No. 886,965. PATENTED MAY 5, 1908.

W. R. FENERTY.

STOVE AND FURNACE.

APPLICATION FILED AUG. 9, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

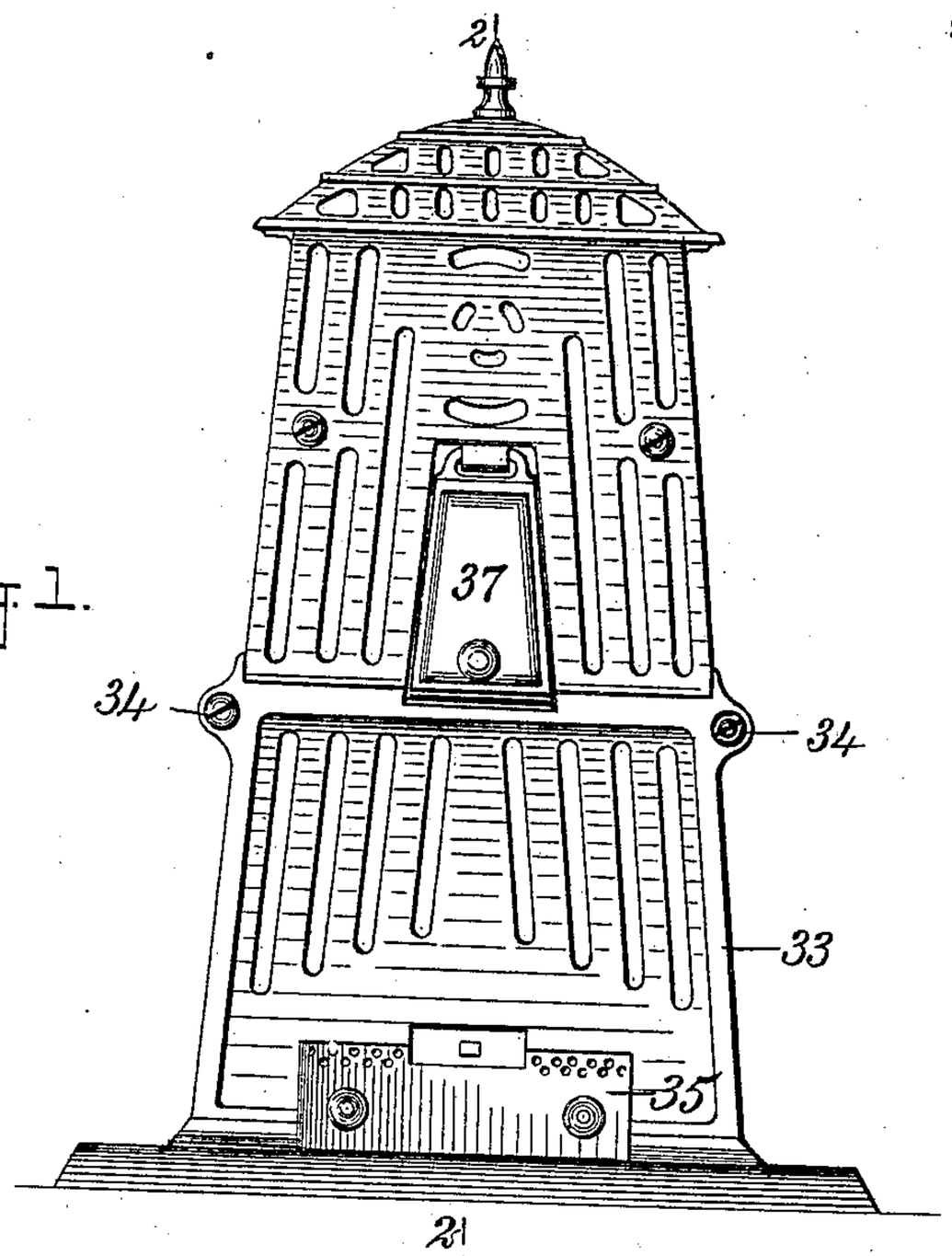
