April 16, 1929. H. M. ROSENBERG 1,709,594

LOCK FOR GAS COCKS

Filed June 14, 1928

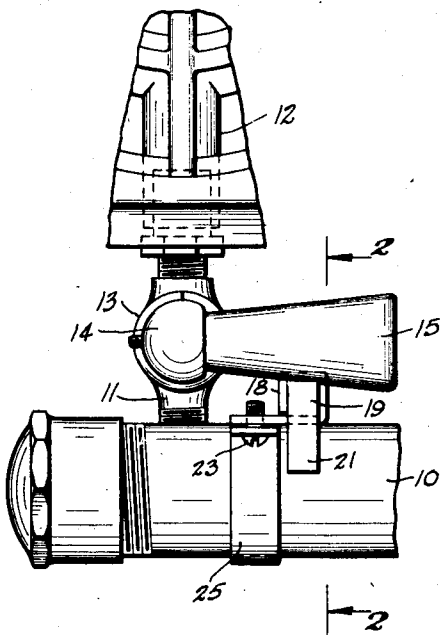


Fig. 1.

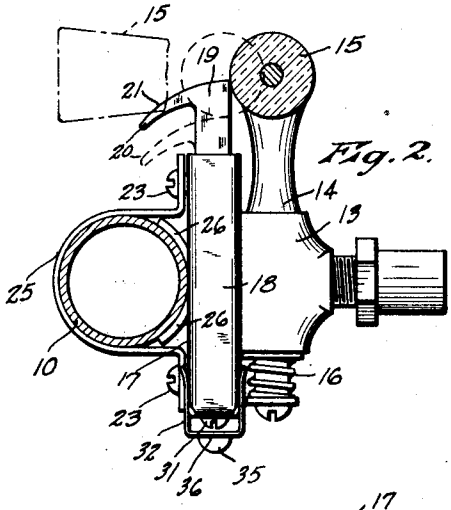


Fig. 2.

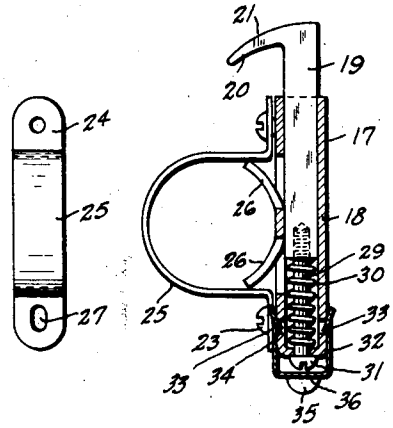


Fig. 8.

Fig. 3.

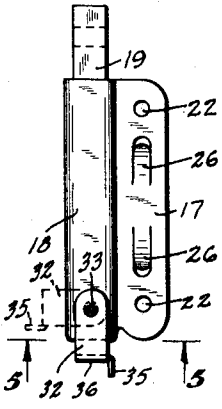


Fig. 4.

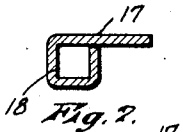


Fig. 7.

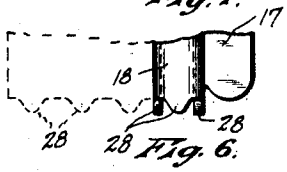


Fig. 6.



Fig. 5.

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UNITED STATES PATENT OFFICE.

HARRY M. ROSENBERG, OF PORT CHESTER, NEW YORK.

LOCK FOR GAS COCKS.

Application filed June 14, 1928. Serial No. 285,310.

This invention relates to a safety locking device for gas cocks, particularly for the gas cocks on kitchen ranges, and has for an object to provide a device of this character with a double locking feature so that there is a minimum of danger of small children opening the gas cock, and in which there is no danger of the cock being inadvertently opened.

It is also an object of the invention to provide a safety lock of this type which is of very simple construction, and therefore, may be manufactured at relatively low cost and will not be liable to get out of order in operation.

It is a still further object of the invention to provide an improved clamp for mounting the device which will not project outwardly from the piping, and therefore, will not interfere with cleaning of the range and will not injure the hands or garments of the user.

With the foregoing and other objects in view, the invention consists in certain novel features of construction, combinations and arrangements of parts as will be more fully described in connection with the accompanying drawing. In this drawing,

Fig. 1 is a top plan view of a portion of the gas supply pipe and a gas cock of a kitchen range showing my device applied thereto, the elements being shown in the locking position.

Fig. 2 is a transverse section substantially on line 2—2 of Fig. 1.

Fig. 3 is a vertical section through the body portion of the device removed from the pipe.

Fig. 4 is a front elevation thereof with the outer element of the clamp removed.

Fig. 5 is a detail section substantially on line 5—5 of Fig. 4 with the auxiliary lock removed.

