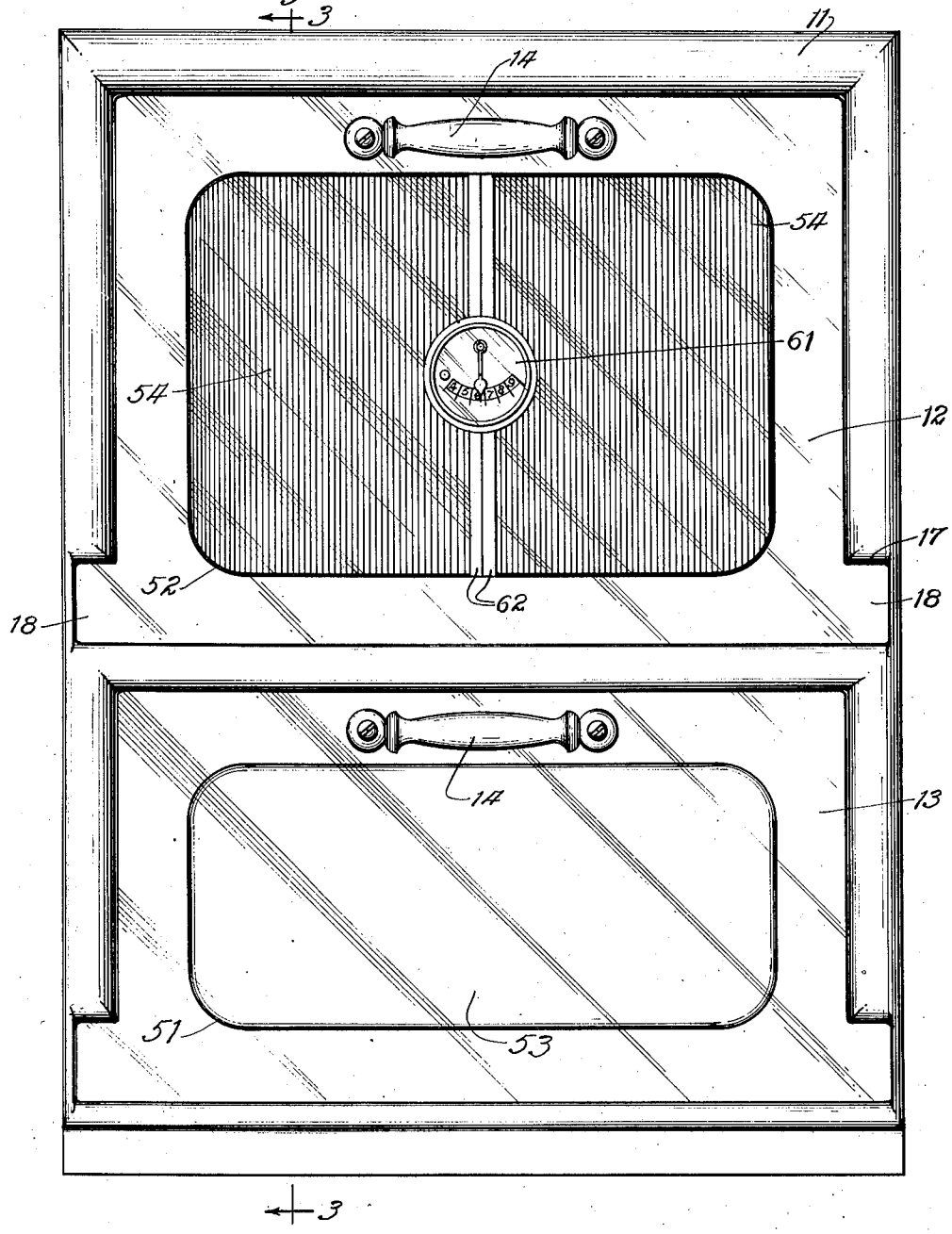
March 17, 1925. 1,530,007

L. MOORE ET AL

STOVE DOOR CONSTRUCTION

Filed Nov. 19, 1923 4 Sheets-Sheet 1

Fig. 1



