June 9, 1925. 1,541,016

F. E. WERTHEIM ET AL

FURNACE DOOR

Original Filed Dec. 21, 1922

Fig. 1

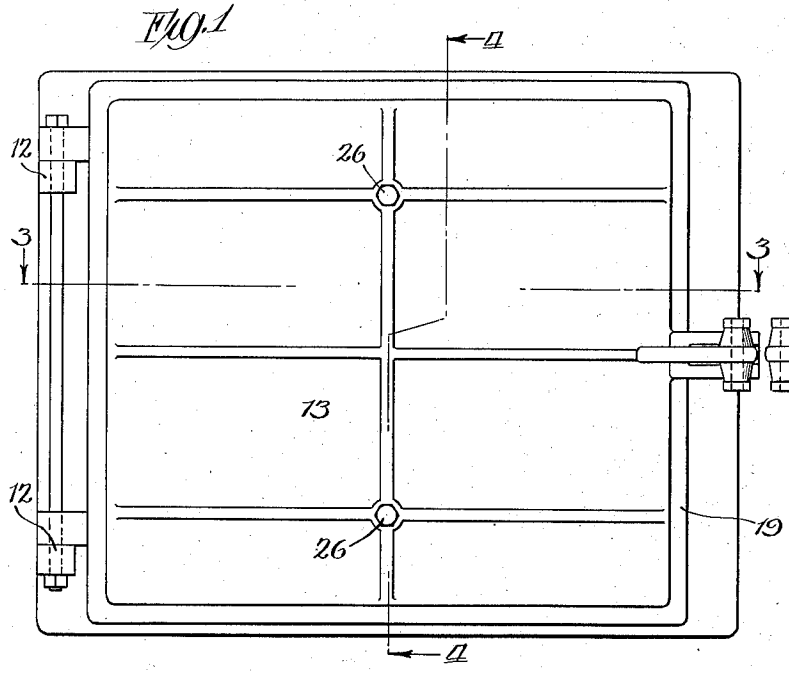
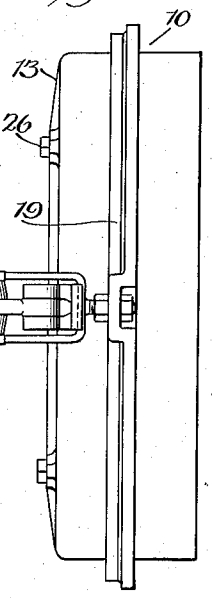


Fig. 2



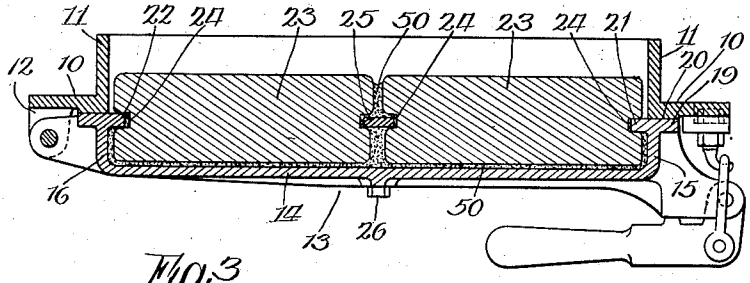


Fig. 3

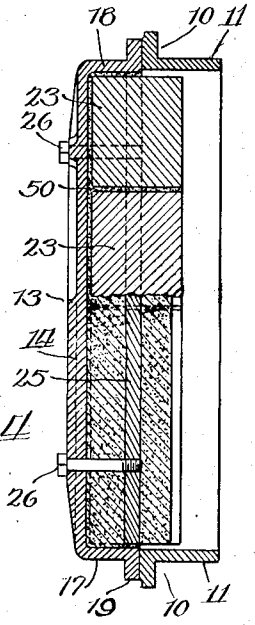


Fig. 4

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UNITED STATES PATENT OFFICE.

FERD ELIEL WERTHEIM, OF CHICAGO, AND ASHUR URL WETHERBEE, OF EVANSTON, ILLINOIS, ASSIGNORS TO WILLIAM A. GILCHRIST, OF NEW YORK, N. Y.

FURNACE DOOR.

Original application filed December 21, 1922, Serial No. 608,333. Divided and this application filed December 31, 1923. Serial No. 683,344.

