

Jan. 20, 1931.

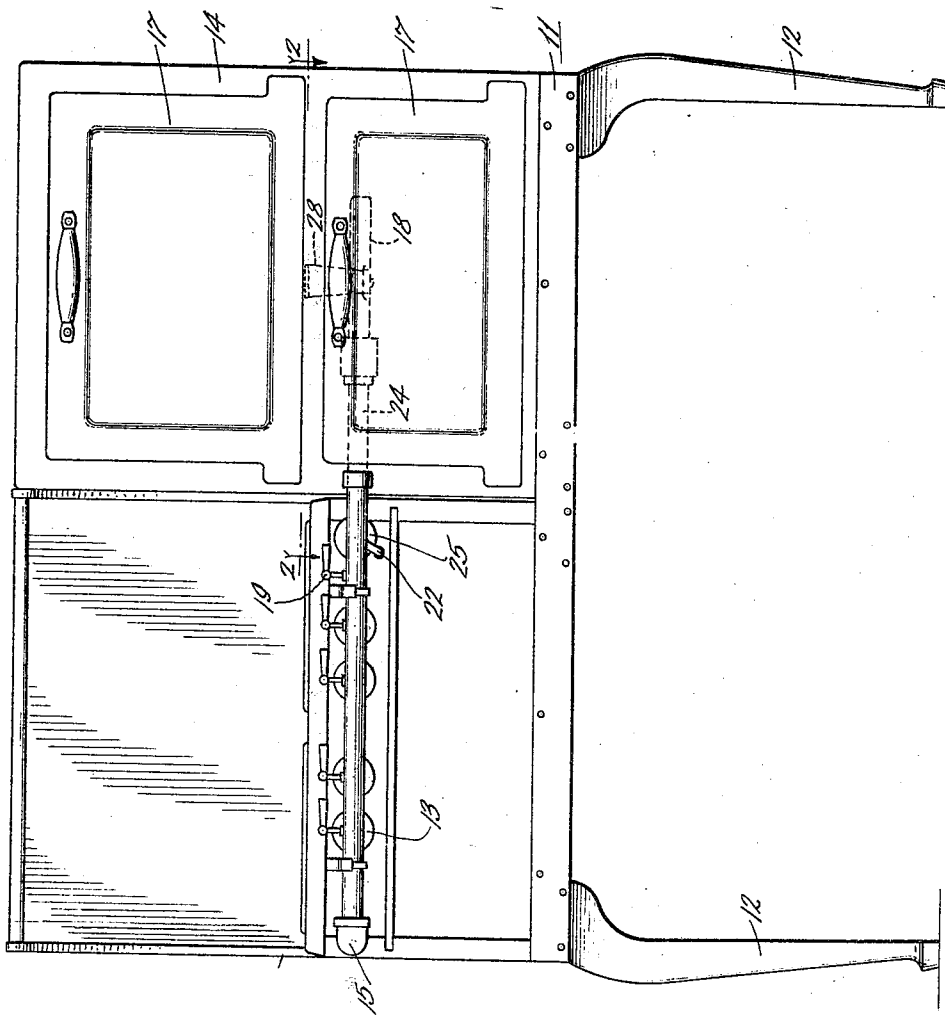
C. M. DIBBLE

1,789,430

STOVE CONSTRUCTION

Filed July 17, 1926

3 Sheets-Sheet I



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3 Sheets-Sheet 2

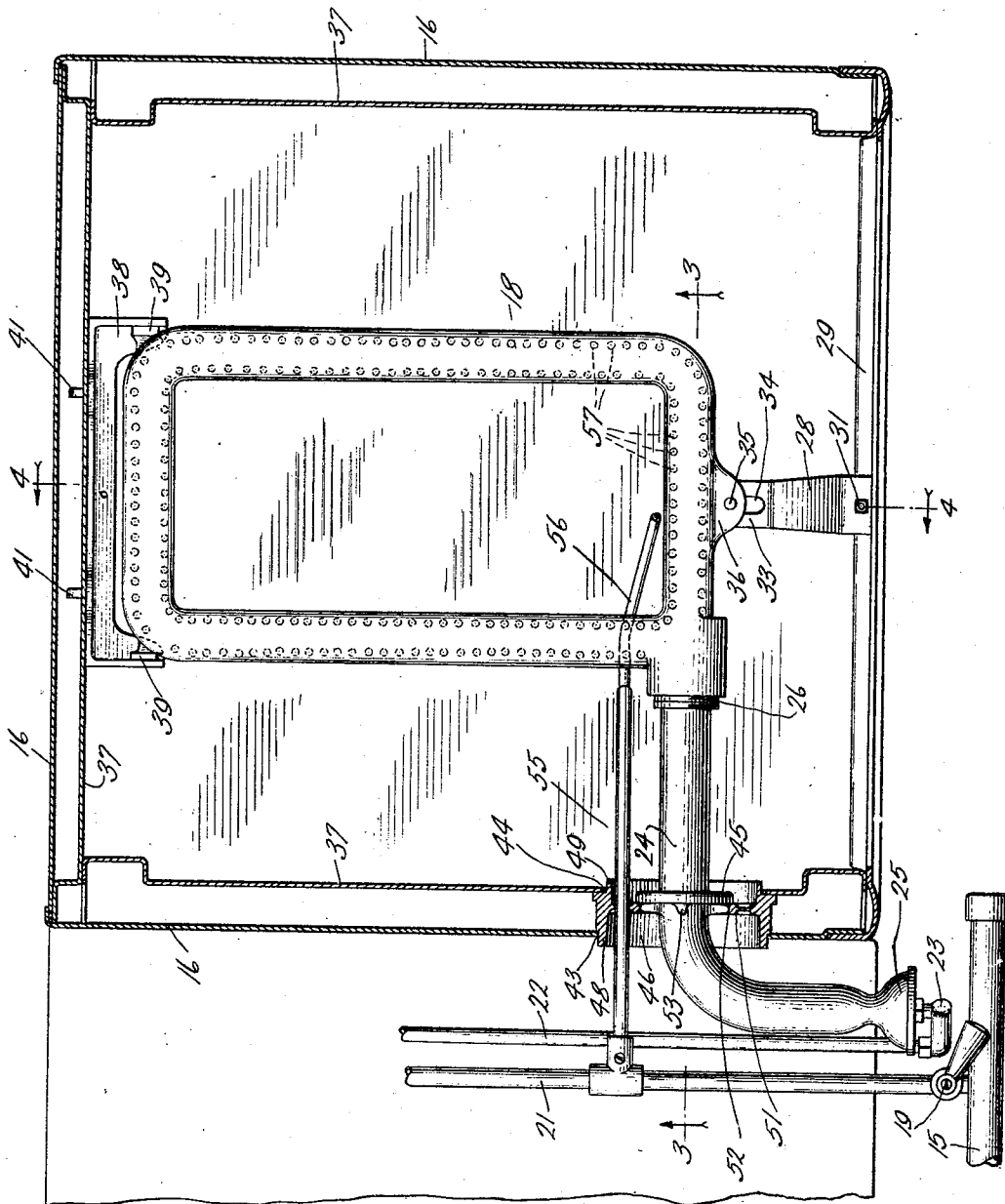


Fig. 2

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3 Sheets-Sheet 3

Fig. 3

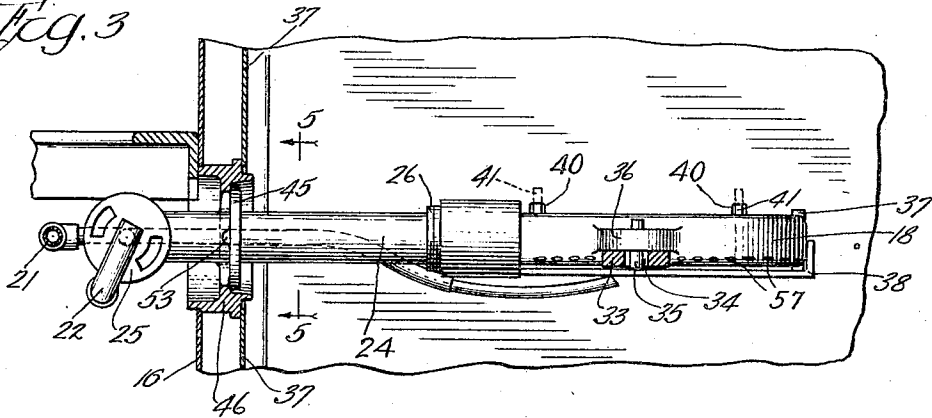


Fig. 4

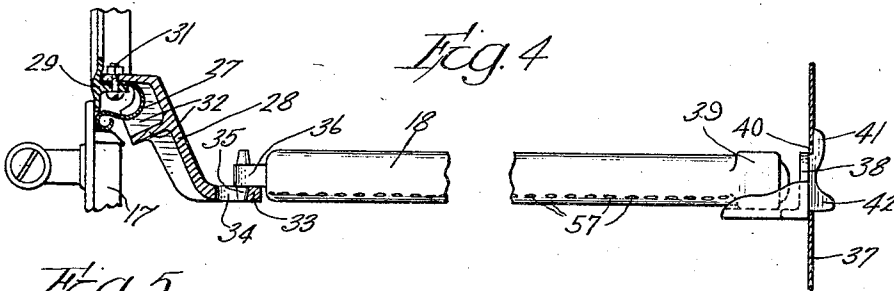


Fig. 5

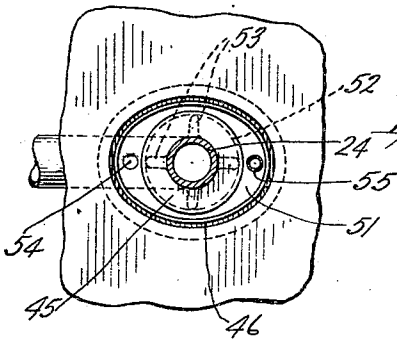


Fig. 6

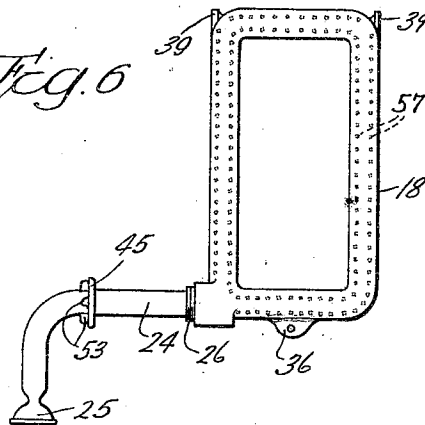
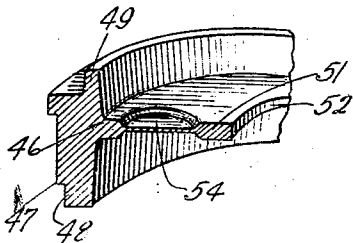


Fig. 7



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UNITED STATES PATENT OFFICE

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STOVE CONSTRUCTION

Application filed July 17, 1926. Serial No. 123,045.

This invention relates in general to stove construction, and more particularly to stoves having an oven part that is heated by fluid fuel, such as gas or the like. An important object of the invention is to provide a stove wherein the oven burner is loosely or removably supported in accordance with the requirements or rules of the American Gas Association and that is provided with means extending through a wall or walls of the oven and formed to provide a mixing chamber for mixing fuel and to conduct the mixed fuel to the burner, and such a device that is provided with means for sealing the opening in the wall through which it may be positioned and extends after assembling for preventing the escape of heat through the opening.