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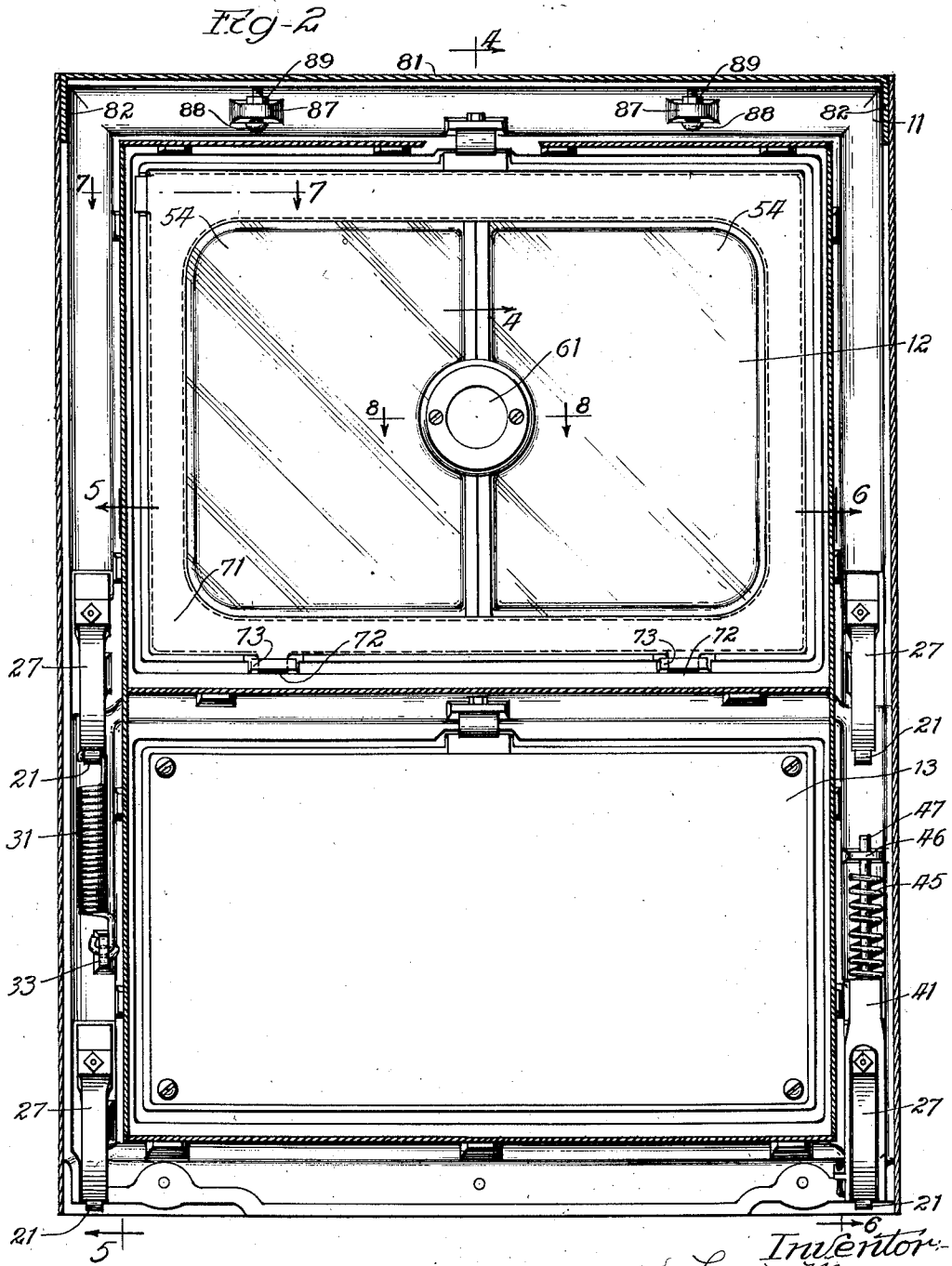
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STOVE DOOR CONSTRUCTION

