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SAFETY FUSE SHUTOFF FOR VALVES

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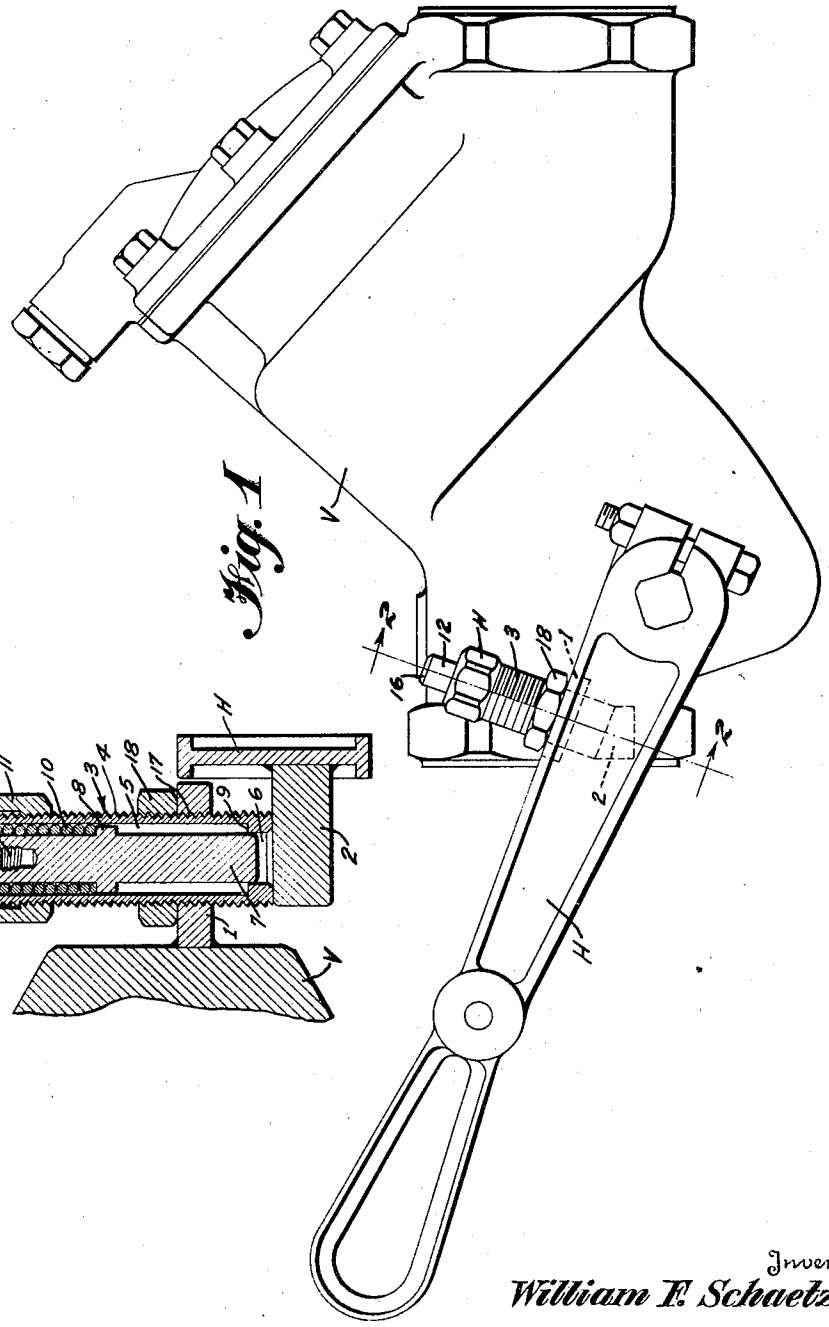


Fig. 1

Fig. 2

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SAFETY FUSE SHUTOFF FOR VALVES

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3 Claims. (Cl. 74—2)

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This invention relates to thermostatic controls for valves, and more particularly to a thermostatic control attachment which can be readily applied to any standard lever-operated valve, whether spring controlled or not.

An object of the invention is to provide a simple thermostatic control device embodying in its construction motive power sufficient in itself to operate the valve independently of the normal means for operating the valve.

A further object of the invention is to provide a thermostatic control for lever-operated valves capable of simple adjustment to various operative strokes of levers or to opening the valves various degrees as may be desired.

A further object of the invention is to provide a thermostatic valve control of the character indicated in which a fusible control element is utilized which can be readily replaced after each operation.

