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2,116,885

GAS RANGE

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FIG. 1.

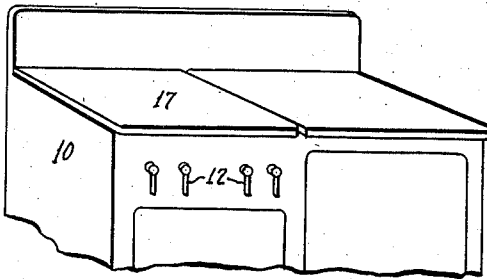


FIG. 2.

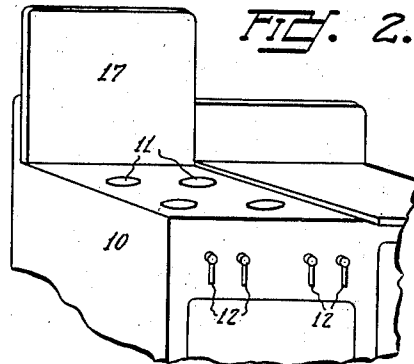


FIG. 3.

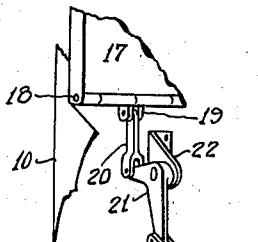


FIG. 5.

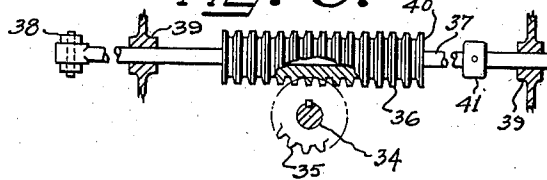


FIG. 6.

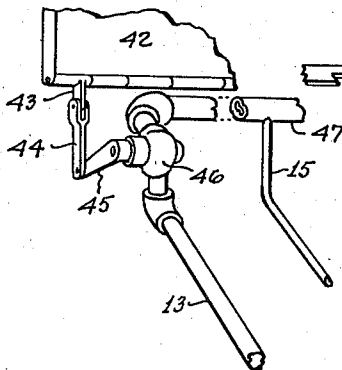
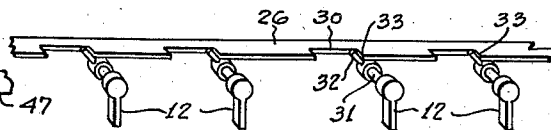


FIG. 4.



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GAS RANGE

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2 Claims. (Cl. 126-42)

This invention relates generally to cooking appliances, and particularly to an improved form of gas range.

The main object of this invention is the provision of an automatic shut-off for gas valves on ranges employing a hinged top.

The second object is to prevent injury to the top of a gas range of the class described due to the lowering of the cover when a burner is operated.

The third object is to so construct the range that regardless of the number of burners which are turned on, all will be turned off automatically when the cover is lowered making it necessary to turn each of the burners on manually when the range is used and making it impossible to turn these burners on unless the cover is first raised manually.

I accomplish these and other objects in the manner set forth in the following specification as illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary perspective view of a gas range showing the top or cover closed.

Fig. 2 is a view similar to Fig. 1, but showing the top or cover open.

Fig. 3 is a fragmentary diagrammatic view showing one form of the device which is usable when the operating valves turn through approximately ninety degrees or less and showing the parts in an operating position, that is with the cover raised.

Fig. 4 is a fragmentary perspective view of the operating bar in a valve locking position, which would be assumed when the cover was in the position shown in Fig. 1.

Fig. 5 is a fragmentary view of a valve operating mechanism for use in connection with a valve requiring a movement of more than ninety degrees.

Fig. 6 is a perspective view of a modified form of the device in which a master valve is employed to control the flow of gas to the separate burner valves.

Similar numbers of reference refer to similar parts throughout the several views.

Referring in detail to the drawing, there is shown a common form of gas range 10 including burners 11 and burner control valves 12. Gas is supplied through a main gas pipe 13. A common form of pilot 14 is employed which is connected to the pipe 13 by means of the pilot tube 15. The pilot flame 16 burns within the pilot 14 at all times.

