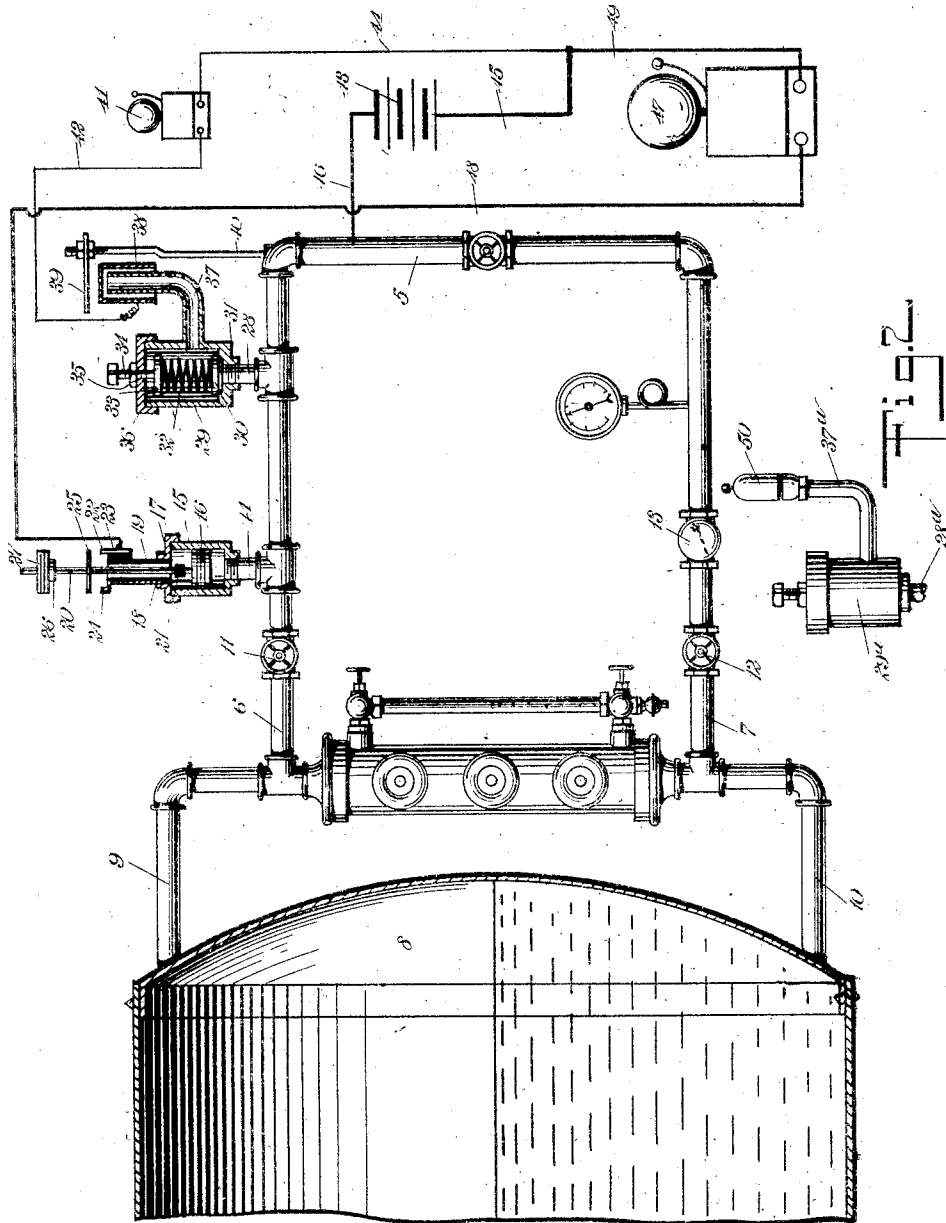


R. A. GASCH.
ALARM SOUNDING DEVICE.
APPLICATION FILED APR. 29, 1911.

1,035,572.

Patented Aug. 13, 1912.



WITNESSES
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Fig. 2

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RUDOLPH ARTHUR GASCH, OF SEATTLE, WASHINGTON.

ALARM-SOUNDING DEVICE.

1,035,572.