Fig. 6 is a detail elevation of the lower end of the body member showing the construction before the guiding lugs are forced to the operative position.

Fig. 7 is a detail cross section of the body member, and

Fig. 8 is a front elevation of the clamping member.

There have been attempts to make safety lock devices for the gas cocks of kitchen ranges to prevent inadvertent opening thereof and also to prevent opening of these cocks by small children. These devices have various objections, such as being complicated, unsightly and in the way where they interfered with proper cleaning of the range, and some of them have engaged under the handle of the cock so that they tended to raise it against the action of the spring at the bottom of the valve plug so that should this spring become broken or weakened they tended to raise the valve plug and cause leakage of gas, so that they were worse than no locking device at all. I have provided an improved locking means which in no way affects the operation of the gas cock when in the locking position except to prevent inadvertent operation thereof as it merely lies in front of the handle, and I also provide a double lock which is easily accessible for operation by the user of the range but is so inconspicuous and concealed when in position on the range that it will not be operated by small children.

In the drawing, the main gas supply of the range is shown at 10 from the rear of which leads the usual branch 11 extending to the burner 12 and in which is the usual type of gas cock 13 having a tapered plug 14 operated by the handle 15, the plug being held in the body by the usual spring 16.

My improved lock comprises a body member 17 which may be made of sheet metal or a die casting. In the drawing it is shown as made of sheet metal, one side portion of which is bent upon itself to form a non-circular guide 18. This guide is preferably substantially rectangular to guide for reciprocatory movement a similarly shaped handle engaging member 19. The handle engaging member 19 has a lateral extension 20 at its upper end having an inclined or curved cam surface 21 on the upper side thereof. The body of the member 17 also has openings 22 for clamping screws 23 which extend through openings in the feet 24 of a clamp or strap 25. This is of substantially U-shape and extends around the outside of the pipe 10, and the body member 17 has ears 26 cut therefrom and forced outwardly to engage the inner wall of the pipe. Thus by tightening the screws 23 the ears 26 of the body are clamped tightly against the pipe 10 by means of the strap 25. It is also preferred that one or both of the openings 27 in the clamp 25 for the screws 23 be elongated to allow widening of the strap for different sizes of pipe. It will be noted that the body member 17 is sub-

stantially straight and is located on the inner side of the pipe, and therefore, the only member which extends to the outer or forward side of the pipe is the flat strap 25. There is, therefore, nothing projecting forwardly of the pipe to interfere with the cleaning of the pipe or to catch on clothing or injure the hands of the user.

The lower edge of the sheet metal body member 17 when stamped from the blank is formed with ears or lugs 28, and therefore, when the member is bent to the shape shown in Figs. 6 and 7 there is one of these lugs on each of the flat sides of the guide 18. A suitable die is then brought against the end of the guide forcing the ends of these lugs inwardly to the position shown in Figs. 3 and 5 to form a guide and stop for a pin 29 threaded into the lower end of the member 19. A coiled spring 30 embraces this stud and rests at its lower end on the upper sides of these lugs and at its upper end against the lower end of the member 19, thus tending to force this member upwardly to its locking position shown in Figs. 2 and 3. This movement is limited by the head 31 of the screw engaging the outer sides of the lugs 28. The upper position of the member 19 may be adjusted for different handles by adjusting the screw 29.

An auxiliary lock is provided for locking this handle engaging member 19 in its handle locking position. In the form illustrated it comprises a substantially U-shaped, flat, resilient member 32 which has inwardly struck lugs 33 in its opposite sides extending into openings 34 in the opposite sides of the guide 18, and this spring clip may have a lug 35 for operation of the clip. The spring action of this clip tends to press the side members thereof against the opposite sides of the guide 18 while the lugs 33 form pivots for this member. The spring action, therefore, clamps against the opposite sides of the guide 18 and frictionally holds the locking member 32 in different positions as shown in solid and dotted lines in Fig. 4. When moved to the upright or lower position as shown in full lines in Figs. 2, 3 and 4 it will be apparent that the body of the cross portion of the spring clip is below and in line with the head 31 of the screw 29 and will, therefore, prevent any one pushing the handle engaging member 19 downwardly. If a person should push downwardly with great pressure on the member 19 the head of the screw would merely press against the center of the cross portion 36 and would tend to bend this downwardly. This action will draw the side members 32 still more tightly against the opposite sides of the guide 18, and therefore, there is no danger of one forcing this locking device from the body member, as the greater the pressure applied to the member 19 the more firmly will the member 32 be clamped to the guide.