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Fig-2



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STOVE DOOR CONSTRUCTION

Filed Nov. 19, 1923 4 Sheets-Sheet 3

Fig-3

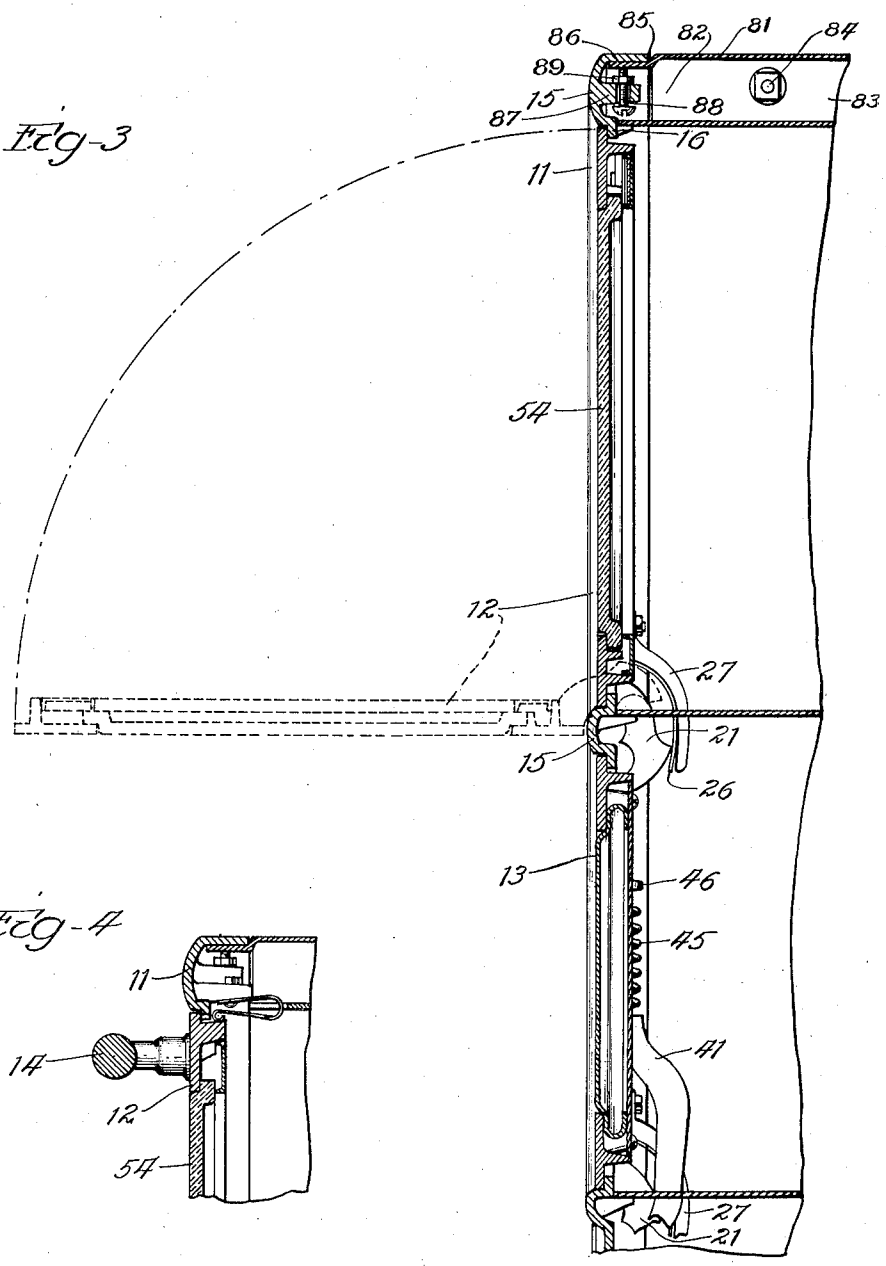


Fig-4

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L. MOORE ET AL

STOVE DOOR CONSTRUCTION

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Fig-7

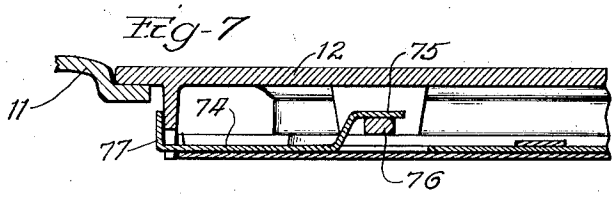


Fig-8

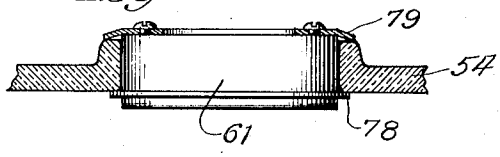


Fig-5

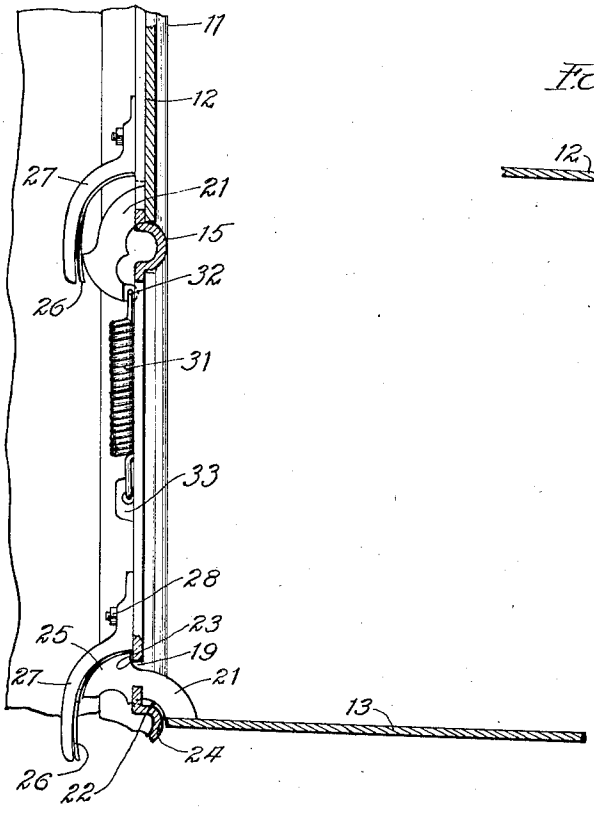
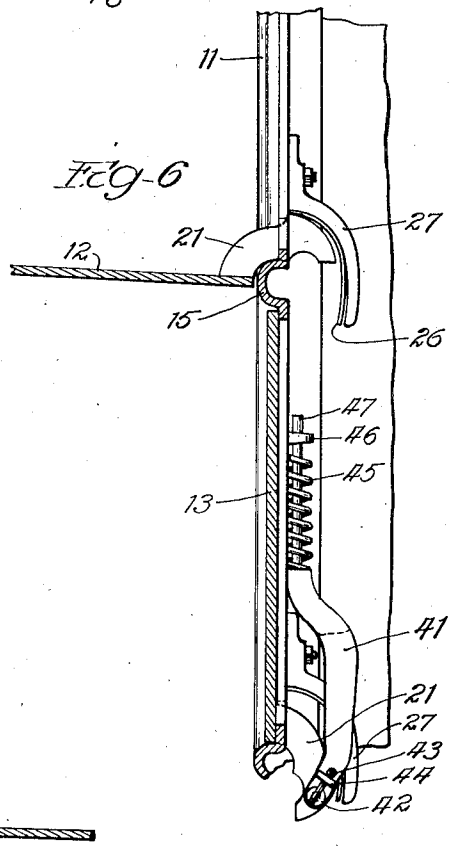


Fig-6



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UNITED STATES PATENT OFFICE.

LEWIS MOORE AND CLAUDE DIBBLE, OF JOLIET, ILLINOIS, ASSIGNORS TO MOORE BROTHERS COMPANY, OF JOLIET, ILLINOIS, A CORPORATION OF ILLINOIS.

STOVE-DOOR CONSTRUCTION.

Application filed November 19, 1923. Serial No. 675,461.

To all whom it may concern:

Be it known that we, LEWIS MOORE and CLAUDE DIBBLE, citizens of the United States, residing in Joliet, in the county of Will and State of Illinois, have invented a new and useful Improvement in Stove-Door Constructions, of which the following is a specification.

This invention relates to a stove construction and has more particular reference to the provision of an improved oven and broiler door and door frame for gas and other fuel stoves.

