A. F. DODSON.

ALARM DEVICE FOR GASOLENE TANKS.

APPLICATION FILED SEPT. 16, 1916.

1,252,671. Patented Jan. 8, 1918.

Fig. 1

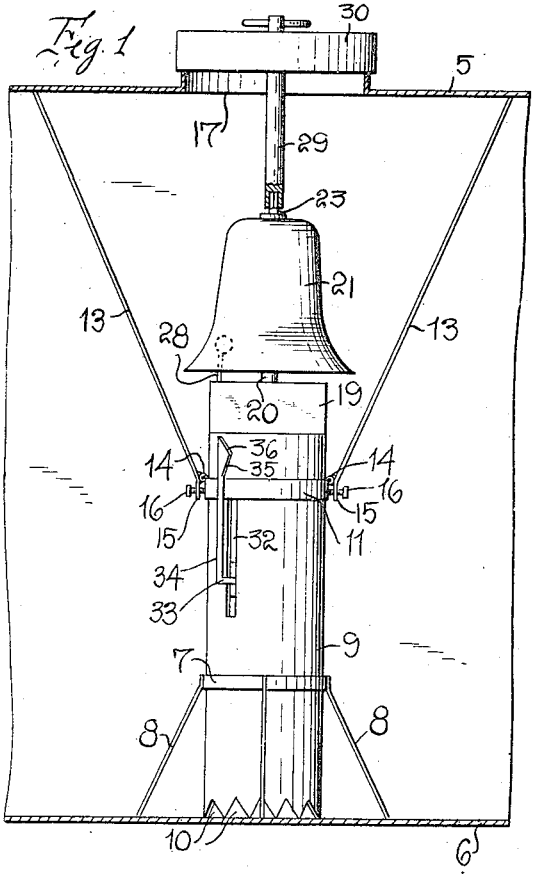


Fig. 2

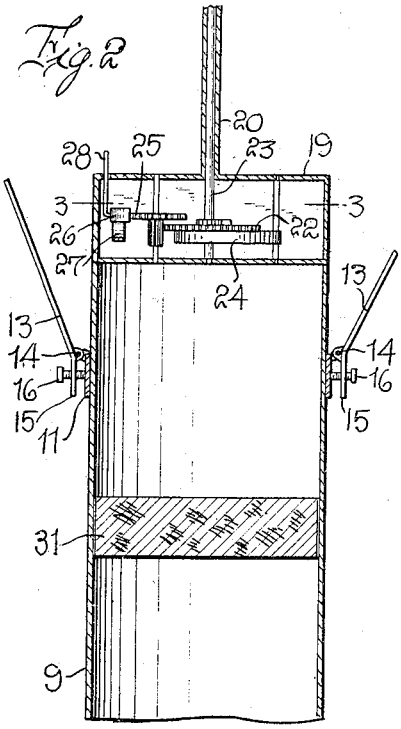
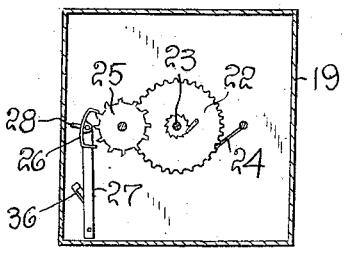


Fig. 3



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ALARM DEVICE FOR GASOLENE-TANKS.

1,252,671. Specification of Letters Patent. Patented Jan. 8, 1918.

Application filed September 16, 1916. Serial No. 120,550.

To all whom it may concern:

Be it known that I, ALCADA F. DODSON, a citizen of the United States, residing at Milan, in the county of Sullivan and State of Missouri, have invented certain new and useful Improvements in Alarm Devices for Gasolene-Tanks, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved alarm device for gasolene tanks and has for its primary object to provide a very simple mechanism for sounding an automobile alarm to apprise the owner of the motor vehicle that the supply of gasolene in the tank has reached a predetermined depth.

It is another, and very important object of the invention, to provide a device for the above purpose which may be readily arranged in the gasolene supply tank of the ordinary automobile, said device including a bell, having a hammer and a clock escapement for actuating the hammer, together with a guide tube and a float operating therein, and means connected to the float constituting a stop to prevent the operation of the escapement mechanism.

It is a further general object of the invention to provide a device for the above purpose consisting of relatively few simply constructed parts, which are positive in operation and not liable to get out of order, the device as a whole being capable of manufacture at relatively small cost and highly serviceable and convenient in practical use.

With the above and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which,

Figure 1 is a vertical sectional view through a gasolene supply tank having my improved alarm device arranged therein.

Fig. 2 is an enlarged vertical section through the float tube and the casing or housing of the escapement mechanism.

Fig. 3 is a section taken on the line 3—3 of Fig. 2.

Referring in detail to the drawing, 5 designates the top wall of the gasolene tank or reservoir and 6 the bottom wall thereof. A metal ring or annulus 7 is supported above the bottom wall 6 in spaced relation thereto by means of a plurality of inclined braces 8.

9 designates the float tube, the wall of which at one of its ends is provided with a plurality of spaced notches or recesses 10, through which the gasolene may freely enter to the interior of the tube. This notched end of the float tube rests upon the bottom wall of the tank. To the tube 9, adjacent its upper end, a metal band or annulus 11 is secured. A plurality of relatively long brace bars 13 are hinged adjacent one of their ends as at 14 to the band 11 and from the hinges 14, the extremities of the brace bars 13 are obliquely or angularly extended in a downward direction, as at 15. Set screws 16 are threaded in these lower angular ends of the bars 13 and bear against the metal band 11. The top wall 5 of the tank has an opening indicated at 17 therein through which the float tube 9 may be inserted. In the insertion of said float tube into the tank the bracing arms, or bars 13 are folded inwardly and extend in parallel relation closely contiguous to the tube wall. After the tube is inserted downwardly through the supporting rings 7 mounted upon the base wall of the tank, the bars 13 are spread apart and moved outwardly and the set screws 16 are then adjusted so as to cause the upper ends of said bracing bars to clampingly engage against the top wall of the tank around the opening 17 therein.

