Sept. 18, 1945. S. R. DU BRIE 2,385,065

FURNACE

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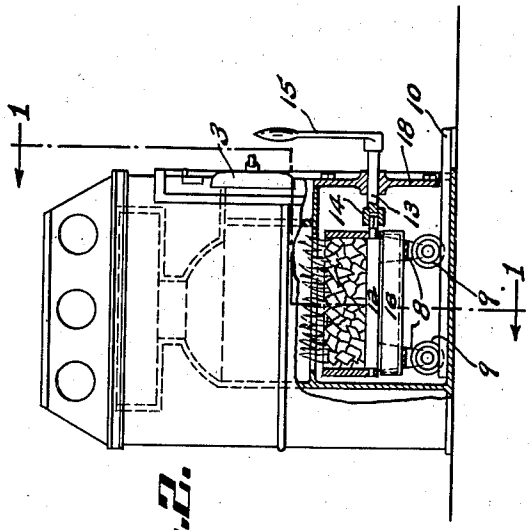


Fig. 2.

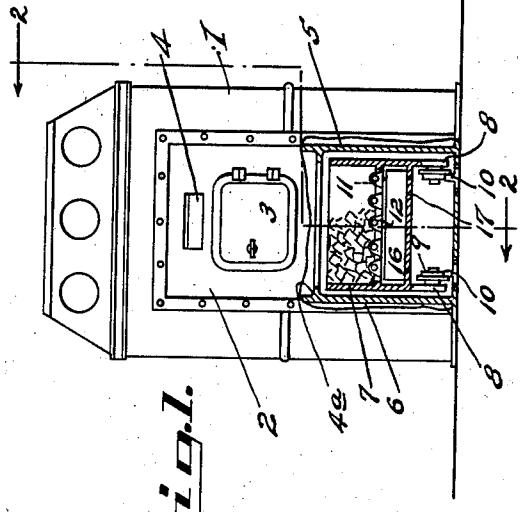


Fig. 1.

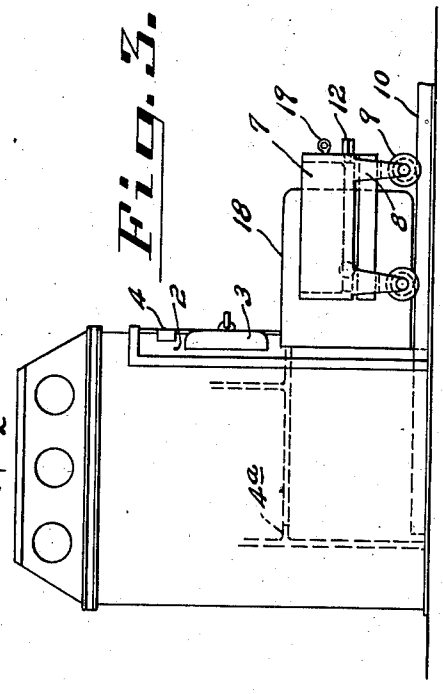


Fig. 3.

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4 Claims. (Cl. 110—86)

This invention relates to furnaces, more particularly to house heating furnaces and the principal object of the invention is to provide a furnace provided with a removable fire pot including wheels thereon and trackways on which the fire pot is movable into and out of the fire box through a closable opening all of which is hereinafter more fully described.

In the drawing:

Fig. 1 is a front elevation partly in section showing my improved furnace and fire pot in position, a section being taken on line 1—1 of Fig. 2.

Fig. 2 is a side elevation of the furnace partly in section showing the cross section of the fire box on line 2—2 of Fig. 1.

Fig. 3 is an elevation showing my improved furnace with a fire pot moved to filling position outside of the furnace.

In the accompanying drawing the furnace 1 is of the conventional hot air type but it is to be understood that the invention is not limited to the particular type of furnace here shown in which the front of the furnace 1, as indicated in Fig. 1, is shown as being provided with a cast or otherwise formed plate 2 in which there is a fuel opening closable by a door 3 and may also be provided with an opening 4 through which water may be supplied to a container (not here shown) but subject to the heat generated by the burning fuel as is the common practice.

The lower part of this frame work and plate 2 preferably has a peripheral flange 4 and the vertical side walls 5 and 6. The firepot 7 on opposite sides and at the rear and forward ends is provided with downward projecting legs 8 to each of which a roller 9 is secured. These rollers are preferably flanged as shown to prevent displacement relative to the rails 10.

