Jan. 10, 1928. 1,655,473

B. L. MICKAELSON

LATCH FOR GAS VALVES

Filed July 12, 1926

Fig. 1.

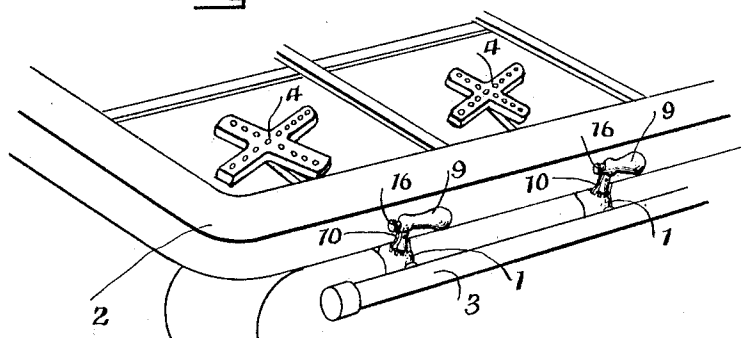


Fig. 2.

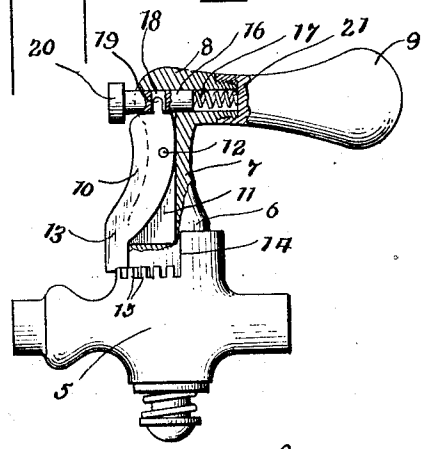
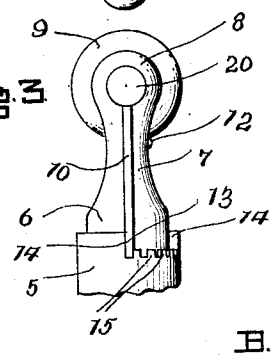


Fig. 3.



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UNITED STATES PATENT OFFICE.

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LATCH FOR GAS VALVES.

Application filed July 12, 1926. Serial No. 121,950.

This invention relates to valves and one object of the invention is to provide a valve, the control plug of which may be securely but releasably locked in a set position and prevented from being accidentally opened or closed.

Another object of the invention is to mount a securing latch for the plug upon its stem in such position that it may engage the usual abutment shoulders provided upon the valve casing to limit opening and closing movement of the plug and also have engagement with a rack between the abutment shoulders and securely but releasably lock the plug then partially opened.

Another object of the invention is to provide the latch with an actuating trigger which may be readily operated to release the latch when the turning handle of the plug is grasped.

The invention is illustrated in the accompanying drawing, wherein

Figure 1 is a perspective view of a portion of a gas stove provided with valves of the improved construction;

Fig. 2 is an enlarged view showing the valve partially in side elevation and partially in section, and

Fig. 3 is a view in end elevation looking at the inner end of the valve.

In Fig. 1 the improved valves constituting the subject-matter of this invention and indicated in general by the numeral 1 have been shown applied to a gas stove 2 and control the flow of gas from the pipe 3 to the burners 4. Each valve includes the usual casing 5 and control plug 6 having an upwardly extending stem 7 formed at its upper end with a head 8. The head projects from the stem and carries a handle 9 so that the control plug may be readily turned to open or close the valve. Since the handles 9 project radially from the valve stems, they are liable to be struck when the valves are partially or fully opened and the flow of gas shut off or too great a quantity fed to the burners. If the handle is moved to reduce the flow of gas, the burner may be entirely extinguished and cooking of food placed over the burner stopped or if the handle is turned in an opening direction the food is liable to be burned or boil over as a result of too large a flame. It has also been found that very often a burner which has been shut off will accidentally be partially or entirely opened again so that the gas escapes from the burner without being ignited.

In order to overcome the objections noted above, I have provided a latch 10 which is formed of metal and is partially fitted into a groove 11 formed longitudinally in the valve stem 7 and pivotally mounted through the medium of a pin 12 which extends transversely through the valve stem. The lower end portion 13 of the latch is shaped to define a depending tooth which extends downwardly against the peripheral face of the valve plug and projects radially therefrom in position to engage the abutment shoulders 14 and rack teeth 15 between the abutment shoulders. The latch will, therefore, take the place of the pin which usually extends from the valve plug to engage the abutment shoulders 14 and limit opening and closing movement of the plug and when engaged with a selected rack tooth it will serve to releasably hold the valve plug in a partially opened position and prevent it from being accidentally opened a greater extent or closed.

The trigger or plunger 16 by means of which the latch is to be adjusted slidably fits into a pocket 17 drilled in the head 8 transversely of the groove 11 and in communication with the upper end thereof. An opening 18 which may be termed a socket is formed in the latch or plunger intermediate its length and loosely receives a pin or finger 19 formed integral with the latch and extending upwardly therefrom. By an inspection of Fig. 2, it will be readily seen that, when pressure is applied to the head 20 at the outer end of the plunger to force the plunger inwardly against the action of the spring 21, the latch will be swung about its pivot 12 and the arm or tooth 13 moved out of engagement with the rack teeth so that the valve plunger may be turned in an opening or closing direction in the usual manner. After the valve has been opened or closed to shut off the gas or allow a desired quantity to be fed to the burner, the latch is released and the spring will move it outwardly until its depending finger again engages the rack teeth and securely but releasably holds the valve plug in the adjusted position. It will thus be seen that with the improved valve the flow of gas to a burner may be controlled and improper cooking of food placed over the burner or

the escape of unlighted gas will be prevented. While the valve has been illustrated in connection with a gas stove, it will be obvious that it could be used wherever a valve is employed and may be of any size desired.

Having thus described the invention, I claim:

A valve comprising a casing, a control plug rotatable in said casing and having a stem extending from the casing and provided with a head at its outer end, said casing being provided with a rack extending circumferentially about a portion of the plug, the head of said stem having a bore formed therein open at its ends and extending transversely of the stem, a latch pivoted to said stem and extending longitudinally thereof with its inner end adapted to engage said rack and its outer end extending into the bore of said head, a handle removably carried by said head and closing one end of the bore, a latch actuating plunger slidable into and out of the bore through the other end thereof and having its inner end spaced from the end of the bore closed by said handle, the plunger being engaged with the outer end of said latch whereby movement of the plunger will move the latch into and out of engagement with said rack, and a spring in the bore confined between the handle and inner end of the plunger to yieldably resist inward movement of the plunger and normally retain the latch in engagement with the rack to secure the plug in a set position.

In testimony whereof I affix my signature.

BERNARD L. MICKAELSON. [L. S.]