

E. F. TIMM.
 SIGNAL DEVICE.
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1,055,000.

Patented Mar. 4, 1913.

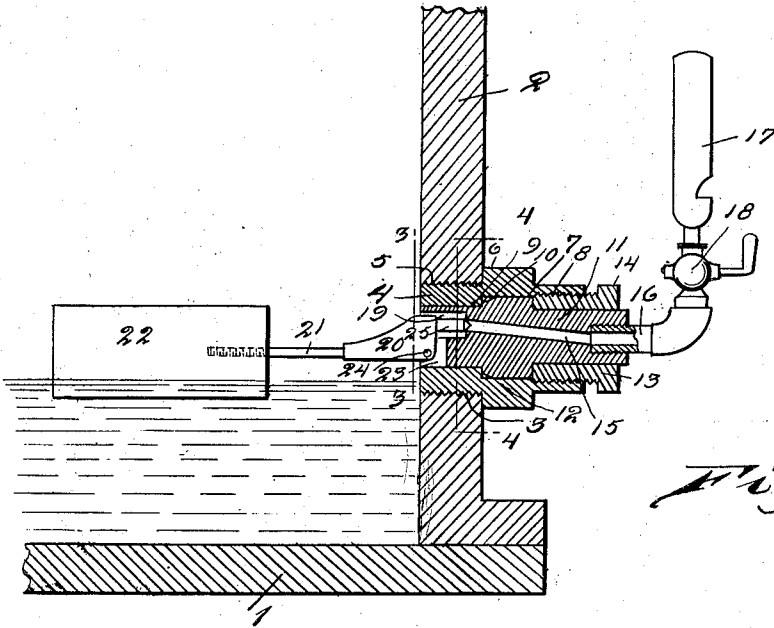


Fig. 1.

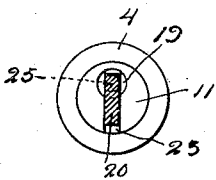


Fig. 3.

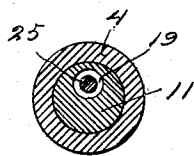


Fig. 4.

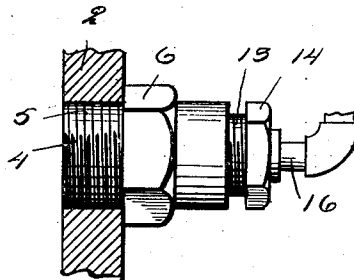


Fig. 2.

Witnesses

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SIGNAL DEVICE.

1,055,000.

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To all whom it may concern:

Be it known that I, EDWARD F. TIMM, a citizen of the United States, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Signal Devices, of which the following is a specification.

The present invention relates to signal devices and has particular reference to audible signal devices particularly adapted for use in connection with a steam boiler, to be automatically sounded when the water level in such boiler reaches a predetermined level.

An important object of this invention is to provide means of the above mentioned character, which may be applied to the ordinary steam boiler without materially altering its construction.

A further object of the invention is to provide a device of the above mentioned character, which is formed of few and simple parts, which may be readily separated and assembled.

A further object of the invention is to provide signaling means of the above mentioned character, which are simple in construction, cheap to manufacture, and reliable in operation.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts through the same, Figure 1 is a central longitudinal sectional view through the device, showing it applied to a steam boiler, Fig. 2 is a side elevation of the same, parts being omitted, Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 1, and, Fig. 4 is a similar view taken on line 4—4 of Fig. 1.

In the drawings wherein, for the purposes of illustration, I have shown a preferred embodiment of my invention, the numeral 1 designates a shell of a steam boiler, having one end closed by a head or wall 2, suitably connected therewith. This head 2 is provided with a screw-threaded opening 3, as shown.

My signaling device comprises a plug or outer sleeve 4, having its inner end screw-threaded externally, as shown at 5, for insertion within the screw-threaded opening 3. The plug or sleeve 4 is provided midway its ends with a nut portion 6, to be engaged by

a suitable tool, whereby the plug or sleeve may be turned. The outer sleeve or plug 4 is provided with an axial opening 7, having an outer enlarged screw-threaded portion 8 and an inner reduced smooth portion 9, forming with the opening 7, a shoulder 10.

Disposed within the outer sleeve 4 is an inner plug 11, provided intermediate its ends with an annular flange 12, adapted to fit within the axial opening 7 and engage the shoulder 10, as shown. This inner plug is held in place by a clamping or packing ring 13, which is externally screw-threaded for engagement with the screw-threaded portion 8 of the outer sleeve 4. The ring 13 is provided at its outer end with a nut portion 14 to be engaged by a suitable tool or wrench whereby such ring may be turned.

The inner plug 11 is provided with a longitudinally extending opening or port 15, which leads at its outer end into an enlarged screw-threaded opening, which receives the end of a pipe 16. This pipe 16 is suitably connected with a whistle 17, and a stop cock 18 is interposed in the connection between such pipe and whistle to be manually operated when it is desired to permanently make or break communication between such pipe and whistle. At its inner end the opening 15 leads into an enlarged cylindrical opening 19, which has free communication with the interior of the shell 1.

I provide a valve lever comprising a flat body portion 20, to one end of which is secured a rod 21, having connection with a float 22. The flat body portion 20 has its lower portion operating within a vertical slot 23, and is pivotally mounted therein by means of a pin 24, which passes through the inner end portion of the plug 11, as shown. The flat body portion 20 by slidably engaging the side walls of the vertical slot 23, is prevented from partaking of perceptible improper lateral movements but the same is of course free to swing vertically. Rigidly connected with the upper portion of the outer end of the body portion 20 is a valve 25, adapted to be seated and unseated upon the wall of the inner end of the opening 15.

In the use of my device, the stop cock 18 is opened so that steam may pass from the opening 15 into the whistle 17. When there is a sufficient amount of water in the shell 1 of the boiler, the float 22 will be held in its proper elevated position and accordingly retain the valve lever in a position to

hold the valve 25 in its closed or seated position. Steam cannot now pass into the opening 15 from the interior of the shell 1. When the water level in the shell 1 falls below a predetermined limit, the float 22 descends and swings the valve lever to unseat the valve 25. Steam now passes from the interior of the shell 1 into the opening 15 and then into the whistle 17, which is now sounded, to warn the attendant of the danger. The device is formed of few and simple parts, which may be easily separated, for the purpose of repair or cleaning, and again assembled.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

In combination, a shell to hold steam or the like under pressure and the water from which the steam is formed and provided through its upstanding wall with a screw-threaded opening; a structure including an outer sleeve having screw-threaded engagement within the screw-threaded opening and provided with an annular flange engaging the exterior of the upstanding wall, an inner plug having its periphery formed smooth

and its inner end inserted within a contracted portion of the bore of the sleeve while its body portion engages the shoulder formed by the end wall of such contracted portion, a ring surrounding an outer contracted portion of the inner plug and having screw-threaded engagement with the sleeve, said inner plug being provided with a longitudinally extending opening and a cylindrical opening leading therein at the inner end of the plug, there being a vertical slot formed in the material of the inner plug adjacent the cylindrical opening; a flat plate mounted within the vertical slot and having pivotal connection therein with the inner plug so that the same is free to swing in a vertical plane and is prevented from partaking of improper lateral movements by its slidable engagement with the vertical walls of the slot; a valve connected with the flat plate above the pivot point to open and close the longitudinally extending opening formed through the inner plug; a float connected with the flat plate; and a whistle connected with the outer end of the inner plug and having free communication with the longitudinal opening formed therethrough.

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

EDWARD F. TIMM.

Witnesses:

GEO. S. WAGNER,
V. I. CORSON.