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H. REISER ET AL

2,780,333

CHILD-PROOF GAS COCK CONTROLS

Filed Feb. 3, 1953

2 Sheets-Sheet 1

Fig. 1.

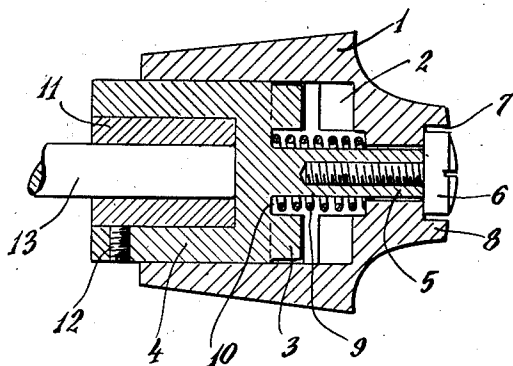


Fig. 2.

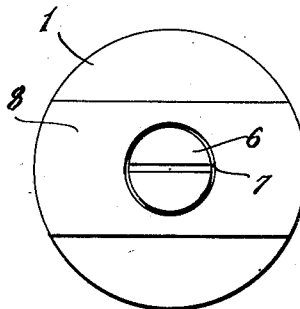


Fig. 3.

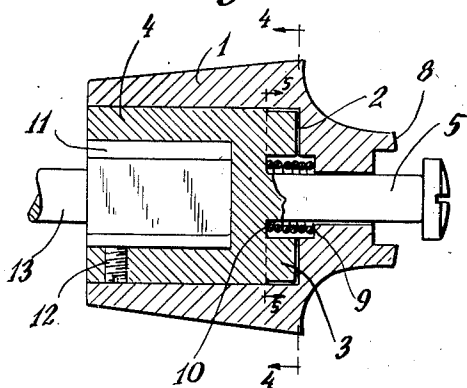


Fig. 4.

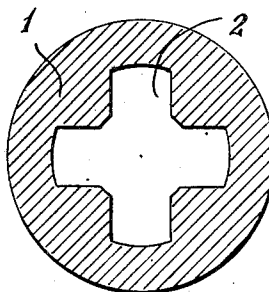
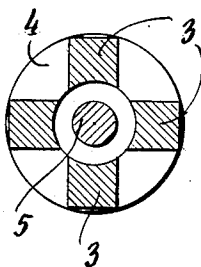


Fig. 5.