A principal object of the invention is the provision of a flush closing stove door, which will not require the outward extension of hinge parts and which will permit the entire face of the oven and broiler to be in substantially a single plane except for the projection of the door handle.

Another and highly important object of he invention is the attainment of this result in a door swinging down to and up from a horizontal position, the while maintaining the pivot edge of the door out of contact but closely adjacent to the adjacent surface of the door frame, this arrangement preventing the marring of the finish through manipulation of the door and at the same time eliminating any substantial opening between the door edge and door frame when the door is in lowered position.

Another object of the invention is the improvement of certain details of construction of the stove door and attendant parts as will be readily apparent from the following description.

Another important object of the invention is the provision of a stove door adapted to move down in an outwardly horizontal position when open, the construction and arrangement of which readily lends itself to accurate counterbalance.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

On the drawings,

Figure 1 is a front elevation of a stove front equipped with oven and broiler doors constructed and arranged in accordance with the at present preferred embodiment of the invention;

Fig. 2 is a rear view of the same, certain parts being shown in section;

Fig. 3 is a section taken substantially on the line 3—3 of Fig. 1;

Fig. 4 is a section taken substantially on the line 4—4 of Fig. 2; and

Figs. 5, 6, 7, and 8 are sections taken respectively substantially on the lines 5—5, 6—6, 7—7, and 8—8 of Fig. 2.

For the purpose of illustrating the invention we have shown on the drawings various views of an oven and broiler front equipped with our invention, only such parts of the oven being shown in section as is necessary to an understanding of the invention.

Referring to Fig. 1, reference character 11 indicates the door frame, reference character 12 the oven door, and reference character 13 the broiler door. Referring to Fig. 3 it will be observed that in this preferred embodiment of the invention the parts of the stove, except the door handles 14 which may have any usual or preferred construction, are flush and lie in substantially a single plane, the door closing completely into the frame itself. The door frame does or may consist of a single sheet of metal stamped or cast to provide main frame portions 15 slightly rounded to improve the appearance and having inset flanges 16 surrounding the door opening. The material of the door frame is depressed near the bottom of each door and at the sides at 17 to receive parts of the door, as will be presently explained.

The stove doors 12 and 13 consist of body or main members presenting flat outer faces and having extensions 18 adapted to engage in and fit into the depressions 17 in the frame. The door frame is slotted at 19 in each depression 17 to receive door lugs 21 extending inwardly from the rear of the extensions 18 near the bottoms of the doors. Each of these lugs has a curved surface 22 adapted to rest upon the material at the bottom of the recess which forms a ledge edge over which the lug moves in the opening and closing of the door. The lugs are so formed that they may be thread-

ed through these recesses and each has at its top a shoulder 23 adapted to engage back of the door frame above the recess when the door is in full open position to support it.

The invention contemplates the swinging down of each door from a closed position to an open one with the edge of the door adjacent a pivotal axis maintained close to and accurately out of contact with the curved surface 24 of the door frame adjacent thereto. To accomplish this the door in the present instance is slid outwardly slightly as it swings down about its pivot. This sliding and pivotal movement is controlled by a curved surface 25 on the inner ends of each lug which engages a leaf spring or friction reducing leaf 26 fixed on a curved arm 27 fast at 28 on the rear of the door frame just above the recess through which the lug moves.

Each door is counterbalanced by a spring. Reference character 31 indicates the spring for the upper door and this is connected at 32 with one of the lugs 21 and also with a lug 33 on the door frame below the recess through which the lug 21 fast to the spring is arranged.

The broiler door is counterbalanced by a yoke 41 having its arms arranged on opposite sides of one of the lower lugs 21. A headed pin 42 is thrust through aligned openings in the lug and yoke arms and a cotter pin 43 is positioned through an outwardly extending shoulder 44 beyond the head of the pin to prevent outward movement of the pin 42. The yoke 41 extends upwardly back of the door frame and is embraced by the spring 45 bearing against a lug 46 on the inner side of the door frame through which a stem 47 of the yoke is slidably engaged.

Each door is provided with an opening 51 (for the broiler door) and 52 (for the oven door) and into these openings suitable panels are arranged. These panels may be mere opaque plate (as indicated at 53 in the broiler door) or glass (as indicated at 54 in the oven door), the arrangement preferably being an opaque plate in the broiler door and a glass plate in the upper one.

