smoke pipe 2. If desired the flue 8 may be arranged to communicate directly with the chimney. A coupling 10 establishes communication between the flue 8 and the smoke pipe 2.

The casing or cabinet 4 is adapted for the reception of the ash bucket 11, and to permit the bucket to be placed therein or removed therefrom the casing or cabinet is provided in one of its lateral sides with the door 12 which is supported by hinges 13 and provided with a catch 14.

The upper portion of the front wall of the cabinet or casing 4 inclines upwardly and rearwardly, as shown at 15, and said portion is located above the ash bucket 11 and provided with an opening through which the shovel is inserted in the act of depositing the ashes in the bucket. The opening in the casing or cabinet portion 15 is closed by a door 16 which is normally supported in closed position by spring hinges 17. These hinges are secured to the lower edge of the door 16 and to the casing or cabinet portion 15 immediately below the opening in said portion. The hinges are positioned on the inside of the casing or cabinet 4, and the door 16 is provided at its inner side with a flange 16^a which surrounds the same and contacts with the inner side of the casing or cabinet portion 15 to limit the closing movement of the door under the influence of the spring hinges 17. The flange 16^a also prevents dust from escaping from the casing or cabinet 4 around the door 16. The rear wall of the casing or cabinet 4 is provided with a window 18 in order to enable the attendant to ascertain the amount of ashes in the bucket 11 without opening either the door 12 or the door 16.

From the foregoing and accompanying drawing, it should be apparent that when the damper 9 is opened, air circulates upwardly through the casing or cabinet 4, with the result that the dust raised while depositing ashes in the bucket 11 will be carried into the chimney by way of the flue 8. When the ash dust eliminator is not in use, the damper 9 is closed so as not to interfere with

the draft through the boiler or furnace 1. As the door 16 is yieldingly supported in closed position, and as it will open inwardly on the application of an inwardly directed pressure thereto, it may be opened through the medium of a shovel during the act of inserting the shovel into the casing or cabinet 4 for the purpose of depositing ashes into the bucket 11. In use thereof, the ashes may be removed from the boiler or furnace 1 and deposited in the bucket 11 by a single act and without releasing the shovel, and this may be done easily and quickly and without agitating the ashes sufficiently to cause dust to rise therefrom.

It should be understood that the drawing is merely illustrative and does not pretend to give exact proportions. Furthermore, the said drawing is illustrative of a preferred construction, it being my expectation that various changes and modifications may be made without departing from the spirit and seope of my invention.

What is claimed is:—

An ash dust eliminator comprising a casing adapted to receive a receptacle and provided adjacent its bottom with air inlet openings, an inwardly movable door in a wall of the casing, said door inclining upwardly and rearwardly, hinge means adjacent the lower edge of the door securing it to the casing, and spring means normally holding the door in closed position and urging it thereto, said door being of a size and so arranged that a shovel may be placed against the same in emptying ashes into the receptacle to control its opening and closing movement.

In testimony whereof I affix my signature.

FRANCIS R. DYKE.