Oct. 10, 1950 H. M. REEVES 2,525,562

VALVE LOCKING MEANS FOR COOKSTOVES

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Fig. 1

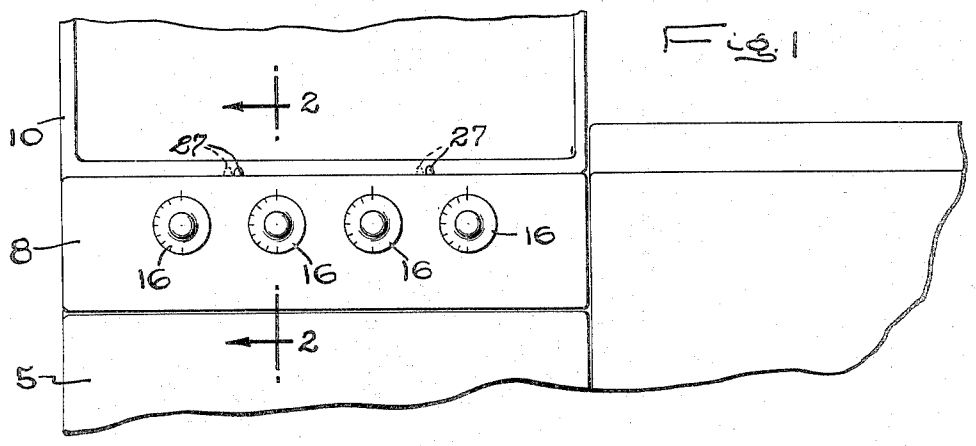


Fig. 2

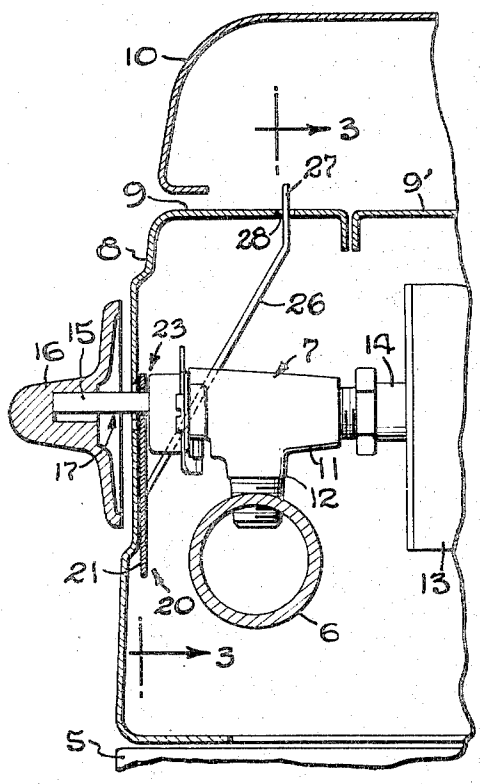
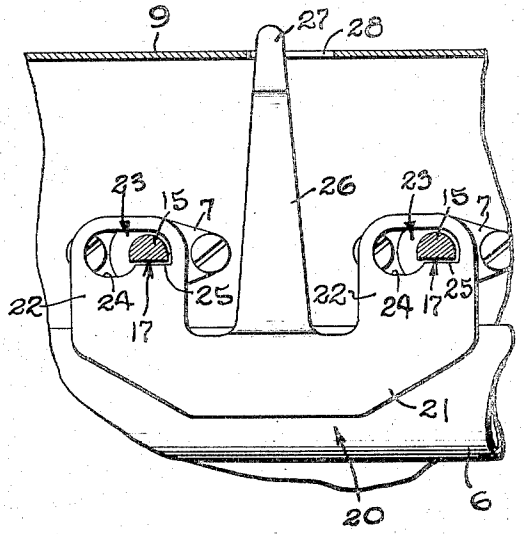


Fig. 3



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VALVE LOCKING MEANS FOR COOKSTOVES

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3 Claims. (Cl. 126—42)

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The invention relates to liquid or gaseous fuel cookstoves and more particularly to improved means for locking the burner valves of such stoves against inadvertent or accidental opening.

