

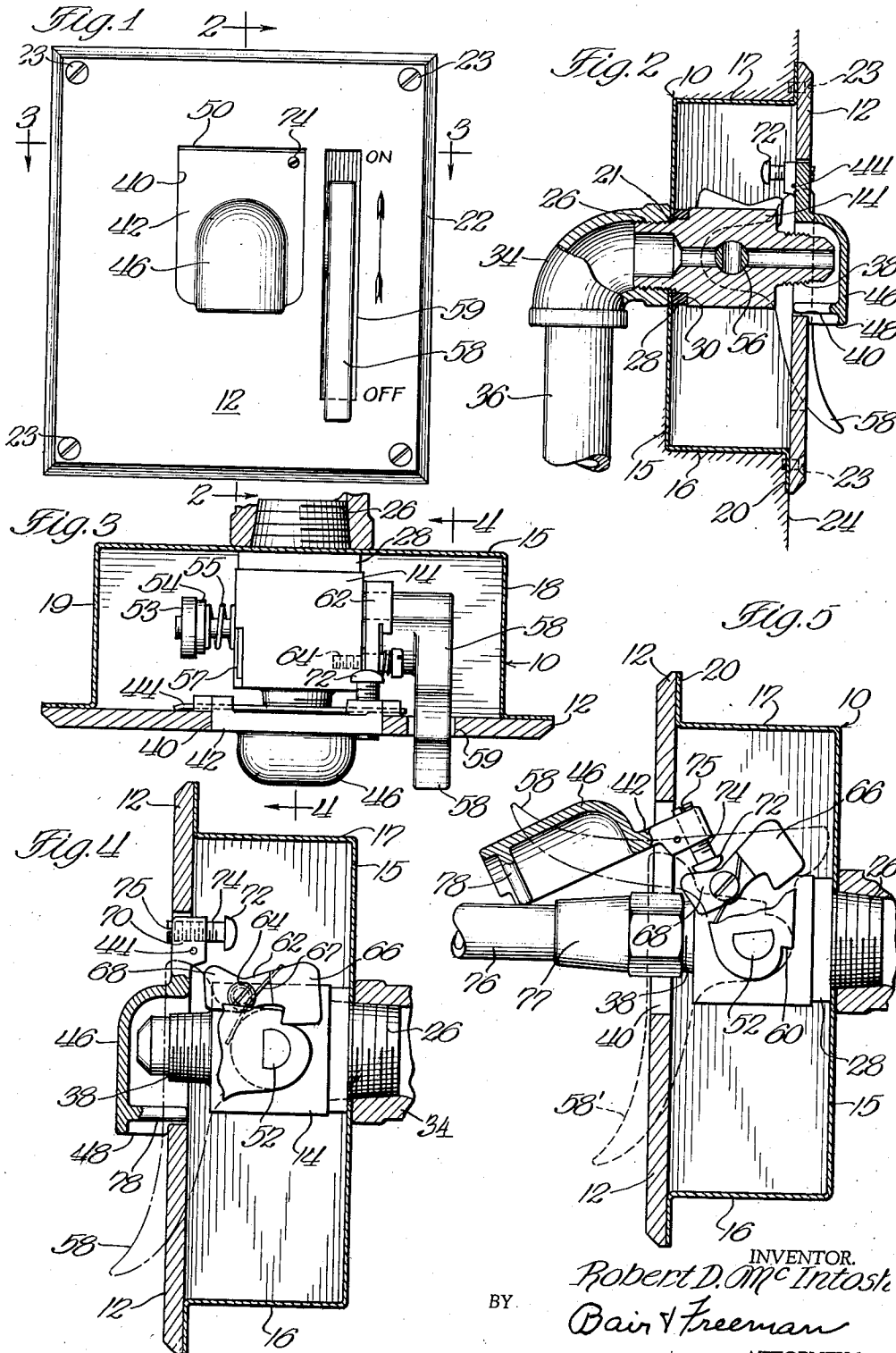
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GAS OUTLET BOX

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GAS OUTLET BOX

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My invention relates to outlet boxes and particularly an outlet box for a gas connection which can be used upon the wall of a room located on or near the baseboard to which a gas line can be connected for attachment to any of a variety of gas appliances useful in a household such as a gas heater, a gas hot water heater, a gas range and the like.

Among the objects of my invention is to provide a new and improved outlet box for gas cocks which is neat and attractive in appearance, simply made and which completely conceals the gas cock from view.

Another object of my invention is to provide a new and improved outlet box for gas cocks which fits into the wall of a room so that the face is substantially flush with the wall and which includes a mechanism for locking the gas cock in closed position when a lid on the box is closed over the outlet connection of the cock, it being also among the objects of my invention to provide a latch mechanism operated upon movement of the lid to open position for releasing the locking mechanism, thereby permitting the gas cock to be turned on when the lid is raised.

