Dec. 6, 1938. F. H. SCHNEIDER 2,139,643

RANGE

Filed Oct. 13, 1937 2 Sheets-Sheet 1

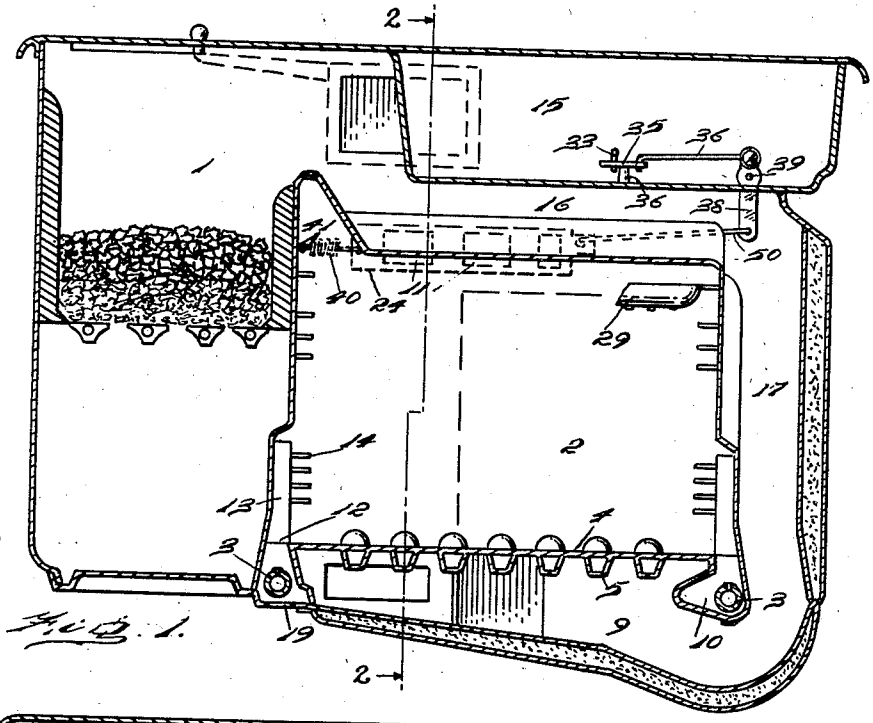

FIG. 1.

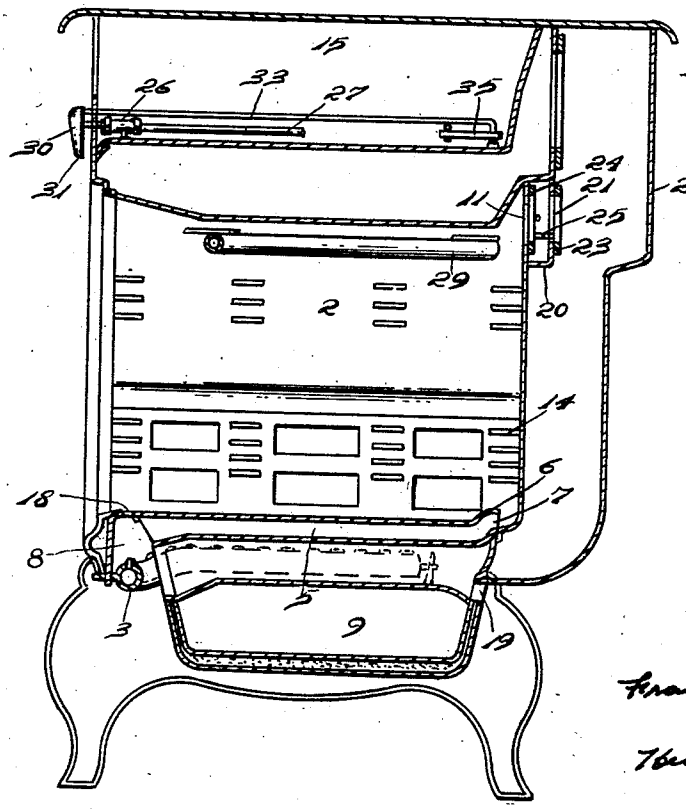

FIG. 2.