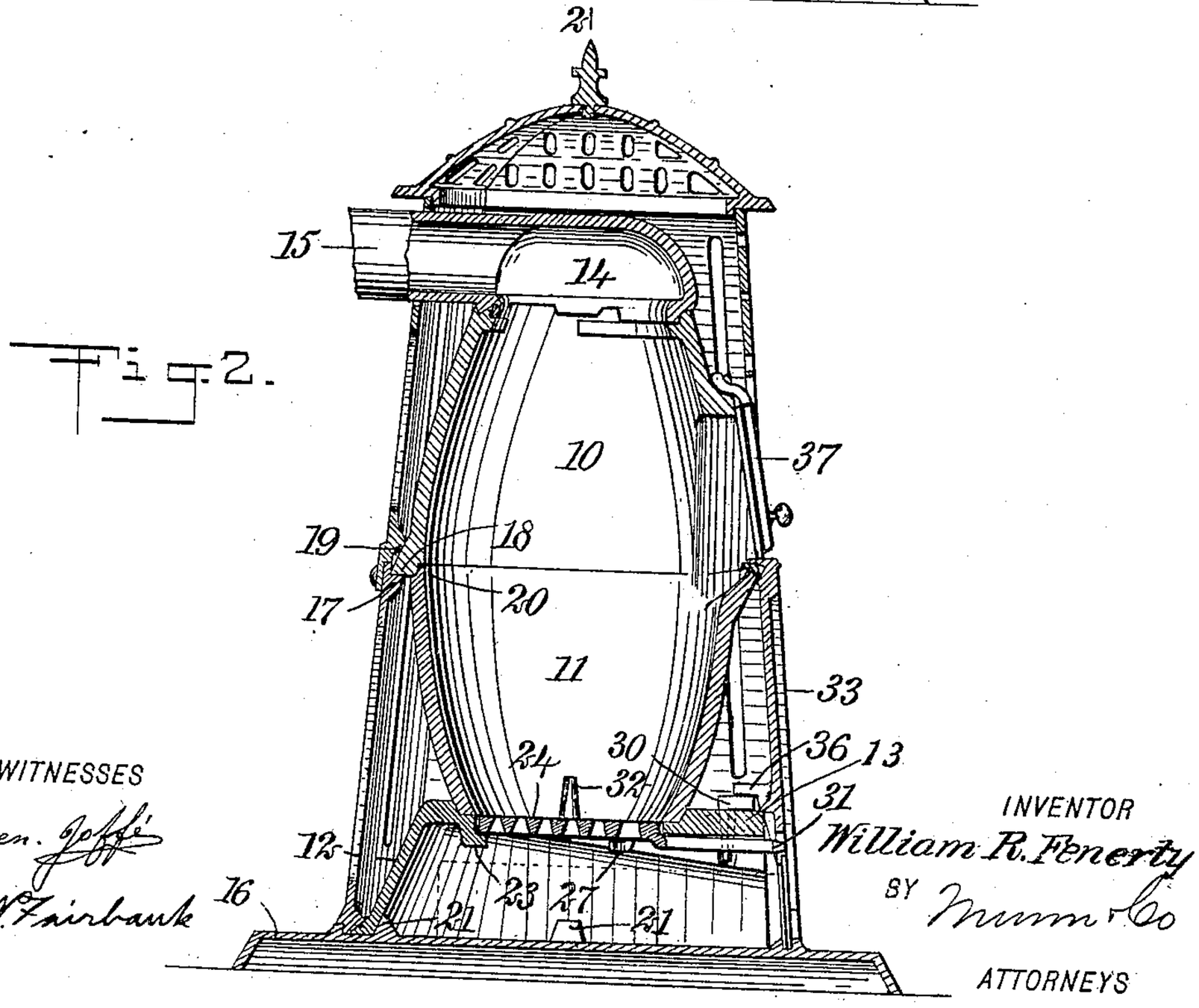


Fig. 2.



WITNESSES

Ben. Joffe

E. W. Fairbank

INVENTOR

William R. Fenerty

BY Munn & Co

ATTORNEYS

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2 SHEETS—SHEET 2.