Another important object of the invention is to provide a removable support for an oven burner or a support that may be removed from burner supporting position in the oven to facilitate the removal of oven lining plates such as are usually provided in stove ovens.

Another important object of the invention is to provide a support for the burner that is formed so that it may be cast as one piece that will not require any machining operation and that may be positioned into interlocking engagement with a wall of the oven for supporting the burner, and such a device that will support the burner at two or more positions as desired.

Another important object of the invention is to provide a bracket arranged to provide a support for the oven burner, in a stove where the burner extends near a door thereof and the door is held in closed position by means of a spring clip, which bracket is formed to shield the spring clip from heat radiated by the burner so that the heat will not distemper or anneal the spring clip.

Another important object of the invention is to provide a bushing that may be mounted in an opening in one or more wall plates of the oven and where two or more wall plates are provided to seal the space between wall plates at the opening and to provide a support for a portion of the burner, or such a device that is arrangeable to support a pilot

light fixture separate from or together with the burner and at one or more positions.

Another object of the invention is to provide a bushing for closing the opening about the portion of the burner extending through a wall or for like use that is provided with one or more substantially circular portions of thin material that may be knocked out by impact, such as with a punch or like device, to provide an opening through which a pilot light fixture may be extended and in which the fixture may be supported so that the pilot light may be arranged at either side of the burner arm when a burner arm extends through the bushing and so that the bushing may be used in either left or right hand walls, that is, in walls on the left or right hand sides of the oven respectively.

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.

Referring to the drawings,

Figure 1 is a front elevational view of a gas stove embodying my invention,

Fig. 2 is a horizontal section taken substantially on line 2—2 in Figure 1,

Fig. 3 is a section taken substantially on line 3—3 in Fig. 2 and showing the burner in full elevation,

Fig. 4 is a section taken substantially on line 4—4 in Fig. 2,

Fig. 5 is a section taken substantially on line 5—5 in Fig. 3,

Fig. 6 is a plan view of the burner as it appears when removed from the stove, and

Fig. 7 is an enlarged perspective view of a portion of the bushing showing details of construction thereof.