Still another object of my invention is to provide an outlet box for gas cocks which houses and conceals the cock itself, the cock being provided on the body thereof with a locking mechanism for normally locking the cock in shut-off position and which can be released from a normally locked position by a device actuated by movement of a lid normally covering the gas cock outlet but wherein the device operated by the lid in normal position is entirely unconnected with the locking mechanism, thereby preventing any strain or pressure being brought against the lid by an inadvertent attempt to open the gas cock should the lid not be in an open position.

A further object of my invention is to provide a new and improved outlet box for a gas cock which is substantially gas-tight wherein an aperture through which a gas cock inlet connection passes is sealed tightly by means of a gasket preventing gas leaking from the cock itself from seeping into a space between the walls of a room or building.

A further object still is to provide the gas outlet box just referred to with a tiltable lid at the front face which includes a portion directed downwardly having an aperture to permit air to enter the outlet box and which is so loosely mounted at the top thereof that a circulation of air may be maintained between the vent at the bottom of the lid and the top in order to clear

the box itself of any inadvertent leak in the gas cock.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawing, in which:

Figure 1 is a front view of the outlet box with the lid closed and a gas cock handle in shut-off position.

Figure 2 is a vertical section on the line 2—2 of Figure 1.

Figure 3 is a horizontal section on the line 3—3 of Figure 1.

Figure 4 is a vertical section on the line 4—4 of Figure 2 drawn to a slightly larger scale.

Figure 5 is a vertical section to a slightly larger scale similar to Figure 4, showing open and closed positions of the cock when a gas line is connected to the outlet connection.

It has long been the custom particularly in houses where gas is used to place a gas cock at the end of a gas pipe in a conspicuous position in the room. When so placed the gas cock protrudes outwardly from the floor or the wall in such a manner that except when concealed beneath a stove or other piece of furniture the projection forms a hazard and is constantly being tripped over or bumped into.

Although in the past outlet boxes for gas cocks have been provided in order to conceal the gas cock and protect it from being accidentally bumped into, nevertheless such outlet boxes have failed to take into consideration precautionary measures in order to have a gas connection which is absolutely safe.

Some of these hazards include possible leakage of gas from a cock which is not tight into the dead-air space within the walls of a room where the surplus gas can form an explosive mixture with the air.

Also, prior devices have failed to provide a constant efficient ventilation means for the box itself whereby air is continually induced to circulate within the box and carry out with it gas which might leak from the connections.

Further, although the prior art has disclosed outlet boxes provided with a lock operative at all times when the box is closed to prevent turning on of the gas cock, nevertheless such locking means have depended upon resistance set up by the lid itself to maintain the locking mechanism active, thereby necessitating a specially built lid or cover for the outlet connection.

In view of the fact that the design of domestic appliances of all kinds particularly gas and electric outlet boxes have been following a modern trend, it has become the practice to use phenolic resinous compounds among others to supply a neatly molded and attractively covered face plate for such outlet boxes.

Although face plates made of such and similar substances have a highly attractive appearance, they are wanting in strength and rigidity to the extent that they must either be greatly reinforced or else used in such a way that little or no strain is placed upon them. With this in mind there has been devised an outlet box as disclosed which includes the major safeguards, such as the provision of a gas-tight leakless box and a locking device normally holding the gas cock in closed position wherein all parts upon which strain may be exerted are made a part of the gas cock itself subject to only periodic contact and actuation by a portion of the cover plate when the lid is raised, insufficient to place any undue strain upon fragile molded parts.

In the drawing there is shown an outlet box 10 preferably made of a continuous sheet material such as sheet metal having a cover plate 12 which may be of a phenolic resinous compound or any common sheet material forming a top or closure for the box with a gas cock or valve 14 mounted within the box itself.

Specifically, the box has a bottom 15, side walls 16, 17, 18 and 19, and a turned over rim 20 at the edges of the walls. At the bottom of the box is an aperture 21. The cover plate has beveled edges 22 and is designed to fit over the turned over rim 20 to which it is secured at each corner by screws 23. The box is designed to be set into a wall 24 of a room so that the cover plate is substantially flush with the surface of the wall.

The gas cock 14 positioned within the box is provided with an inlet connection 26 which extends through the aperture 21 in the bottom wall of the box. On the connection adjacent the body of the cock there is provided a packing ring 28 of compressible material set against a shoulder 30 on the cock body and the end of an elbow or pipe fitting 34 within the wall threaded-ly engaging the inlet connection.

When the cock is mounted the box is first set in the wall opposite the end of a gas pipe 36. Then the valve inlet connection is passed through the aperture 21 and screwed into the gas pipe fitting 34. The packing ring 28 is drawn snug by tightening the valve inlet into the pipe fitting, thereby forming a gas tight seal between the bottom wall of the box and the body of the cock.