Upon the upper end of the float tube 9, a suitable casing or housing 19 is mounted or secured. The casing 19 is of square or rectangular form in plan, the corners of said casing projecting outwardly beyond the periphery of the tube 9. An upwardly vertically extending tubular rod 20 is fixed to the top wall of this casing and to this rod a bell 21 of any preferred form is fixed at its upper end. An ordinary clock escapement mechanism is arranged within the casing or housing 19, the main gear of said mechanism, indicated at 22, having a perpendicular shaft 23 extending through the tubular rod 20. The lower end of the shaft

23 is mounted in a suitable bearing in the base wall of the casing 19 and to said lower end of the shaft one end of the spirally coiled spring 24 is secured, the other end of said spring being suitably fixed within the casing 19. The escapement gear 25 is provided with the usual pinion for engagement by the teeth of the gear 22 and the escapement pawl or detent 26 coacts with the teeth of the gear 25 in the usual manner. This pawl is mounted upon the free end of a leaf spring 27, the other end of which is fixed to the casing 19. The upwardly extending rod of the bell hammer 28 is also suitably connected to the pawl 26.

The operating spring 24 is wound through the medium of a key shank 29, which is fixed to the closure cap 30 engaged upon an upstanding flange surrounding the opening 17 in the top end of the shank. The lower end of the shank is provided with a socket to receive the square upper end of the shaft 23 and by turning the cap 30 in the proper direction it will be readily understood that the spring 24 is thereby wound.

A float 31 of cork, or other suitable material, is disposed within the tube 9, and the wall of said tube is provided with a vertically extending slot 32, through which a laterally projecting rod or arm 33, carried by the float, extends. The lower end of a vertical rod 34 is fixed to the outer end of the rod 33 and the upper end of the rod 34 has a flared tapering head 35, provided with a beveled edge 36. As the tank is supplied with gasolene the float 31 gradually rises in the tube 29 until the beveled edge 36 on the upper end of the rod 34 engages the leaf spring 27 and forces the same laterally and thereby tightly holds the escapement pawl 26 upon the teeth of the gear 25, preventing rotation of said gear. The rod 34 is maintained in frictional engagement against the spring 27 by the buoyancy of the float. This float, however, is sufficiently heavy, that after the level of gasolene lowers to a point below the level of the float, the float will drop or descend within the tube 9, thereby moving the rod 34 downwardly to disengage its upper end from the spring 27. The pressure of the escapement pawl upon the gear wheel 25 is thus relieved so that said pawl will be actuated in the well known manner by the teeth of the gear wheel 25 in its rotation to oscillate the bell hammer 28 and cause the same to intermittently strike the wall of the bell 29, thus giving forth an audible sound. In this manner it will be seen that the operator of the automobile is immediately notified when the supply of gasolene has lowered in the tank to a predetermined depth and is in imminent danger of becoming exhausted.

From the foregoing description, taken in connection with the accompanying drawing, the construction, manner of operation, and several advantages of the described embodiment of the invention will be fully understood. It will be seen that I have devised an alarm mechanism which can be readily applied to the gasolene tank of the ordinary motor vehicle, and will positively operate when the supply of gasolene reaches a predetermined minimum depth to sound an audible alarm or signal so that the operator may replenish his supply of gasolene and thus avoid the possibility of entirely consuming the initial supply with the annoyance and inconvenience which is an incident to such occasions. The several parts of the mechanism may be readily obtained at nominal cost and can be readily assembled by the car owner and properly arranged in operative position within the tank. It is understood, of course, that the float tube will be of various lengths and the travel of the float therein vary accordingly in correspondence to the capacity of the tank or reservoir.

While I have shown and described the preferred construction and arrangement of the several elements employed, it is to be understood that the device is susceptible of many other modifications therein, and I therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent, is:

1. An alarm device for gasolene tanks including a float tube, means for mounting said tube in a vertical position within the tank, a float vertically movable in the tube, a mechanically operated alarm device, spring controlled actuating means therefor, movable means to co-act with a part of the alarm operating mechanism to prevent the actuation of the alarm, and a member carried by the float and operatively engaged with said means to hold the same in its effective position, said member being disengaged from said movable means by the downward movement of the float when the supply of gasolene is at a predetermined minimum depth, a closure for the filling opening of the tank, and winding means for the actuating spring of the alarm mechanism carried by said closure.

2. An alarm device for gasolene tanks including a float tube, means for mounting the float tube in a vertical position within the tank, a bell mounted upon the upper end of the tube, a bell hammer, spring controlled actuating means for said hammer, a float operating in said tube, the wall of the tube having a longitudinal slot therein, said actuating means for the bell hammer including

a bodily movable escapement pawl, a yieldable element upon which said pawl is mounted, and a member connected to the float and movable in the slot in said tube to co-act with said yieldable member and move the pawl, whereby the actuating means is held against operation, said member being disengaged from the yieldable element in the downward movement of the float when the gasolene reaches a predeter... in the tank.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

ALCADA F. DODSON.

Witnesses:
J. M. WATTENBARGER,
C. E. BALDWIN.