Further objects will more clearly appear in the course of the following detailed description.

The invention consists in the novel construction, arrangement and combinations of parts hereinafter more particularly described and claimed.

One sheet of drawings accompanies this specification as part thereof, in which like reference characters indicate like parts throughout.

In the drawings:

Figure 1 is a side elevation of a conventional lever-operated valve showing the present invention in operative position thereon; and

Figure 2 is a fragmentary cross section through a portion of the valve and valve lever and showing the thermostatic control in longitudinal cross section.

Referring to the drawings V indicates a conventional showing of a lever-operated valve having an operating lever H, and this valve may be entirely manually operated or may be spring biased, as may be desired.

The thermostatic control of the present invention may be applied to such a conventional lever-operated valve in a number of ways, but is herein illustrated as being mounted upon an outstanding lug 1, either formed integrally with the valve casing or welded thereto, this lug or bracket 1 being formed with an interiorly threaded orifice 17 in which the exteriorly threaded portion 4 of the tubular body 3 constituting the housing of the thermostatic control can seat. A second bracket or lug 2 is either formed on or secured to the operating lever H to constitute an abutment in alignment with the thermostatic control bolt 7.

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Obviously, in some forms of lever-operated valves, thermostatic control can be arranged to bear directly on the lever handle H and the only essential in connection with mounting the device on a particular valve is that it be so arranged with respect to the valve that the long axis of the bolt 7 shall be substantially in alignment with a chord of the arc described by the lever H in its operative stroke either from open to closed position, or vice versa, as may be desired.

The thermostatic control device which constitutes the present invention comprises a tubular body 3 exteriorly threaded as at 4 and having at one end a restricted orifice 6 forming an abutment shoulder 9 interiorly of the bore of the housing. The restricted orifice 6 is proportioned to provide a sliding guide for the reciprocating bolt 7 positioned within the tubular housing 3. This bolt 7 is formed with an annular flange 8 having a sliding fit with the major bore 5 of the housing 3 and constituting an abutment for a compression spring 10 adapted to seat around the upper end of the bolt 7 between the annular flange 8 and a cap 11 formed with a guiding bore 12 within which the upper end of the bolt 7 slides. The upper end of the bolt 7 is provided with an interiorly threaded axial bore 16 adapted to receive a threaded stud 15, the head of which is secured by a fusible bond 20 by means of which this threaded stud 15 is secured to a cap 21 arranged to bear against the end of the cap 11.

In applying the device thus described to a valve, the body 3 is threaded through the threaded orifice 17 in the lug to a sufficient distance to contact the lug 2 when the lever H is in proper position. It may be locked in this position by the lock nut 18. The bolt 7 is secured in retracted position within the tubular housing 3 by means of the threaded stud 15 with the spring 10 fully compressed.

Upon a temperature rise sufficient to melt the fusible bond 20, bolt 7 is released and is projected by the compression spring 10, thus rotating valve lever H to the opposite end of its operative stroke, either closing or opening the valve as may be determined, and depending upon the character of the material controlled by the valve.

Various modifications will readily suggest themselves to those skilled in the art as to the particular size, arrangement and positioning of the parts, but within the scope of the present invention as claimed.

Having thus described my invention, I claim:

1. Thermostatic control for lever-operated valves comprising, a housing, a bolt reciprocable

in and having an end projectable out of the housing, spring means in the housing biasing the bolt to extend out of the housing, and means for retracting the bolt into the housing, said retratcive means including a cap bearing against the housing, a stud threaded into an axial bore in the piston and a fusible bond between the cap and stud.

2. In association with a valve having a lever control, a thermostatic control comprising a tubular housing, a cap for one end of the housing having a through-bore in axial alignment with the bore of the housing, a bolt reciprocable in the housing having one end of reduced diameter to fit the bore of the cap, a compression spring surrounding the bolt and bearing against said cap and the bolt to normally project the bolt out of the housing, means for holding the bolt in the housing with said spring under compression comprising a second cap, a threaded stud adapted to seat in an axial threaded bore in the bolt and a fusible bond between said stud and second cap, with means for mounting the housing on the

valve housing with the bolt operatively aligned with a part of the lever.

3. Device of claim 2 in which the tubular housing is exteriorly threaded and the mounting of said housing on the valve includes a lug projecting from the valve housing having a threaded bore adapted to receive said threaded housing for longitudinal adjustment in alignment with the valve lever.

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