Fig. 3.

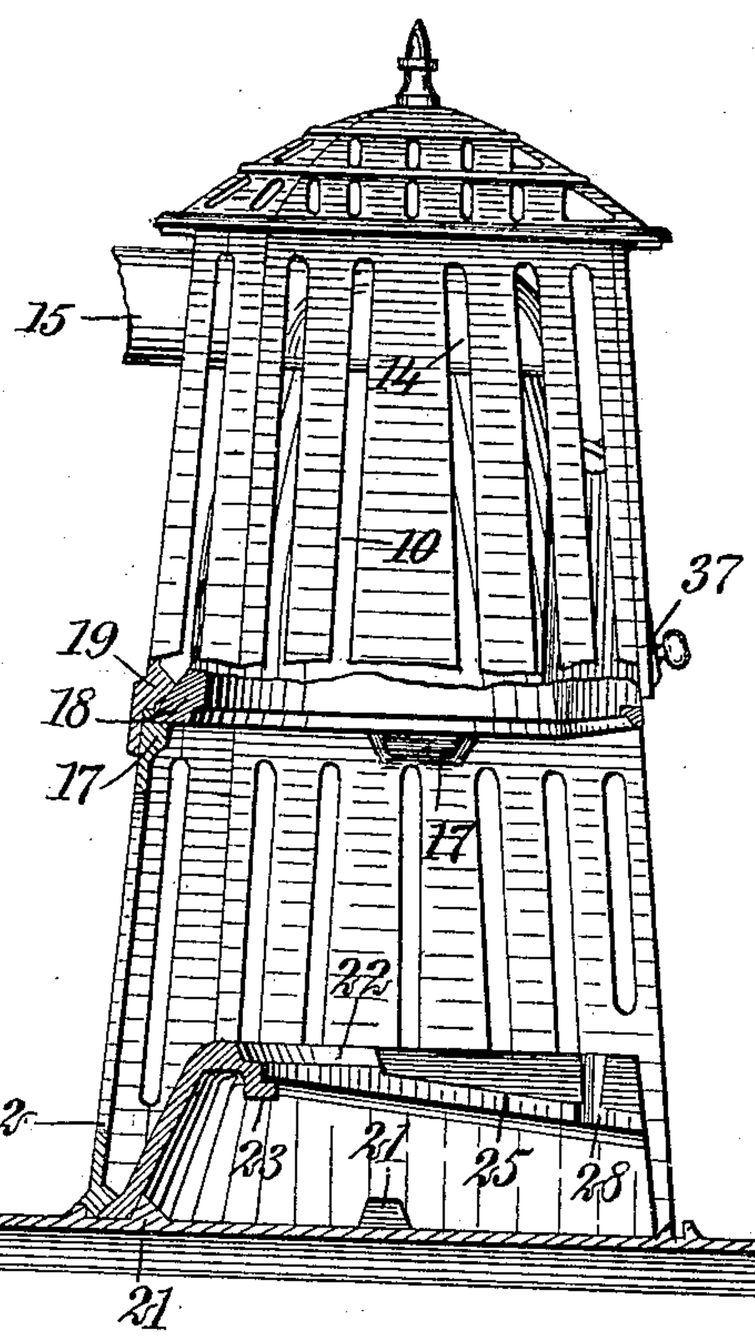

Fig. 4.

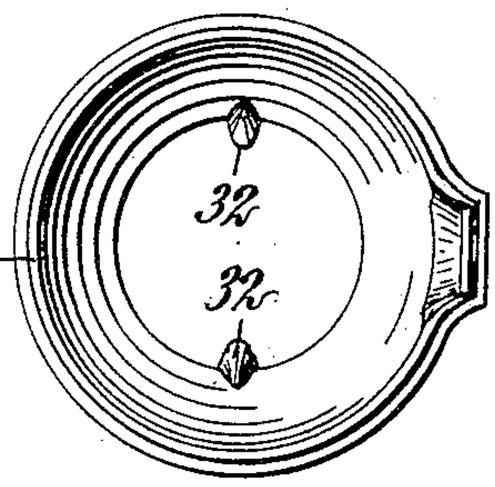

Fig. 6.