To all whom it may concern:

Be it known that we, FERD ELIEL WERTHEIM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, and ASHUR URL WETHERBEE, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Furnace Doors, of which the following is a specification.

This invention relates to furnace doors, and has for an important object to provide a lining for the doors that will fully protect them from the furnace heat and that will be accurately held in place during use and can be readily removed and replaced when desired.

A further object of the invention is to provide a latch for the doors that will secure them tightly closed and can be easily and quickly fastened and unfastened.

Further objects of the invention will become apparent as the description is read in connection with the accompanying drawings, illustrating a selected embodiment of the invention, in which

Figure 1 is a front elevation of a furnace door embodying the invention.

Fig. 2 is a side elevation looking from the right in Fig. 1, and

Figs. 3 and 4 are sectional views taken on the lines 3—3 and 4—4 of Fig. 1.

This application is a division of our application No. 608,333, filed December 21, 1922.

Referring to the drawings, the reference numeral 10 indicates a door frame here shown as of angle shape in cross section, whereby a flange 11 is provided to be fitted in the wall of the furnace. At one side the frame carries lugs 12 upon which is hinged a door 13 here shown as including a body portion 14, side flanges 15 and 16 and bottom and top flanges 17 and 18. The four flanges are preferably joined to make a continuous rim about the edge of the body portion which terminates in a head 19 having a flat face 20 to rest against the face of the door frame.

As here shown, the head 19 projects inwardly from the sides to form ribs 21 and 22 for co-operation with the edges of the lining, which preferably is formed of lateral sections each composed of separate bricks 23 having grooves 24 in each end. The alined grooves 24 at the outer edges of the lateral sections form recesses in which the ribs 21 and 22 are received; and the alined grooves at the inner edges of the sections form a pocket in which is located a key bar 25 that is secured to the body of the door by bolts or screws 26. It will be observed that the ribs seated in the grooves at the outer edges of the sections and the key bar 25 seated in the grooves at the inner edges of the sections are well protected from the heat of the furnace. If desired the spaces between the bricks and between the bricks and the body of the door may be filled with grout, as indicated in the drawings at 50.

The door is adapted to be locked in closed position by means of any suitable latch mechanism. However, the particular embodiment shown herein forms the subject-matter of the original application above indentified.

A door made in accordance with this invention will have its metal parts fully protected from the heat of the furnace by the lining, which will be securely and rigidly supported in proper position during use and yet can be readily removed and replaced when occasion requires.

What we claim is:

1. In a furnace door the combination of a body portion having ribs projected inwardly at each side, a lining composed of lateral sections having their outer edges in engagement with said ribs, and a key for securing the inner edges of said lining sections to said body portion, said key being releasable for permitting the removal of said lining.

2. In a furnace door, the combination of a body portion having rearwardly turned flanges forming an integral rim thereabout, two of said flanges having ribs projecting inwardly, a lining comprising a plurality of lateral sections having outer ends formed for receiving said ribs, said inner ends being similarly formed for the reception of a removable key, a key seated thereon, and means engaging said key but permitting the removal thereof to release said lining for renewals or repairs.

3. In a furnace door, the combination of a body portion having rearwardly turned integral flanges on each side thereof forming a continuous rim, the two side flanges being provided with ribs, a lining composed of lateral sections having grooves formed in the outer edges, and positioned within said rim for engagement with said ribs, and a key secured to the intermediate portion of said body for securing the other ends of said sections thereto.

4. In a furnace door the combination of a body portion, a lining formed in lateral sections, fixed means on the body for locking the lateral outer edges of the sections thereto, and adjustable means for securing the inner edges to the body.

5. In a furnace door, in combination, a frame having an integral laterally instanding rib, a lining brick recessed to engage the said rib, and a removable locking key engageable with the brick.

6. In a furnace door, the combination of a body portion having ribs projected inwardly at each side, a lining composed of a plurality of bricks adapted to protect the door from the furnace heat, said bricks having their outer ends formed for engagement with one or the other of said ribs, the inner ends of said bricks being recessed to form a key way when the bricks are in assembled relation, and a key inserted in said way to hold said bricks in position, said key being removably secured to the intermediate portion of said door.

In testimony whereof, we have subscribed our names.

FERD ELIEL WERTHEIM.
ASHUR URL WETHERBEE.