While my invention is equally applicable to any type of fluid fuel stove, such as gas, gasoline, alcohol, or the like, to illustrate my invention I have shown a gas stove arranged in accordance with my invention including a body 11, legs 12, an open burner part 13, and an oven part 14, all of which may be of any suitable type, form and size. A pipe 15 or other suitable conductor is arranged on the

stove to supply fuel to any one or all of the burners and for connection to a source of fuel supply which may be either carried by the stove or separate therefrom.

5 The oven part 14 in the present instance includes a plurality of walls 16 providing an enclosure or suitable oven space and one or more doors 17 for permitting access to the oven space. A burner 18 is provided that may be of any suitable form and located or supported within the oven in any suitable manner and supplied with fuel from the pipe 15 (Fig. 2) through a valve 19, pipes 21 and 22, which may be connected directly or through a thermostatic oven control device, or like device for controlling the heat of the oven through the fuel supply, not shown on the drawings, or may be connected together if desired to conduct the fuel from the pipe 20 21 directly to the pipe 22. A spray device or jet 23 is or may be secured to an end of the pipe 22 and arranged to project the fuel into an arm 24 that is arranged to conduct the fuel to the burner 18 and preferably to mix the fuel with air or another fluid during its passage to the burner 18. In the present instance I have shown an end 25 of the arm 24 of the usual form provided to mix air with gas, as is the common practice in gas stoves. An end 30 26 of the arm 24 may be secured or attached to the burner 18 in any suitable manner such as by threading the end 26 into the burner substantially as shown. When the burner 18 extends near one of the doors 17 and when the door is held in closed position by means of a spring clip 27 of any form, it is desirable to protect the spring clip from the direct heat or radiated heat of the burner and to accomplish this a bracket 28, which may be of any suitable form and arranged to support the burner at one or more points, is fastened to a frame part 29 of the stove by any suitable means, such as by a bolt 31 or the like, and over the spring clip 27. The bracket 28 is formed to provide a plurality of walls 32 that substantially embrace the clip or surround the inner or exposed side of the clip to shield the clip from the heat. These walls may be continued to abut against the door and formed to the contour of the frame part 29 to cooperate with the door to completely enclose the spring clip 27 when the door 17 is in closed position. An end 33 of the bracket 28 is preferably slotted as at 34 to receive a pin 35, which may be formed on or attached to an arm 36 of the burner 18 to locate the burner in fixed position within the oven. The burner 18 may be supported at one or more other points in the oven in any suitable manner where a single-walled oven is used, or where the oven is lined with sheet metal that is permanently secured in place, and in the present instance I have shown a plurality of lining sheets 37 positioned from the walls 16 to provide an air chamber or a space about the enclosure or

oven and that may be formed in any suitable manner to facilitate the removal thereof from the oven for replacement, readjustment, cleaning, or other occasions. In the present instance the sheets 37 shown at the left and right (Fig. 2), or on the left and right hand walls, are formed to pivot about the front wall for removal, after the bottom plates, that are or may be secured by bolts or the like, are first removed. The rear end of the sheets 37 may be alternately swung inward toward the opposite sheet, lifted away from the front corner and dropped through the bottom of the stove. The rear sheet 37 may then be lifted bodily forward and removed through the bottom also. A support bracket 38 is provided for supporting the rear end of the burner 18, or the end or side opposite the bracket 28, which bracket is preferably arranged to support the burner at at least two spaced points, this being accomplished through the lugs 39 formed integral with and to extend from the burner 18 to engage the support 38. If the support 38 were bolted or otherwise permanently secured to the rear wall 16 or rear lining wall 37, it would be impossible to swing the plates 37 inwardly far enough to drop them through the bottom or to remove them and to permit the removal of the lining plates. The support bracket 38 is formed for interlocking demountable engagement in the rear wall 37 and so that, when the burner is removed, it may be removed from the oven by merely lifting on the plate and withdrawing it from contact with the wall. This is accomplished by forming the support 38 of substantially L-shape to support the burner through the lugs 39, side or wing lugs 38' being formed on the bracket 38 and adapted to engage the burner lugs 39 in order to prevent lateral displacement of the burner from operative position. One or more projections are formed on the support 38 and are adapted for interlocking engagement with the plate 37. In the present instance I have shown this projection extending through a slot 40 formed in the wall 37 and comprising a hooked part 41 and a supporting part 42, the supporting part 42 preventing downward movement of the support, and the hooked part 41 preventing the forward movement of the top of the support and holding the part 42 in contact with the sheet 37.