One object of the invention is to provide valve locking means which is very simple in construction, which can be installed in a cookstove without requiring any material changes in either the stove or valve structure, and which when installed is effectively concealed from view.

Another object is to provide a valve locking member operable to lock or release simultaneously a plurality of burner control valves and adapted to be supported directly on the stems of the valves with which it is associated.

Other objects and advantages of the invention will become apparent from the following detailed description of the preferred embodiment illustrated in the accompanying drawing, in which:

Figure 1 is a fragmentary front elevational view of a cookstove equipped with valve locking means embodying the features of the invention, the cooking top cover of the stove being shown in open position.

Fig. 2 is a sectional view through the front portion of the stove taken in a vertical plane substantially on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken in offset planes substantially on the line 3—3 of Fig. 2.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

For purposes of illustration, the invention has been shown as incorporated in a gas cookstove 5 in which the top burners are supplied with gas from a common manifold 6 (Fig. 2) through individual shut-off cocks or valves 7. Gas cookstoves are usually provided with four top burners, two at the front and two at the back of the cooking top and the valves 7 for the respective burners are conventionally arranged in side-by-side relation in a horizontally disposed row within a compartment located below the forward edge of the cooking top. The valves may be conveniently concealed from view by a sheet metal panel 8 closing the compartment and having its upper edge portion bent back to form a horizontal ledge 9 overlying the valve 7 and disposed flush with the cooking top panel 9' of the stove. The stove illustrated is provided with a removable cover 10 which may be closed down over the cooking top when the burners are not in use, the cover when closed having its front edge substantially alined with the front of the panel 8.

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In the exemplary stove, the valves 7 are of the type having a generally tapering body 11 with a depending leg 12 adapted to be threaded into an aperture in the manifold 6. Gas is admitted to the interior of the valve body through a passage in the leg 12 and is discharged into the mixing tube 13 of the associated burner through a nozzle 14 threaded on the smaller end of the valve body. The flow of gas through the valve is controlled by a rotatable valve member having a rigid stem 15 projecting forwardly from the larger end of the valve body through a suitable aperture in the panel 8.

To provide for nonrotatably securing an operating handle or knob 16 on the stem, the projecting end portion thereof is made non-circular in cross section. In practice, the valve stem usually comprises a cylindrical rod with one side milled flat, as indicated at 17, to give the stem a generally D-shaped cross section adapted to fit into a complementally shaped socket in the operating handle. The valve member may thus be rotated to control the flow of gas through the valve by manipulation of the handle.

As the valve handles 17 are exposed at all times and are placed at the front of the stove for convenient access, they are within easy reach of small children and may thus be operated inadvertently to open a valve. Accidental opening of a valve may also occur by reason of a person brushing against one of the handles in passing the stove. In order to prevent such inadvertent or accidental opening of a valve, I provide means of a very simple character which may be set to positively lock the valves 7 in closed positions and which can be manipulated easily to release the valves for operation when a burner is to be used. This locking means includes a member 20 of sheet metal or other suitable material supported on the stems 15 of a plurality of valves 7 and movable relative thereto to lock the stems against rotation or to release them.

Referring to Fig. 3, of the drawing, the locking member 20 in its preferred form is adapted for association with a pair of the valves 7 arranged in side-by-side relation and having their stems set with the flattened surfaces disposed horizontally when the valves are closed. The locking member comprises an elongated body or plate 21

having upstanding arms 22 at opposite ends formed with slots 23 spaced apart to receive the stems 15 of the two valves. The slots are elongated horizontally so that the member may shift transversely relative to the valve stems to associate either end of the respective slots therewith.

To effect the release and locking of the valves, each slot 23 is formed with one end portion 24 of a width slightly greater than the major diameter of the stem 15 and the other end portion 25 of a width conforming approximately to thickness of the stem measured across its narrowest part. Thus, the wide portion 24 of a slot provides sufficient clearance for the stem 15 to rotate when entered therein. The narrow portion 25 of the slot, however, is dimensioned to receive the stem with a relatively snug fit and only when the valve is set in the closed position. Accordingly, when the narrow portion of the slot is associated with the valve stem, the stem is positively locked against rotation and opening of the associated valve is effectively prevented.