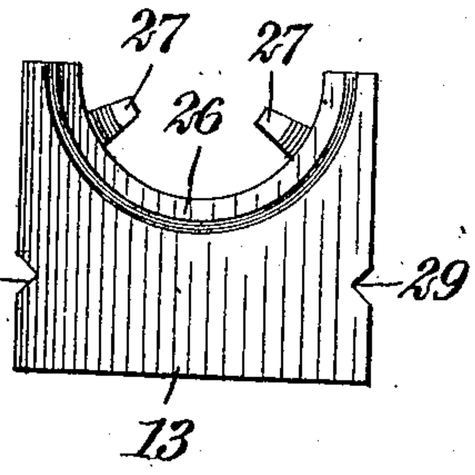

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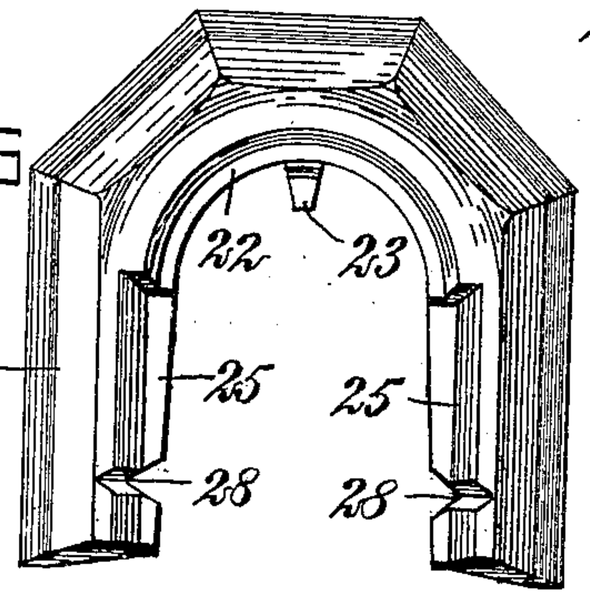
Fig. 7.

Fig. 5



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C. W. Fairbanks

INVENTOR

William R. Fenerty

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM R. FENERTY, OF LOUISVILLE, KENTUCKY.

STOVE AND FURNACE.

No. 886,965. Specification of Letters Patent. Patented May 5, 1908.

Application filed August 9, 1907. Serial No. 387,791.

To all whom it may concern:

Be it known that I, WILLIAM R. FENERTY, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Stoves and Furnaces, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in heating stoves and furnaces, and relates more particularly to that type of stove or furnace in which there is provided a barrel or fire chamber surrounded by a suitable casing, and the object of my invention is to so construct the parts that the lower portion of the barrel, which often becomes burned out and requires replacing, may be removed and a new one inserted without dismantling the entire construction or removing the major portion of the casing or the upper portion of the heating chamber.

In a stove or furnace constructed in accordance with my invention, all that is necessary to remove the lower half of the barrel or fire chamber is to remove one section of the casing, which is held in place by suitable mechanism, as, for instance, two bolts, and to then slide one section of the base out through the opening formed by the removal of the section of the casing. The lower section of the barrel is then readily removed through the opening and a new one is readily inserted. The construction of the parts is such that an expert is not required to make the substitution of parts.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which

Figure 1 is a front elevation of a stove or furnace constructed in accordance with my invention; Fig. 2 is a vertical section on the line 2—2 of Fig. 1; Fig. 3 is a view similar to Fig. 1, but showing a section of the casing, a section of the base, and the lower half of the barrel removed; Fig. 4 is a top plan view of the removable lower section of the barrel; Fig. 5 is a top plan view of the stationary section of the base; Fig. 6 is a top plan view of the removable section of the base; and Fig. 7 is a view of one of the pins employed for holding the removable section in place and preventing its accidental displacement.