INVENTORS.
Hyman Reiser
Abraham Aschenas
BY Henry S. R. Metzler
ATTORNEY

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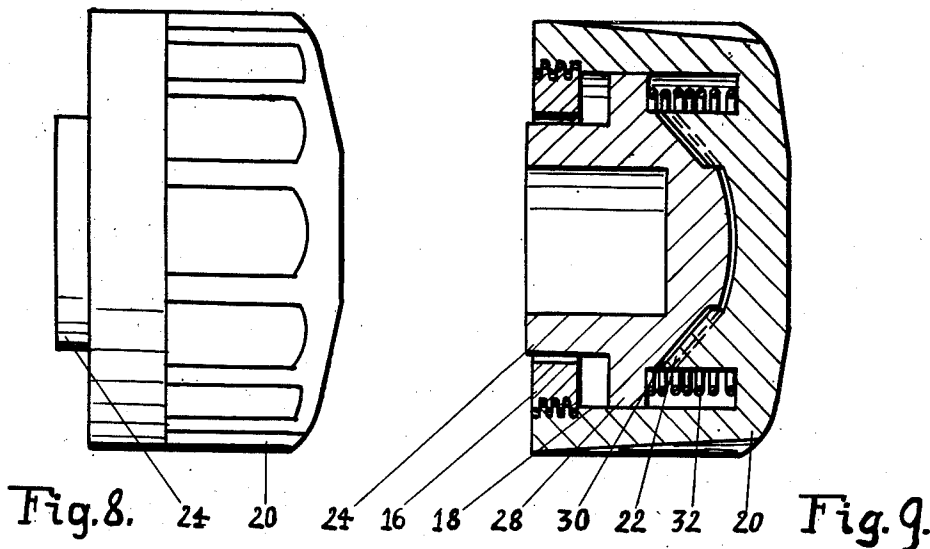
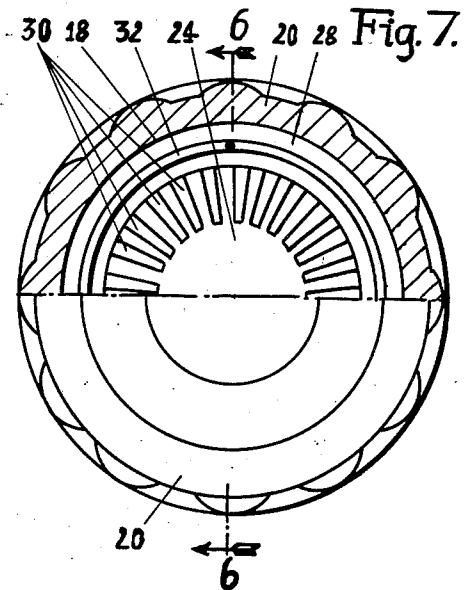
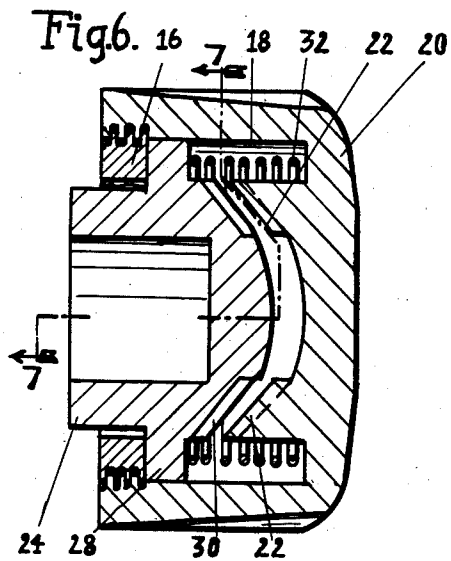
H. REISER ET AL

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CHILD-PROOF GAS COCK CONTROLS

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2 Sheets-Sheet 2



INVENTORS
Hyman Reiser
Abraham Aschkenas
BY Henry J. Metzler
Attorney

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2,780,333

CHILD-PROOF GAS COCK CONTROLS

Hyman Reiser, Bronx, and Abraham Aschkenas,
Brooklyn, N. Y.

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1 Claim. (Cl. 192—67)

This invention relates to handles employed in operating control shafts for valves or other devices and has particular relation to handles for controlling gas cocks such as are employed on domestic stoves or ranges.

One object of this invention is the provision of a clutch-type handle adapted to be mounted on gas ranges, to serve the purpose of preventing inadvertent turning on of the gas by children in the absence of their elders.

Another object of the present invention is the provision of a device of the character described which is simple and reliable in operation, which consists of only a few inexpensive parts that can be manufactured by mass production processes and can be assembled easily and quickly, which can be installed speedily on any type of gas cock without requiring structural alterations of the same and without the application of any considerable amount of skill, which is of a pleasing outer appearance, and which is sturdy, durable and well-adapted for withstanding the rough usage to which devices of this type frequently are subjected.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangements of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing a preferred form of the invention has been shown.

In said drawing:

Figure 1 is a longitudinal sectional view of a preferred embodiment of our invention;

Fig. 2 is a front view of the same;

Fig. 3 is a sectional view as Fig. 1 showing the movable parts of the device in positions different from that shown in Fig. 1;

Fig. 4 is a sectional view on the line 4—4 of Fig. 3;

Fig. 5 is a sectional view on the line 5—5 of Fig. 3;

Fig. 6 is a longitudinal sectional view of a modification on the line 6—6 of Fig. 7;

Fig. 7 is a partial front view of the modification of Fig. 6, and a partial sectional view on the line 7—7 of Fig. 6;

Fig. 8 is a side view of the modification of Fig. 6; and,

Fig. 9 is a sectional view as Fig. 6 showing the movable parts in a position different from the position shown in Fig. 6.

Similar reference characters refer to similar parts throughout the several views.