This type of pilot is preferred as it requires

no directing since when gas is permitted to flow to any burner 11, it is ignited by the central flame 16. Such pilots are now in common use.

The range 10 is also provided with a cover 17 which is hinged on the pin 18. The cover 17 is provided with a forked arm 19 to which is connected a link 20 which is attached to the bell crank lever 21 which is rockably mounted on the fixed bracket 22. The bell crank lever 21 is connected by a rod 23 to a second bell crank lever 24 which is rockably mounted on the fixed bracket 25.

Slidably disposed along the valves 12 is a valve operated bar 26 which is supported by the guides 27 and which is connected to the bell crank lever 24 by means of the pin 28 which is secured to the lever 24 and occupies a slot 29 in the bar 26. The bar 26 is provided with cut-out portions 30. The stem 31 of each valve 12 is provided with a radial pin 32 which extends into its respective cut-out portion 30. The cut-out portions 30 are so arranged that the edge 33 of each cut-out portion 30 engages its respective pin 32 and holds the valve 12 in a closed position when the cover 17 has moved the bar 26 to the position shown in Fig. 4.

The operation of this form of the device is as follows:

Assuming that the range is being operated as shown in Fig. 3, and it is desired to stop this operation, the user merely turns off the valve or valves 12 manually or lowers the cover 17 manually. If the cover 17 is lowered, it will, through its operating connections 20 to 28, cause the automatic closing of all of the valves 12.

In the form of the device shown in Fig. 5 in which the valve stem 34 requires more than ninety degrees of movement, there is provided a pinion 35 which meshes with the rack 36 through which slidably passes the valve operating rod 37 which in turn communicates with the bell crank lever 38 which corresponds with the lever 24 shown in Fig. 3. Suitable guides 39 are provided for the rod 37.

On the rod 37 at a fixed distance from the end 40 of each rack 36 is secured a collar 41 whose function it is to engage the racks 36 and move the stems 34 in a valve closing direction. Obviously, any other form of rack than the one shown which will accomplish this purpose may be employed without departing from the spirit of this invention.

In the form of the device shown in Fig. 6 is employed a cover 42 to whose arm 43 is connected a link 44 which is joined to the lever 45

of the master gas valve 46 which is interposed between the main gas pipe 47 of the range 18 and the pipe 13 which leads to the burner valves 12. The pilot burner pipe 15 should, of course, be connected to the pipe 47 on the inlet side of the master gas valve 46.

The operation of this form of the device is quite similar to the one just described except that in this case the closing of the cover 42 causes a closing of the master valve 46 and prevents gas from passing through the pipe 13 to the various burners 11. It does not however prevent gas from flowing to the pilot flame 16. With this form of the device, the operation of the cover 42 not only stops the operation of the burners when the cover is closed, but also causes the resumption of the operation of the burners when the cover is again raised, whereas in the first described form of the device the resumption of the operation of the burners can only be obtained by the manual operation of the valves 12.

While I have thus illustrated and described my invention, it must be understood that the precise details of the parts involved will necessarily be modified to correspond with the particular type of range employed, the type of pilot burner used

and the type of control desired. The type of control used depends upon whether or not it shall provide automatic closing and require automatic opening, or whether both the closing and opening movements of the valves will automatically accompany the closing and opening movements of the cover 17. Therefore, it is my intention to cover all such forms of the device as fall fairly within the appended claims.

I claim:

1. In a gas range, a burner and a valve therefor, a stem manually rotatable for control of said valve, a pinion fixed to said stem, a hinged cover for said burner, an operating rod linearly movable upon closure of said cover, a rack engaging said pinion, said rack being slidably mounted on said operating rod, and a stop on said rod to pick up said rack and rotate said pinion and said stem to close said valve when said cover is closed, said stop being positioned to allow free manual rotation of said stem when said cover is open.

2. A gas range having a plurality of burner valves each operated as recited in claim 1 by the motion of a single cover for all of said burners.

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