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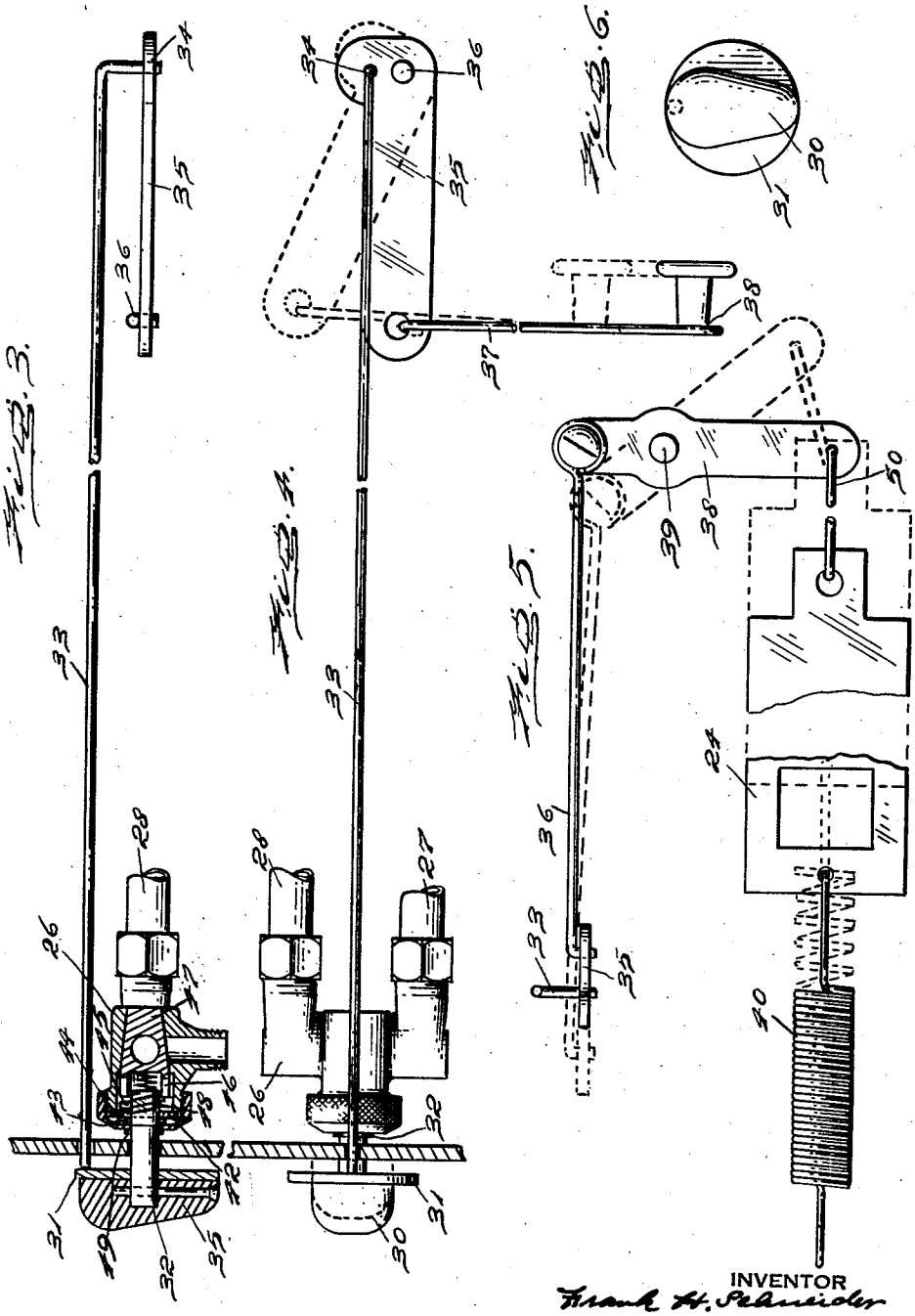

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UNITED STATES PATENT OFFICE

2,139,643

RANGE

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Application October 13, 1937, Serial No. 168,830

4 Claims. (Cl. 126—39)

The object of this invention is to devise a novel range wherein the oven vent will be in open position when fuel is supplied to either the broiler burner or the baking burner for the oven.