When the burner 18 is formed with the arm 24 or another suitable conductor for delivering fuel thereto through a single or double wall, such as the wall 16 or the walls 16 and 37, and for removal from the oven as a unit or as shown (Fig. 6), it is necessary to provide an opening 43 in the wall 16 that may be of any suitable form, and in double-wall construction an opening 44 of any suitable form in the wall sheet or plate 37. A collar 45 is preferably provided that may be formed on or

attached to the arm 24 in any suitable manner to prevent the escape of heat from the oven and about the arm. A collar or bushing 46 is preferably provided to seal the space between the opening 43 and the arm or the opening 44 and the arm, or both if desired, and in the present instance I have shown a bushing 46 of substantially annular or oval form and having a portion 47 intermediate its ends of larger diametrical dimensions than the openings 43 and 44 for spacing the walls 16 and 37 apart, a portion 48 of smaller diametrical dimensions than the opening 43 and adapted to extend therethrough, and a similar portion 49 arranged to extend through the opening 44. A wall 51 is formed in the bushing 46 which is provided with an aperture or an opening 52 which may be of any suitable shape and of sufficient size to permit of projecting the end 25 of the arm 24 therethrough and of slightly less size than the collar 45 formed on the arm 24. A plurality of lugs 53 may be formed integral with the arm 24 or collar 45, or both, as shown, to engage the wall of the opening 52 at a plurality of points for supporting the arm 24. The wall 51 in the bushing 46 is provided with one or more, or a plurality of substantially circular portions 54 of thin material, that is, the bushing is cast to provide thin wall portions of circular form or the like and in the present instance I have shown two such portions that may be removed by impact such as by driving out with a punch or other suitable tool to provide an opening and bearing for a fixture or a pipe 55 or like device forming a part of a pilot light fixture which in the present instance includes the pipe 55 and an extension 56 of pipe or tubing of any suitable diameter arranged to project fuel to the vicinity of burner openings 57.

The bushing 46 may be pressed into the opening 43 in the sheet 16 when a single-walled oven is used and may have a loose seat in this opening and in the opening 44 when a double wall is used, since the portion 47 of the bushing is of larger diametrical dimensions than either of the openings and provides a spacing means for spacing the walls apart so that when the bushing is positioned in the opening 43 in the wall 16 and the lining wall 37 assembled to position the bushing is held between the walls and may have a bearing on either or both. The burner 18 may be lifted from its supports 28 and 38, and by a slight twisting motion of the burner to the right (Fig. 2) and rotation of the arm 24 the arm may be withdrawn through the opening 52 or inserted during assembly by a similar motion. The supports 28 and 38 are so arranged that when the burner 18 is in position thereon the collar 45 will be pressed against the wall 51 of the bushing 46 to prevent the escape of heat about the arm 24. The bushing is arrangeable in or between either

left or right hand walls by a mere reversal thereof and the pilot light fixture may be arranged on either side of the arm 24 by knocking out a portion 54 on the corresponding side of the arm 24 or any other such portion that may be suitably arranged for this purpose, or the pilot light may be entirely omitted where it is not required, such as when no oven thermostatic device is used, the pilot light fixture being provided to re-ignite or insure the ignition of the fuel at the burner after a period when the fuel has been entirely or substantially cut off by the thermostatic control and when the fuel is again turned on thereby.

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.

I claim:

1. In a stove the combination of an oven having a front and back wall, a door hinged to the front wall, a spring clip for holding the door in closed position, an oven burner arranged in the oven and extending near said door, and means for supporting the burner within the oven including a bracket attached to the front wall thereof and formed to partially enclose said spring clip to protect the clip against heat radiated by the burner.

2. In a stove, the combination of an oven, a burner for said oven having a portion formed to extend through an opening in the walls thereof, and a bushing positioned in an opening in said oven walls and supported thereby, said bushing being provided with a central aperture through which said burner extends and having other apertures located on opposite sides of the first mentioned aperture and adapted to receive a pilot light fixture.

3. In a stove, the combination of an oven, a burner for said oven having a portion formed to extend through an opening in the walls thereof, and a bushing positioned in an opening in said oven wall and supported thereby, said bushing being provided with a central aperture through which said burner extends and having other apertures located on opposite sides of the first mentioned aperture and adapted to receive a pilot light fixture, said last mentioned apertures being originally closed by severable bushing parts.

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