On the opposite side of the cock there is provided an outlet connection 38 and in the cover plate 12 is an opening 40 through which the outlet connection may extend. Covering the opening 40 is a lid 42 which is pivotally mounted on the top side by means of a pin 44 which permits it to swing from a normally closed position as shown in Figure 2 to an open position as shown in Figure 5.

A lower portion 46 of the lid extends outwardly from the face of the cover plate surrounding the outlet connection of the cock and which has a recess 48 at the bottom providing a vent or air inlet to the interior of the box.

It will be noted that the lid is somewhat loosely hinged to the cover plate, leaving a narrow but sufficient slit 50 at the top side thereof to

permit the circulation of air inwardly through the recess 48 to the interior and thence outwardly at the top.

The gas cock itself is provided with a stem 52 of conventional sort which is held in place by means of a nut 53 and lock nut 54 securing a coil spring 55 in such a manner as to retain the stem and the valve plug 56 in sealed position within the body of the cock. A stop washer 57 of a conventional sort is provided in order to limit rotation of the stem to a 90 degree interval between a closed position shown in Figure 2 and a full open position shown in Figure 5.

On the stem 52 there is affixed a handle 58 shown in phantom view in Figures 4 and 5. An elongated opening 59 is provided in the cover plate for the handle so that the handle lies therein throughout most of its length and protrudes slightly therefrom at the bottom end.

As shown in Figures 2 and 4, the handle is in shut-off position for the cock. Means is provided for locking the handle thus in shut-off position so that it cannot be raised opening the gas cock unless the lid 42 is raised. To provide for locking the handle in this manner there is supplied a shoulder 60 on the handle and a latch 62 pivoted by means of a screw 64 to the body of the valve and provided at one end with a hook 66 engageable with the shoulder.

A spring 67 normally urges the latch to a position wherein the hook and shoulder are engaged, thereby holding the handle in locked position. At the end of the latch opposite from the hook there is provided a lever element 68 and on the upper side of the lid itself there is supplied a latch actuator 70 which has a button 72 at the inside end capable of engaging the lever 68. The latch actuator has a stem 74 threadably secured in the upper portion of the lid and provided with a screw driver slot 75 at the outer end to permit adjusting the latch actuator inwardly or outwardly as occasion requires.

When a gas line 76 is connected with the gas cock by means, for example, of a nut 77, the lid will be raised and a projection 78 located in the recess 48 will contact the gas line and maintain the lid in an up or open position.

In operation a gas cock is mounted in the outlet box by insertion of the inlet connection through the aperture in the bottom of a box. When thus inserted the nut 32 is drawn up snugly against the outside of the box bottom, thereby squeezing the packing ring 28 into place forming a gas-tight seal at the aperture. After this the gas line is connected at the rear.

Normally the latch and latch actuator occupy the positions shown in Figure 4. In such position the handle 58 extends downwardly in off position protruding slightly from the face of the cover plate. The shoulder 60 of the handle is engaged by the hook element 66 of the latch, preventing rotation of the handle and stem in a direction to open the valve.

When a connection is to be made the lid 42 is lifted to the position shown in Figure 5 and a gas line 76 connected to the gas cock outlet connection 38 by means of a nut or similar connection 77. With the connection thus made, the lid 42 is elevated as shown and is prevented from rotating in a contrary direction to close again by means of contact with a projection 78 resting upon the top side of the gas line 76.

When the lid is thus raised, as shown in Figure 5, the latch actuator 72 is moved to a position against the lever element 68 which tends to tilt

it in a counter-clockwise direction, as shown in Figure 5, thereby releasing the hook 66 from engagement with the shoulder 60 on the stem. Thus released an operator is permitted to shift the handle from the dotted position 58' shown in Figure 5, to the dot-and-dash phantom position 58 likewise shown in Figure 5.

Movement in this manner a distance 90 degrees turns the gas cock from closed position to full-open position. With the parts arranged in the manner shown in Figure 5, the handle can be used to turn the cock off and on at will.

Should the pipe line be disconnected, the lid 42 will fall by gravity back into the position shown in Figures 1, 2 and 4. During such movement the latch actuator is released from contact with the lever element 68 and the spring 67 rotates the latch back into position where the hook contacts the shoulder 60. Such is the position when the handle has turned the valve off.

Under some circumstances it is appreciated that the cock might be slightly mispositioned within the valve box due to a greater or lesser tightening of the valve into the fitting 34. Such a position might necessitate a slight adjustment of the latch actuator. For this reason the actuator is threadably mounted in the lid so that by application of a screw driver to the slot 75 the actuator may be moved inwardly or outwardly to a proper position of adjustment for correctly releasing the locking device for the valve.

