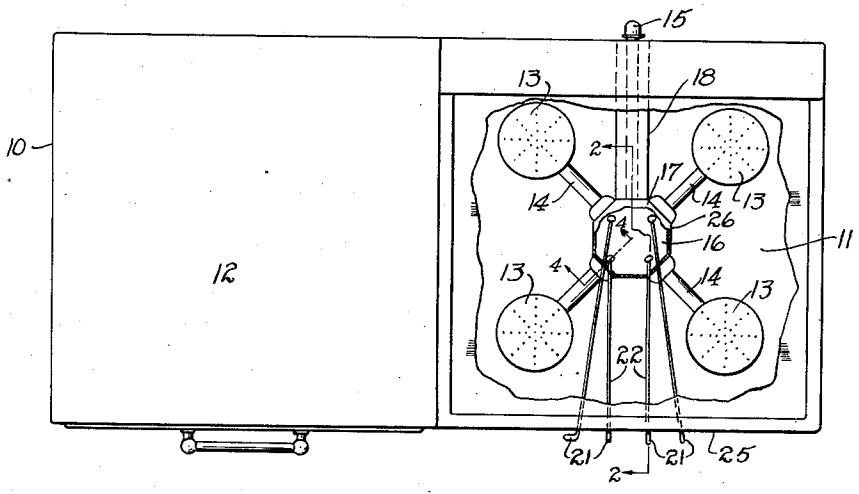
Dec. 29, 1931. A. H. TINNERMAN 1,838,506

VALVE FOR GAS RANGES

Filed May 6, 1929

FIG_1



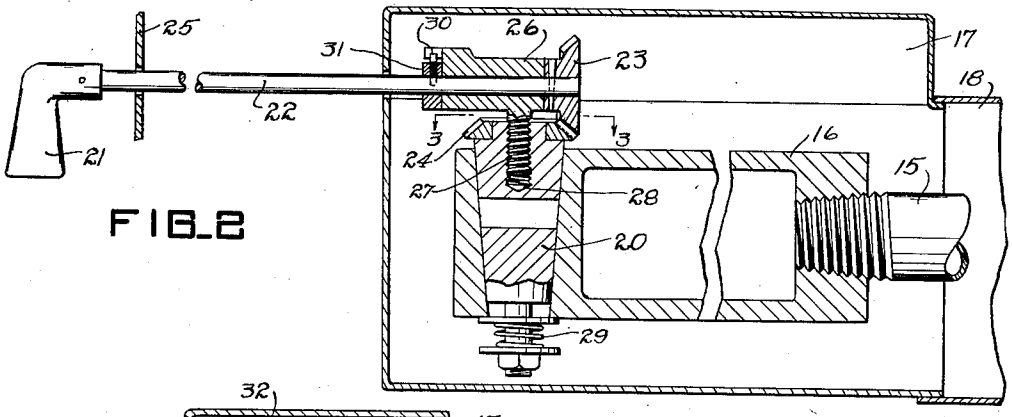




FIG_2

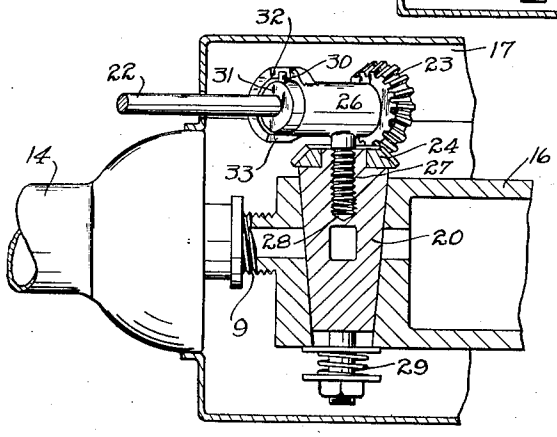



FIG_4

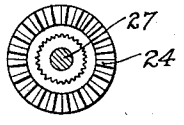



FIG_3

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# UNITED STATES PATENT OFFICE

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## VALVE FOR GAS RANGES

Application filed May 6, 1929. Serial No. 360,971.

This invention relates to valve construction such as used, for example, in gas ranges and is particularly adapted for use in an arrangement wherein the gas valves are located in a relatively compact cluster while the operating handles are located at remote points and at relatively spaced intervals. The stove having such valve and handle arrangement is illustrated in my copending application, Serial #345,627, filed March 9, 1929. Briefly, such mechanism illustrates a burner box with a gas and air distributer, which is centrally located within the box, and which has gas valves associated therewith for controlling the flow of gas to the respective burners. The handles for operating the valves are placed in the usual location at the front of the stove. The valves however, are placed relatively close together in the distributer, and are disposed substantially on lines extending transversely to the front of the stove. The problem presented therefore, is to obtain a full opening of the valves with a quarter turn of the operating handle, notwithstanding the fact that the valves are spaced relatively close together in a compact arrangement, while the stove operating handles are spaced apart and along the front edge of the stove. A further problem is to provide a satisfactory operating connection between the handles and valves which will permit the valves to be readily operated without the occurrence of a binding action between the operating parts.