To provide for movement of the valve locking member 20 selectively between locking and releasing positions, the member is provided with an operating element 26 which is preferably located so that although conveniently accessible to an adult it cannot be reached easily by a child. As herein shown, the operating element 26 is in the form of an elongated finger piece formed integrally with the plate 21 substantially centrally of its upper edge. The intermediate portion of the finger piece is bent back to extend rearwardly and upwardly from the plate and the tip portion is disposed in a plane substantially parallel to the plane of the plate, and arranged to project through an opening 28 in the ledge 9. It will be observed that the opening 28 which comprises a narrow slot of sufficient length to permit movement of the locking member between its limit positions, is located at a substantial distance inwardly from the front edge of the stove top and within the area enclosed by the cover 10 when in closed position. The projecting end 27 of the finger piece 26 is thus concealed when the stove is not in use and moreover is shielded by the cover 10 so that accidental release of the locked valves is effectually prevented.

It will be apparent from the foregoing that the invention provides valve locking means of novel and advantageous construction for cookstoves using liquid or gaseous fuel and particularly suited for gas cookstoves. The locking means is extremely simple in construction and may be installed in a conventional stove without requiring any substantial changes in the stove structure or modification of the burner control valves. The locking means is substantially concealed from view yet may be quickly and easily operated to lock or unlock the valves as required.

I claim as my invention:

1. In a gas cookstove having a plurality of burner control valves arranged in side-by-side relation in a compartment adjacent the front edge of the cooking top, an upright panel closing the front of said compartment and having its upper edge bent rearwardly to form a ledge extending over the valves, said ledge having an elongated opening disposed generally parallel to said panel, each of said valves having a rotatable stem of generally D-shaped cross section projecting forwardly through said panel for attachment of an operating handle, a sheet metal plate disposed at the rear of said panel and having elongated slots spaced apart to receive the stems of the valves, each of said slots having a portion at one end of a width providing sufficient clearance for the rotation of a valve stem and a substantially narrower portion at the other end adapted to receive the stem only when positioned with its major dimension disposed longitudinally of the slot and effective to engage the flat portion of the stem and prevent rotation of the same, and an actuating finger piece rigid with said plate and projecting upwardly through the opening in said ledge for manual actuation to shift said plate for associating the wide or narrow portions of said slots with the stems of said valves.

2. In a gas cookstove having a cooking top with a removable cover therefor, said cooking top having an elongated opening adjacent its forward edge, a plurality of burner control valves arranged in side-by-side relation at the front of the stove, a front panel concealing said valves, each of said valves having a stem projecting forwardly through an aperture in said front panel, an operating handle mounted on the projecting end of each valve stem, a locking plate supported on said valve stems behind said front panel for movement transversely of the stems between two positions, said plate being slotted to receive the stems of said valves and operative in one position to prevent rotation of the stems to open the valves and in the other position to release the stems for rotation, and an elongated finger piece projecting rearwardly and upwardly from said plate through said opening in the cooking top of the stove for manually shifting the plate to lock or release said valves simultaneously, said opening being spaced inwardly from the front edge of the stove top so that the projecting end of said finger piece is concealed by the cover when in closed position.

3. In a gas cookstove having a cooking top with a removable cover therefor, said cooking top having an opening adjacent its forward edge, a burner control valve disposed at the front of the stove below the cooking top, a front panel concealing said valve, said valve having a stem projecting forwardly through an aperture in said panel, a handle mounted on the projecting end of the valve stem for manual operation of the valve, locking mechanism for said valve supported behind and concealed by said front panel, and actuating means for said mechanism including a member extending upwardly from the mechanism through said opening in the cooking top for manual manipulation, said opening being spaced inwardly from the front edge of the stove top so that the projecting end of said actuating member is concealed by the cover when the cover is in closed position.

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