Referring first to Figs. 1 to 5 inclusive the numeral 1 denotes a handle member of metal, plastic material, or of any other suitable material which has an axial bore, sections of which are of different widths. The section 2 of said bore is cross-shaped in such a manner that it has four tooth-shaped portions adapted for interdigitating engagement with four teeth 3 formed at the outer end of a coupling member 4. From the latter is axially extended beyond the teeth 3 a cylindrical portion 5, into which is

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screwed a screw 6 whose head is larger in diameter than the portion 5. The head of the screw 6 is encompassed by a hollow section 7 of a reduced end portion 8 of the member 1. A pressure spring 9, through which the cylindrical portion 5 is partially extended and one end of which is located in an annular groove 10 of the member 4, is interposed between the members 1 and 4 tending to force the member 1 axially away from the member 4, so that the teeth 3 are out of engagement with the section 2 of the bore of the member 1. A sleeve member 11 preferably is inserted into a bore extending into the member 4 and is fastened thereto by means of a set screw 12 or the like. Said bore in the member 4 preferably has a circular section and a flat section, and the outer side of the member 11 is formed accordingly, as may be seen in Fig. 3, where the member 11 is shown in side view. The sleeve member 11 fits tightly upon a gas cock shaft 13 and functions as an adapter, so that one and the same device can be attached to gas cock shafts of various sizes if in each case a sleeve member 11 is being used whose bore fits the shaft.

The member 1 is axially slidable on the member 4, and if the spring 9 is expanded it is also rotatable thereon, so that in the position shown in Fig. 1 the member 1 can be rotated without rotating the parts 4, 11 and 13. If the member 1 is being pushed against the member 4, as shown in Fig. 3, the teeth 3 engage the bore section 2, so that upon rotating the member 1, the parts 4, 11 and 13 will be rotated. Upon releasing the handle member 1 the spring 9 forces the same again into the position shown in Fig. 1. The axial movement of the member 1 caused by the spring 9 relative to the member 4 is limited by the head of the screw 6.

Referring now to Figs. 6 to 9 inclusive the device is shortened and simplified by the omission of the screw, and a radially expansible lock ring 16, engaging with its outer peripheral portion an annularly grooved portion of a bore 18 of a short handle member 20, has here substantially the same function as the head of the screw 6 of the embodiment of Figs. 1 to 5. The handle member 20 is cap-shaped and the inner side of its head portion is provided with teeth 22. A coupling member 24 has a cap-shaped main portion from the outer side of which are extended an annular rib portion 28 as well as teeth 30. The latter are adapted for interdigitating engagement with the teeth of the member 20. A tension spring 32 interposed between the portion 28 of the member 24 and the inner side of the head portion of the member 20 tends to force the latter axially away from the member 24, so that the teeth 22 are out of the engagement with the teeth 30, as may be seen in Fig. 6. The member 24 has a bore into which can be inserted a gas cock shaft and a sleeve member (not shown). If the member 20 is pushed axially against the member 24 the spring 32 is compressed and the teeth 22 engage the teeth 30 of the member 24, so that the latter will be rotated upon rotating the member 20 (Fig. 9). When the member 20 is released the spring 32 expands and moves the member 20 back to the position shown in Fig. 6, so that the member 24 will not be rotated by turning the member 20.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claim is intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

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Having thus fully described our said invention, what we claim as new and desire to secure by Letters Patent is:

A child-proof gas cock control comprising a cup-shaped coupling member having a cylindrical portion adapted for being secured to the outer end of the shaft of a gas cock and having a closed outwardly toothed bottom portion as well as an annular rib portion outwardly extending from the periphery of said cylindrical portion; a handle member having a first cylindrical portion which is axially slidable and normally also rotatable on the annular rib portion of said coupling member and having a bottom portion as well as a second cylindrical portion extending from the inner side of said last-mentioned bottom portion into said first cylindrical portion, said second cylindrical portion being shorter than said first cylindrical portion and being toothed at its outer extremity and adapted for interdigitating engagement with the toothed bottom portion of said coupling member; resilient means within the first cylindrical portion of said handle member encom-

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passing the second cylindrical portion thereof and tending to move the handle member in axial direction away from the toothed bottom portion of said coupling member, and a ring member secured to the inner side of the first cylindrical portion of that end of said handle member which is opposite the toothed bottom portion thereof, the inner diameter of said ring member being slightly smaller than the outer diameter of the annular rib portion of said coupling member so that said ring member will limit the axial movement, and permit a rotation, of said handle member relative to said coupling member.

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