One of the objects of the present invention is to provide a burner control mechanism which enables closely grouped valves within a burner box, to be satisfactorily operated when the handles are disposed along one edge of the box. A further object is to provide a mechanism which shall be simple in construction, and which can be readily installed and thereafter operated to obtain the desired result without the occurrence of objectionable friction of the operating parts.

Referring now to the drawings, Fig. 1 is a plan view of a gas range embodying my invention; Fig. 2 is a vertical section taken on the line 2—2 in Fig. 1; Fig. 3 is a vertical section taken on the line 3—3 in Fig. 2 and Fig. 4 is a section taken on the line 4—4 in Fig. 1.

My invention is shown in connection with a gas range 10 and which has a burner box 11 and an oven box 12. Burners are indicated at 13 within the burner box, and are each provided with a hollow shank 14 through which a mixture of air and gas may flow. In the preferred arrangement, the gas distributer 16 is centrally located within the box and comprises a hollow casting which is connected to a supply pipe 15, and also to conduits 9 which lead into the respective burner shanks. Air for supporting combustion may be lead into a chamber 17 through a conduit 18, which is shown as extending around the supply pipe, and as entering the burner box from the rear of the stove. Gas flowing to the respective burners is controlled by a valve which may, if desired, be built into the body of the distributer.

The present invention is concerned with a mechanism for operating valves at points remote from the location of the valve. As applied to a stove, it is concerned with the provision of operating mechanism which permits the use of operating handles at spaced intervals along the front edge of the stove, notwithstanding the fact that the valves are closely mounted in a compact cluster adjacent the central part of the burner box. The preferred means for accomplishing this comprises a tapered valve plug 20 which is rotatably mounted within the distributer and which is operatively connected to a valve handle 21 at the front of the stove. To effect such connection, I have shown a rod 22 which extends inwardly and is provided at the inner end with a beveled gear 23 which is arranged to mesh with a similar gear 24 upon

the plug 20. The outer end of the rod 22 may be supported by an apron 25 which forms part of the burner box while the inner end may be journalled in a bearing block 26. Such block is preferably carried by the plug and in the preferred form is swivelly mounted thereon. Such swivelled connection takes the form of threaded pin 27 which extends downwardly from the bearing block and engages a correspondingly threaded socket 28 in the plug. The axis of such socket is coincident with the axis of the plug. Thus, each block may be turned to suit the angle at which the associated rod 22 enters the distributer, as is shown particularly in Fig. 1. When so positioned, it permits a rotation of the plug with reference to the distributer for controlling the flow of gas to the associated burner. A spring 29 acts in the usual manner to urge the plug into engagement with the valve seat, while a pin 30 in the collar 31 is adapted to engage shoulders 32 and 33 respectively on the bearing block to limit the degree of plug rotation.

An advantage of my invention is the fact that a bearing block may be turned to the desired degree to accommodate the angle at which the valve rod enters the burner box, without requiring specially designed bearing supports on the upper surface of the distributer. A further advantage of my invention is the fact that a large number of valves may be compactly arranged in the distributer and yet may be operated in a satisfactory manner from spaced points at the front of the burner box without the presence of a binding action between any of the operating parts.

I claim:

1. In combination, a burner, a valve therefor, said valve including a rotatable member, an operating handle, and means connecting said handle to said member, said means being swivelly mounted upon said member.

2. In combination, a burner, having a gas passageway leading thereto, a valve in said passageway including a rotatable member, an operating handle therefor, means rotatably connecting the handle and member, said means including a bearing block swivelly mounted upon the axis of said member.

3. In a gas stove, the combination with a burner box, of a burner disposed therein, a valve mechanism, comprising a valve body, a valve stem, and a rotatable valve operating member, the valve stem having a gear rigidly mounted thereon, and having a bearing sleeve swivelly mounted thereon and above the gear, said sleeve providing a bearing for the operating member, and a second gear carried by the operating member and in mesh with the first named gear, whereby rotation of the valve operating member causes rotation of said stem.

4. In a gas stove, the combination with a burner, of a valve stem, said valve being mounted within the stove, a rotatable valve operating member positioned outside the stove, means including a pair of coacting gears for operatively connecting said member with the valve, and a bearing sleeve swivelly mounted on the valve for supporting the inner end of said member, said sleeve and member having cooperating shoulders to limit the rotational degree of the member.

In testimony whereof, I hereunto affix my signature.

ALBERT H. TINNERMAN.