In the specific form of construction illustrated, I employ an inner barrel or fire chamber made up of an upper section 10 and a lower section 11. The lower section is supported upon a suitable base made up of a stationary section 12 and a removable section 13, while the upper half of the barrel or fire chamber is closed by a top 14 communicating with a suitable outlet pipe 15 for the smoke and products of combustion. The base is mounted on a suitable platform 16, and the base, barrel and top are inclosed by a suitable casing, preferably provided with perforations to permit of the circulation of air and the access of the same to the barrel or fire chamber. The casing is separable in a substantially horizontal plane closely adjacent the line of separation between the upper and lower halves of the barrel inclosed thereby. As shown, both the upper and the lower half of the casing are made up of separate plates bolted or otherwise secured together, and the lower half of the casing is so constructed as to support the upper half of the barrel, the upper half of the casing securely holding the upper half of the barrel in engagement with its supports. The lower half of the casing, adjacent its upper edge, is provided with a plurality of inwardly-extending lugs 17, preferably three in number and disposed one at the back of the casing and one at each side thereof.

The upper half 10 of the barrel is provided with outwardly-extending lugs or projections 18 corresponding in position to the lugs 17 of the lower half of the casing and adapted to engage therewith to support the upper half of the barrel. Preferably, the upper half of the casing is also provided with lugs 19 disposed adjacent the lugs 17 of the lower half and adapted to engage with the upper surface of the lugs 18 of the barrel. The entire weight of the upper half of the barrel is supported upon the lugs 17 of the lower half of the casing, but the lugs 19 prevent the lugs 18 from rising out of engagement with the lugs 17, and thus prevent any accidental displacement of the upper half of the barrel. To prevent any rotary movement of the upper half of the barrel in respect to the casing, the lugs 17 are preferably provided with recesses which receive the lugs 18.

The lower half 11 of the barrel is unattached to the upper half, but is provided with an annular flange 20 around the upper edge, which extends into an annular socket in the lower edge of the upper half 10. None of the weight of the upper half is borne by the lower

half; the weight being supported on the lugs 17. The entire weight of the lower half is borne by the base section 12 and its removable section 13. The base section 12 comprises a substantially U-shaped casting, as shown in Fig. 5, and forms with the platform 16 an ash pit or chamber for the ash pan. The base is held from lateral displacement in regard to the platform by suitable lugs 21, and the lower edge of the casing is preferably provided with an inwardly-directed flange engaging with an outwardly-directed flange at the lower edge of the base, whereby the casing and base are held against movement in respect to each other. The base is provided with a semi-circular seat 22 for supporting the back half of the barrel section 11, and is also provided with a lug 23 for supporting the rear edge of the rotary grate 24 which closes the lower half of the barrel.

Extending toward the open side of the base 12 are guideways 25 which support the removable section 13 of the base and permit of its lateral displacement. The removable section 13 is provided with a semi-circular seat 26 coöperating with the semi-circular seat 22 of the stationary section of the base to support the lower barrel half 11. The removable section is provided with lugs 27 which coöperate with the lug 23 to support the grate, and is so constructed as to slide laterally upon the guideways 25. These guideways preferably incline downwardly toward the front, whereby as the section 13 is moved forward it is moved downward at the same time. For normally preventing the forward movement and accidental displacement of the section 13, I preferably provide the guideways with two inclined notches 28 oppositely disposed to two notches 29 upon the removable section. When the removable section is in place, a suitable pin 30, shown in Fig. 7, may be dropped into the oppositely-disposed recesses and positively prevent the movement of the section within the guides. The grate 24 resting upon the lugs 23 and 27 is free to rotate, which rotation may be brought about by a handle 31 extending beneath the base section 13 and to a point where access may be readily gained thereto. The grate is preferably held from accidental upward movement by lugs 32 carried by the barrel at its lower end.