It will also be apparent that in normal position, as shown in Figure 4 especially, there is no contact between the latch actuator as carried by the lid and the locking mechanism for the valve itself so that should any one inadvertently attempt to turn the valve on while the lid is closed all of the strain will be taken by the latch and the body of the valve. No strain will be transferred to the lid or cover plate which might be of a fragile material and therefore there will be no likelihood of fracturing or rupturing the decorative cover plate.

There has thus been provided a neat and attractive gas outlet box which completely and safely houses a gas cock in a normally locked position when the outlet is not in use and which conveniently unlocks the connection whenever the box is opened for use.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure, or use of mechanical equivalents, which may be reasonably included within their scope.

I claim as my invention:

1. A gas outlet unit comprising a box having an aperture at one side and an opening at another, a cock in the box having an inlet connection extending through the aperture, and an outlet connection at said opening, a handle on the cock, a latch pivotally secured to the body of the cock normally spring pressed to a position engaging the handle when said handle is in cock closing position, a lid pivotally mounted on the box in position covering said opening, a latch actuator having an adjustable mounting on the lid and having an operative position such that when the lid is lifted the actuator is in engagement with the latch holding said latch out of engagement with the handle to permit movement of the handle for opening said cock.

2. A gas outlet unit comprising a box having an aperture in one side thereof and openings

in another side, a cock in the box having an inlet connection extending through said aperture, and an outlet connection at one of said openings, a handle on the cock at another of said openings, a latch pivotally secured to the body of the cock normally spring pressed to a locked position engaging the handle when the handle is in cock closing position, a lid on the box tiltably mounted in a position normally closing the outlet connection opening, a latch actuator mounted on the lid normally out of contact with said latch and having an operative position wherein when the lid is lifted the actuator is in engagement with the latch holding said latch out of engagement with the handle to permit movement of the handle for opening said cock.

3. A gas outlet unit comprising a box adapted to be set in a wall having an aperture in one side thereof, a cover plate for said box having openings therein forming a plate substantially flush with said wall, a gas cock in the box having an inlet connection extending through said aperture and an outlet connection at one of said openings, a lid on the cover plate normally covering said one opening, a handle on the cock positioned at the other of said openings, a latch secured to the cock body having a hook element normally spring pressed to a locked position engaging said handle when the handle is in cock closing position, a latch actuator adjustably mounted on the lid having an operative position wherein when the lid is lifted the actuator engages the latch and releases the latch from engagement with the handle to permit movement of the handle for opening said cock.

4. A gas outlet unit comprising a box adapted to be set in a wall having an aperture at the bottom, a cover plate for said box having openings therein forming a covering substantially flush with said wall and attached to the box, a gas cock in the box having an inlet connection extending through said aperture and an outlet connection extending through one of said openings, a lid on the cover plate normally covering said one opening, a handle on the cock positioned in the other of said openings, a shoulder at the base of the handle, a latch pivotally secured to the cock body having a hook element normally spring pressed to a position engaging said shoulder when the handle is in cock closing position, a latch actuator adjustably mounted on the lid in position normally free from contact with the latch and having an operative position when the lid is lifted engaging the latch whereby the latch is released from engagement with the shoulder on said handle to permit movement of the handle for opening said cock.

5. A gas outlet unit comprising a box adapted to be set in a wall having an aperture at the bottom, a cover plate for said box of molded material having openings therein forming a covering substantially flush with said wall and attached to the rim of the box, a gas cock in the box having an inlet connection extending through said aperture and an outlet connection extending through one of said openings, a lid tiltably mounted on the cover plate covering said outlet opening, a handle on the cock positioned in the other of said openings having an end extending outwardly therefrom, a shoulder at the base of the handle, a latch pivotally secured to the valve body having a hook element normally spring pressed to a position engaging said shoulder when the handle is in valve closing position and a lever element, a latch actuator adjustably

mounted on the lid having an operative position when the lid is lifted engaging the lever element on the latch whereby the latch is lifted from engagement with the shoulder on said handle to permit movement of the handle for opening said valve and having a normal inoperative position remote from engagement with said lever element, said lever element having an unrestricted path for movement to normal latching position when said lid is closed.

6. A gas outlet unit comprising a continuous box having an aperture at one side adapted to be set in a wall, a cover for said box forming a face plate attached to the rim of the box, a valve

in the box having an inlet connection extending through the aperture, an outlet connection on the valve adapted to have a gas line attached thereto, said cover having an opening and a lid tiltably mounted on the cover closing said opening, said lid having a portion at the lower side extending outwardly from the surface of the cover forming a recess for admitting air to the box when the lid is closed and a projection in said recess adapted to rest on the gas line when the lid is open to elevate the lid to a position above said gas line.

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