In the present instance we have shown a thermometer 61 arranged between two half-panes of glass 54, the half-panes being engaged in channel members 62 at their meeting edges and having companion recesses for receiving the thermometer. The glass plates and thermometer may be considered a single unit and this unit and the opaque plate below are secured in position by an inner plate or backing member 71 having lugs 72 adapted to enter into keepers 73 formed along the bottom edge of the door and having a laterally moving slide 74 at the opposite edge, this slide having depressed tongues 75 adapted to enter under through keepers 76 on the stove door. A finger piece 77 is provided to move the slide 74 to engage and disengage the depressed lugs 75 from a keeper 76. As shown in Fig. 8 the thermometer is provided with front and back flanges 78 and 79 for engaging on the opposite faces of the glass parts 54.

The top plate of the stove, indicated by reference character 81, is attached to the front or door frame without the fastening means being visible from without the stove, thereby improving the appearance of the top of the stove and giving a flush top surface. The top is provided with downwardly extending side flanges 82 arranged within side walls 83 bolted thereto at 84 at appropriate locations. These flanges are cut away at the front to abut against the inner edge of the door frame and therebeyond the top wall is bent down at 85 to bring it under the top horizontal flange 86 of the door frame. A plurality of lugs 87 are arranged beneath this flange 86 extending inwardly beneath the forwardly extending part of the top wall and a bolt 88 is arranged through an opening in each lug to bear against the under-surface of the top wall part and through the nut 89 upon the upper surface of the lug to force the top member of the stove into holding engagement with the flange 86 of the door frame.

Claims drawn to the wall construction and the construction of the oven itself, originally made in this application, are cancelled out for the purpose of filing a divisional application. It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

We claim:

1. In a stove, a door frame, a door mounted to swing about its lower horizontal edge in said frame, and a pivotal connection located behind the door confining the movement of the lower edge of the door in opening closely adjacent to but out of contact with the adjacent surface of the frame.

2. A door frame provided with ledge edges, a door having curved inwardly extending lugs resting on said ledge edges, and members fixed to the frame and arranged beyond said lugs for confining the movement of said lugs to maintain the pivot edge of the door closely adjacent to but out of contact with the adjacent surface of the frame as the door moves in opening and closing.

3. A door frame provided with ledge edges, a door having curved inwardly ex-

tending lugs resting on said ledge edges, and spring members fixed to the frame and arranged beyond said lugs for confining the movement of said lugs to maintain the pivot edge of the door closely adjacent to but out of contact with the adjacent surface of the frame as the door moves in opening and closing.

4. In a stove, a door frame having ledge edges, a door mounted therein for pivotal movement about its lower horizontal edge and having curved lugs resting on said ledge edges, curved arms fixed to the inner face of the frame and arranged to engage said lugs, and spring members on the inner faces of said arms for imparting a desired amount of sliding movement to said lugs from said ledges as they pivot thereon in swinging the door to open and closed position.

5. In a stove, a door frame having ledge edges, a door mounted therein for pivotal movement about its lower horizontal edge and having curved lugs resting on said ledge edges, curved arms fixed to the inner face of the frame and arranged to engage said lugs, and anti-friction members on the inner faces of said arms for imparting a desired amount of sliding movement to said lugs from said ledges as they pivot thereon in swinging the door to open and closed position.

6. In a stove, a door frame having ledge edges, a door mounted therein for pivotal movement about its lower horizontal edge and having curved lugs resting on said ledge edges, curved arms fixed to the inner face of the frame and arranged to engage said lugs, and spring members on the inner faces of said arms for imparting a desired amount of sliding movement to said lugs from said ledges as they pivot thereon in swinging the door to open and closed position, and a spring secured to a said lug in said frame for counterbalancing the door.

7. In a stove, a door frame, a door mounted to swing about its lower horizontal edge in said frame, pivot members on the door extending to the rear of the frame, and guides for maintaining the edge of the door away from the plane of the door frame beneath the door but closely adjacent thereto during the movement of the door.

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CLAUDE DIBBLE.