Although not limited to such use, it is especially adapted to be employed in conjunction with an oven construction such as that disclosed in my patent for Dual range, No. 2,089,816, Aug. 10, 1937, in which two different types of fuel may be employed independently or simultaneously for heating the oven.

A further object of the invention is to devise a novel arrangement of an oven vent damper and fuel supply control for the broiling and baking burners of the oven, wherein the operating handle of the fuel valve is first longitudinally moved to open the vent damper and interlock with the valve cock. The valve handle can then be turned in one direction to supply fuel to the baking burner or in an opposite direction to supply fuel to the broiler burner. When fuel is supplied to either burner the oven vent damper is open. The oven vent damper is returned to its closed position by a spring.

With the above and other objects in view as will hereinafter clearly appear, my invention comprehends novel controlling means for the oven vent damper and for the supply of fuel to a baking or broiler burner of the oven, which is constructed and arranged to have the oven vent open when fuel is supplied to either burner.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description and the appended claims.

For the purpose of illustrating the invention, I have shown in the accompanying drawings a typical embodiment of it, which, in practice, will give satisfactory and reliable results. It is, however, to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and my invention is not limited to the exact arrangement and organization of these instrumentalities as herein set forth.

Figure 1 is a sectional view of a dual range in conjunction with which a damper and fuel controlling mechanism embodying my invention may be employed.

Figure 2 is a section taken substantially on line 2—2 of Figure 1.

Figure 3 is a side elevation of a portion of the controlling mechanism, the valve being shown in section.

Figure 4 is a top plan view of Figure 3.

Figure 5 is a side elevation showing a portion of the damper operating mechanism.

Figure 6 is a front elevation showing more particularly the valve handle and the disc for effecting the opening of the vent damper.

Similar numerals indicate corresponding parts.

Referring to the drawings:

The general construction of the dual range is substantially the same as that shown in my Patent No. 2,089,816, of Aug. 10, 1937.

The fire pot of the range forms a combustion chamber 1 for a coal burner or an oil burner. The oven 2 is heated by products of combustion from the combustion chamber 1 or by a gas burner 3 which is the baking or heating burner of the oven.

The bottom 4 of the oven has spaced tubes or channels 5 extending, as shown, from the front to the rear of the oven and are directed upwardly to discharge into the oven to form baffles 6 extending over the discharge openings 7 to prevent spillovers lodging in the tubes.

The gas burner 3 is in a channel 8 built around the outer edge of a coal gas flue 9. The two side arms of the burner 3 burn upwardly in channels 10 extending preferably the entire depth of the oven. The front arm of the burner 3 supplies heat to the tubes 5. The flue gases pass from the oven through the oven vents 11. Side openings 12 in the oven are concealed by apertured strips 13 to which spaced runners 14 are secured. A compartment 15 for top gas burners has its wall contributing with the oven top to form a top coal gas flue 16 which leads to the side vertical coal gas flue 17 which leads to the bottom coal gas flue 9.

The burner 3 has a lighter opening 18 and air intakes 19 for secondary air.

The vent opening 11 opens into an open ended casing 20, open ends of which discharge into the room in which the range is located. The casing 20 has discharge openings 21 to the main discharge flue 22 and these openings are controlled by a damper 23. The oven vents 11 are controlled by an oven vent damper 24 connected at 25 with the damper 23 so that they are both opened at the same time and are both closed at the same time.