The front side 33 of the lower half of the casing preferably fits within a recess in the platform 16 at the lower edge of said side, and the upper edge is held to the adjacent portions of the casing by suitable bolts 34. This side 33 is provided with a door 35 whereby access may be gained to the ash pit and the handle 31. The side 33 is also preferably provided with inwardly-directed lugs 36 which extend above the upper ends of the pins 30 and positively prevent the upward movement of said pins or their accidental displacement, while the front side of the casing is in place. The stove may be provided with any suitable means for admitting fuel thereto, as, for instance, a door 37 carried by the upper section and movable outward through an opening in the front side of the upper half of the casing. Other features of construction common to ordinary furnaces may be employed in connection with my improvements, if desired.

When the lower section of the barrel becomes burned out, as very often happens in stoves or furnaces of this character, all that is necessary in order to remove said lower section and replace it by a new one, is the removal of the bolts 34 and the front side 33 of the casing. The pins 30 may then be drawn out and the removable section 13 of the base may then be moved forward on its guides, whereupon the lower section 11 of the barrel may be readily tipped forward and removed. It is not necessary to disturb any other portion of the casing, save the section 33, and the upper section 10 of the barrel is not disturbed or its connections. It is possible for any person to replace the lower section of the barrel comprising the fire bowl by a new one, as no portion of the operation requires the services of an expert.

In reassembling the parts, the inclination of the guideways facilitates the lifting of the barrel section 11 to its proper position and when all of the parts are assembled they are firmly held together. The insertion of the bolts or screws 34 serves as the final step in the assembling, and with these pins or bolts in place, the parts are firmly locked together and prevented from accidental displacement during shipment.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a stove or furnace, a fire barrel, and a base for supporting the same, said base comprising a stationary section having a portion forming a seat for said barrel and a portion forming guideways, and a removable section laterally movable on said guideways and also having a portion forming a seat for the barrel.

2. In a stove or furnace, a fire barrel, and a base for supporting the same, said base comprising a stationary section having a semi-circular portion forming a seat for the rear side of said barrel and having portions forming guideways, and a removable section laterally movable on said guideways and having a semi-circular portion forming a seat for the front side of the barrel.

3. In a stove or furnace, a fire barrel, and a base for supporting the same, said base comprising a stationary section having a portion forming a seat for said barrel and a portion forming inclined guideways, and a removable section laterally movable on said

guideways and also having a portion forming a seat for the barrel.

4. In a stove or furnace, a fire barrel, and a base for supporting the same, said base comprising a stationary section having a portion forming a seat for said barrel and a portion forming guideways, and a removable section laterally movable on said guideways and also having a portion forming a seat for the barrel, and vertically movable pins adjacent said guideways and in engagement with said removable section for preventing the accidental displacement thereof.

5. In a stove or furnace, a fire barrel, and a base for supporting the same, said base comprising a stationary section having a portion forming a seat for said barrel and a portion forming guideways, and a removable section laterally movable on said guideways and also having a portion forming a seat for the barrel, and a grate supported by the stationary section and the removable section of said base and disposed adjacent the lower end of said barrel.

6. In a stove or furnace, a fire barrel formed of an upper section and a lower section, means for supporting the upper section independently of the lower section, and a base for supporting the lower section, said base having a removable section permitting the removal of the lower section of the barrel.

7. In a stove or furnace, a fire barrel formed of an upper section and a lower section, a casing inclosing said barrel and serving to support said upper section, and means independent of the casing for supporting the lower section and permitting the removal thereof independent of the upper section.

8. In a stove or furnace, a fire barrel formed of an upper section and a lower section, said upper section being provided with outwardly directed projections adjacent its lower edge, a casing surrounding said upper section and having projections in engagement with the projections of the upper section of the barrel for supporting the latter, and means permitting the removal of the lower section independent of the upper section.

9. In a stove or furnace, a fire barrel formed with an upper section and a lower section, a casing surrounding said barrel and serving to support said upper section, and having a removable side adjacent the lower section, a base for supporting said lower section and having a portion thereof laterally removable to permit the removal of the lower section of the barrel, pins for holding said removable portion in place, and means carried by the removable side of the casing for normally holding said pins in place.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM R. FENERTY.

Witnesses:

PAUL J. KRANZ,

WM. R. LAUGHLIN.