In operation the normal position is shown in Figs. 1, 2 and 3. In this position the handle engaging member 19 is in front of the handle 15 of the gas cock and the vertical rear wall of the member 19 will prevent one moving the handle forwardly to open the valve. If the person using the range wishes to open the valve all that is necessary is to swing the auxiliary lock 32 to one side, as indicated in dotted lines, Fig. 4, then press downwardly on the upper end of the member 19 which will permit manipulation of the handle 15. After using, the handle 15 may be merely swung backwardly to the full line closed position as in the ordinary range. During this action the handle will engage the inclined or camming surface 21 of the member 19 and force this member downwardly, and as soon as the handle is in the closing position the spring will force the member 19 upwardly to the locking position in front of the handle shown in Figs. 1 and 2. This will prevent all ordinary inadvertent opening of the valve.

It has been found that sometimes small children will play with the locking device and would even be attracted by it as there might be a certain clicking noise in its operation and might attract them as something to play with. However, if as soon as the valve is closed the auxiliary lock 32 is swung to the lower position shown in full lines in Figs. 3 and 4, the bolt or handle engaging member 19 is locked in the locking position. Thus there is a double lock for the gas cock. The auxiliary lock 32 is inconspicuous, and being mounted at the lower end of the guide behind and below the pipe 10 it is practically hidden and is not ordinarily found by small children, and even though it is found its operation is not obvious. This device has, therefore, proven to be very effective in actual practice in preventing manipulation of the gas valve by small children.

Having thus set forth the nature of my invention, what I claim is:

1. A locking device for gas cocks comprising a clamp, a movable handle engaging member supported by said clamp, means tending to hold said member in position to lock the handle in closed position, and movable means for locking the said member in handle locking position.

2. A locking device for gas cocks comprising a clamp, a reciprocable handle locking member supported by said clamp, a spring tending to shift said member to handle locking position, and a shiftable member for locking the handle engaging member in handle locking position.

3. In a locking device for gas cocks, a sheet metal body member one side portion of which is folded upon itself to form a

non-circular guide, a non-circular handle locking member mounted to reciprocate in said guide, a spring tending to shift said member to handle locking position, and a clamping member secured to said body member and capable of mounting it on a support.

4. In a locking device for gas cocks, a body member, means for securing said member to a gas pipe, a bolt movably mounted in the body and adapted to be in the path of movement of the gas cock handle, a spring tending to shift the bolt to this position, and a locking means for locking the bolt in this position.

5. In a locking device for gas cocks, a body member, means for securing said member to a support, a locking bolt movably mounted in the body and adapted to lie in the path of movement of the gas cock handle, said bolt being provided on the opposite side at its upper end with an inclined cam surface arranged to cooperate with the handle to retract the bolt when the handle is moved to closed position, a spring tending to move the bolt to handle locking position, and a shiftable lock for locking the bolt in extended position.

6. In a locking device for gas cocks, a body member of sheet metal folded upon itself to form a non-circular guide, a non-circular handle engaging member mounted to reciprocate in said guide, means for mounting the body on a support, yielding means tending to shift the handle engaging member to locking position, and an auxiliary lock pivoted to the lower end of the guide and capable of locking the reciprocable member in handle locking position.

7. In a locking device for gas cocks, a body member of sheet metal folded upon itself to form a non-circular guide, a non-circular handle engaging member mounted to reciprocate in said guide, a clamp for securing said body to a support, a spring tending to shift the handle engaging member to locking position, stop lugs on the lower end of said guide, and means carried by the handle engaging member cooperating with said lugs to limit movement of said member under action of the spring.

8. In a locking device for gas cocks, an upright body member capable of being positioned at the rear of a horizontal gas pipe and forming an upright guide for a movable locking bolt for the cock handle, a spring tending to hold the bolt in locking position, a substantially U-shaped clamp embracing the pipe and extending at the top and bottom thereof to the upright side of the body so there are no projections forwardly of the pipe, and means for securing the clamp to the body to mount the body on the pipe.

9. In a locking device for gas cocks, a movable handle engaging member, a support for said member, a spring tending to shift said member to handle locking position, an extension on said member capable of projecting below the support, and a resilient locking member pivoted to said support and capable of movement to and from the path of movement of said extension.

10. In a locking device for gas cocks, a body member having a guide for a reciprocable handle locking member, means for mounting said body on a support, said reciprocable member having an extension capable of projecting below the lower end of the guide, a spring tending to hold the handle locking member in locking position, and an auxiliary locking member of substantially U-shape pivoted to the lower end of the guide and movable to and from the path of movement of said extension.

11. In a locking device for gas cocks, a body member forming a guide, means for securing said member to a support, a handle locking member mounted for reciprocating movements in said guide, a spring tending to shift said member to locking position, an extension on said locking member extending from the lower end of the guide, and a substantially U-shaped spring metal member yieldingly embracing the opposite sides of the guide at its lower end and having lugs in openings in the walls of the guide to form pivots on which said member may be swung to and from the path of movement of said extension.

In testimony whereof I affix my signature.

HARRY M. ROSENBERG.