26 is a fuel supply valve in the form of a two-way valve having a pipe 27 leading to the baking burner 3 and a pipe 28 leading to a broiler burner 29 preferably located in the upper part of the oven.

The fuel supply valve 26 has a handle 30 to which is connected a disc 31 and a stem 32. When

the handle is pressed forwardly the disc **31** contacts with and moves forwardly a rod **33** which at its inner end is connected at **34** with one end of a lever **35** pivoted at **36** to the range. The opposite end of the lever **35** is connected by a link **37** with one end of a lever **38** pivoted at **39**. The opposite end of the lever **38** is connected by a link **50** with the oven vent damper **24**. The opposite end of the oven vent damper is connected with one end of a spring **40** the opposite end of which is connected to a fixed portion of the range as at **41**.

The valve stem **32** has a collar **42** fixed to it and provided with a lug **43** to pass through a slot **44** in an annular flange at the end of the body and be disposed beneath the flange and thereby retain a pin **45** on the collar in a slot **46** at the outer end of the valve plug **47**. When the valve handle is turned the stem is thus retained in interlocked condition with the valve plug until it is turned back to its neutral position. A spring **48** between the valve and stem will at such time move the valve stem outwardly, away from the valve plug and the valve will be in its unlocked position. A shoulder **49** on the valve stem limits its inward movement.

It will now be apparent that when the valve handle is pressed forwardly the disc **31** will move forwardly the rod **33** and thereby due to the linkage and lever connections with the oven vent damper **24** move the latter against the tension of its spring into its open position and thereby also the damper **23** into its open position. The valve stem is now interlocked with the valve plug so that the turning of the valve handle in one direction or the opposite direction will supply fuel to either the broiler or the over burner, as may be desired.

Since the handle and thereby the disc **31** is retained in its inwardly position when fuel is supplied to a selected burner, the oven vent damper will be held in its open position during such period.

When however, the valve stem is unlocked from the valve, and moves to its outward position the spring **40** will close the oven vent damper and return its controlling linkage to its normal position.

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

1. The combination with a wall of a range, of a valve positioned inwardly of said wall having a valve body, a valve plug and a valve stem, said valve stem extending through said wall and being normally disconnected from said plug, said valve stem and plug having interlocking means to lock them together when the valve stem is moved towards the valve plug, a spring between the valve stem and valve plug, a grasping handle for the valve stem, and a damper actuating member actuated by said grasping handle prior to the interlocking of the valve stem with the valve plug when the valve stem is moved towards the valve plug.

2. The combination with a wall of a range, of a valve positioned inwardly of said wall having a valve body, a valve plug and a valve stem, said valve stem extending through said wall and being normally disconnected from said plug, said valve stem and plug having interlocking means to lock them together when the valve stem is moved towards the valve plug, a spring between the valve stem and valve plug, a grasping handle for the valve stem, and a longitudinally movable damper actuating rod passing through said wall with an end in the path of forward movement of the valve stem whereby said rod is moved before the valve stem can be interlocked with the valve plug.

3. The combination with a wall of a range, of a valve having a valve body positioned inwardly of said wall, with a valve plug provided at one end with openings, a valve stem having means to enter one of said openings when moved longitudinally of the valve body, a spring tending to move said valve stem away from the valve body, a grasping handle for the valve stem, and a damper actuating member in the path of longitudinal movement of said grasping handle to be moved thereby prior to the means on the valve stem entering the opening of the valve plug to connect such parts for rotation of the valve plug.

4. The combination with the wall of a range, of a valve mechanism positioned inwardly of said wall and having a valve stem extending exterior of said wall and normally disengaged from the valve of such valve mechanism, said stem and plug having means to interlock them on their relative longitudinal movement, a spring tending to cause the unlocking movement of the valve stem, and damper actuating means actuated by the forward movement of the valve stem prior to the interlocking of said valve stem with the valve plug.

FRANK H. SCHNEIDER.