The bottom of the firepot is provided with grate bars 11 rotatably supported adjacent the bottom thereof and at least one of the bars is provided with the projecting end 12. It is to be understood that these bars are connected together in the usual well known manner whereby rotation of one of the bars will cause rotation of all of the bars and thus relieve the firepot of ash. Rotation of the bars is caused by means of oscillation of the member 13 by the handle 15 having a socketed end portion 14 for engaging the projecting portion 12 of the central bar. The handle 15 is positioned exteriorly of the furnace and is supported by the swinging door 18. An ash pan 16 is supported beneath the grates of the firepot as by means of a bar or bars 17 extending between the legs 8 at the forward and rear ends thereof. The shaft like member 13 is rotatably supported in the fuel door 18 and when the fuel door is swung outwardly to open position as shown in Fig. 3 the firepot may be withdrawn on the rails 10 which extend outwardly from the furnace a sufficient distance to permit the firepot and ash pan to be moved entirely outside the furnace.

The firepot is provided with a member 19, preferably of the eyed form shown, for introduction of a hook member to pull the firepot outwardly of the furnace to the position shown in Fig. 3.

When the firepot is in the position shown in Fig. 3 the fuel with which a fire may be initially started may be placed therein or clinkers may be removed therefrom that have not passed through the grate into the ash pan thus avoiding the inconvenience of attempting to remove clinkers from the furnace as in the older structures and also avoiding the inconvenience of having to reach into the furnace to provide the kindling fire before supplying fuel therefor.

In my improved furnace these inconveniences are avoided and the fuel bed and the kindling for ignition thereof may be positioned in the firepot when it is outside of the furnace and readily accessible.

A further utility of the firepot structure as above described is that it facilitates the changing of a coal burning furnace to an oil burning furnace or vice versa. To make the change to accommodate the character of fuel being utilized in the furnace, the firepot may be withdrawn from the furnace and an oil burning apparatus positioned therein and then moved back into the furnace to the position shown in Fig. 2. This firepot structure also facilitates repair of such oil burning equipment as the firepot may be moved outwardly from the furnace to a position wherein the apparatus is readily accessible for adjustment or repair.

The grates hereinbefore mentioned provide a foundation for the support of the oil burning equipment and if desired a sheet metal plate, not here shown, may be placed over the grate bars.

It is further pointed out that, while I have shown rails and flanged rollers or wheels for the support of the firepot thereon, such rails may be dispensed with and flat faced wheels utilized whereby the firepot may be readily wheeled out on the floor surface. This arrangement avoids the possible inconvenience of having the rails extend outwardly of the furnace wherein they form

more or less of an obstruction to an operator in moving about the forward side of the furnace.

From the foregoing description it is believed evident that the various features and objects of the invention are attained by the structure described and it is further pointed out that various changes may be made in various parts of the apparatus without departing from the spirit and scope of the invention as set forth in the appended claims.

Having thus briefly described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is:

1. In a house heating furnace having a combustion chamber and a fuel chamber below the combustion chamber, a door swingable to open or close said fuel chamber, a firepot, wheels connected with the firepot, a trackway for said wheels extending exteriorly of the furnace whereby when the door is swung outwardly to open position the firepot may be moved on the trackway, said firepot including a grating, and means for operating the grating comprising a member carried by the door and detachably engaging the grate when the door is swung to closed position and when the door is moved outwardly disengaging the operating member from the grating and permitting the firepot to be moved outwardly of the combustion chamber on said trackway.

2. A house heating furnace having an upper combustion chamber and a fuel chamber below the combustion chamber, a door for closing or opening the fuel chamber, a wheel supported firepot, a trackway therefor extending from the fuel chamber whereby when the door is in open position the firepot may be moved outwardly of the fuel chamber on the trackway, said firepot including a grate formed of a series of rotatable elements, means carried by the door engageable with said rotatable elements to rotate the same when the door is in the closed position, movement of the door outwardly from its closed position disengaging the grate operating member from the grating and permitting the firepot to be moved on the trackway outwardly of the combustion chamber.

3. A furnace for space heating having an upper combustion chamber and a fuel chamber below the combustion chamber, a door for closing or opening the fuel chamber, a wheel supported firepot, a grating for the firepot, having operable parts to free the same of ash, an ash pan carried thereby removably positioned beneath the grating, a trackway providing means for movement of the firepot and ash pan assembly to the exterior of the fuel chamber, a door for closing or opening the fuel chamber to permit movement of the firepot assembly thereinto or therefrom, and means carried by the door and connected with the grating for operation thereof when the door is closed and disconnectable therewith as the door is opened to permit removal of the firepot and ash receptacle.

4. In a furnace having a combustion chamber, a firepot having a series of movable grates in the bottom thereof, the chamber having an opening in its lower part, and a second opening thereabove, a door for each of said openings, the said door for the opening to the lower part having an opening, a shaker element supported in the opening and engageable with the grates whereby the grates may be operated when the door is closed to clear the firepot of ash, and wheels for the firepot enabling the same to be moved into or out of the combustion chamber when the door is open.

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