Specification of Letters Patent. Patented Aug. 13, 1912.

Application filed April 29, 1911. Serial No. 624,015.

To all whom it may concern:

Be it known that I, RUDOLPH ARTHUR GASCH, a citizen of the United States, and a resident of Seattle, in the county of King and State of Washington, have invented a new and Improved Alarm-Sounding Device, of which the following is a full, clear, and exact description.

My invention relates to alarm sounding devices, and it has for its object to provide a simple and inexpensive device which will in all cases sound an alarm when the pressure communicating therewith falls below or rises above predetermined points, the device being so constructed that the alarm may be sounded at any points desired relatively to the device.

Another object of the invention is to provide in connection with the said device, means to afford communication with the atmosphere to reduce the pressure when the pressure reaches a point where the alarm is sounded.

Still other objects of the invention will appear in the following complete specification, in which the preferred form of my invention is disclosed.

In the drawings similar characters of reference indicate corresponding parts in both the views, in which—

Figure 1 is a side sectional elevation of the invention, showing how it is connected with the boiler; and Fig. 2 is a view showing a modified form of the alarm.

By referring to the drawings it will be seen that a U-shaped pipe 5 is provided having terminals 6 and 7, the terminal 6 being connected with the top of a boiler 8 by means of a pipe 9, and the terminal 7 being connected to the bottom of the boiler by means of the pipe 10. The terminals 6 and 7 are commanded by valves 11 and 12, and there is also a check valve 13 at one side of the said valve 12. A pipe 14 is connected with the pipe 5 in close proximity to the terminal 6, this pipe 14 leading to a cylinder 15, in which a piston 16 is adapted to move. The cylinder 15 has a head 17 with an opening 18, a collar 19 being connected with the said head 17 at the opening 18. Secured to the said piston 16 there is a spindle 20, which is insulated from the said piston 16 by the insulating member 21. A contact member 22 is secured to an insulating member 23, which, in turn, is secured to the outer

side of the collar 19. The collar 19 at one side has an upwardly-projecting contact point 24, disposed opposite to the contact member 22. A contact member 25 is secured to and is carried by the spindle 20, this contact member 25 being adapted to connect electrically the contact member 22 with the contact point 24. A flange 26 is secured to the spindle 20, and on this flange 26 are disposed one or more weights 27. At the side of the pipe 14 there is another pipe 28 which connects with the pipe 5, and affords communication between the said pipe 5 and the valve chamber 29. A valve member 30 is disposed in this valve chamber 29, and is pressed against the head 31 of the said valve chamber by a spring 32, the said spring 32 being engaged by a head 33, mounted on a screw 34, which meshes in the threaded orifice 35 in the head 36 of the valve chamber 29.

At one side of the valve chamber there is an outlet pipe 37, which is bent upwardly, an inverted cup member 38 being disposed on the open upper terminal of this pipe 37. The inverted cup member 38 acts as a contact member, and is adapted to engage a contact member 39, secured to a standard 40, mounted on the pipe 5, which serves as a ground. The inverted cup member 38 is connected with a bell 41, by means of an electrical conductor 42, the bell 41 being connected with a battery 43, by means of electrical conductors 44 and 45, the said battery 43 being connected with the pipe, 5, which serves as a ground, by an electrical conductor 46. The contact member 23 is connected with a bell 47, by means of an electrical conductor 48, the bell 47 being connected with the battery 43 by means of a wire 49, and the wire 45. The contact point 24 is grounded, as will be readily understood.

It will therefore be seen that when a sufficient number of weights 27 have been disposed on the flange 26, they will hold the spindle 20 and the piston 16 down until the pressure in the pipe 5 becomes great enough to lift the said weights 27 with the piston 16, and the said spindle 20. It will therefore be seen that should at any time the pressure in the boiler 8, which communicates at all times with the pipe 5, fall below a given point, the piston 16 will fall, carrying with it, the spindle 20, and the contact

member 25, thereby closing a circuit formed by the electrical conductors 45 and 49, the bell 47, the electrical conductor 48, the contact member 22, the contact member 25, the contact point 24, the ground, and the electrical conductor 46. Should the pressure in the boiler rise above a predetermined point, without in any way operating on the piston 16, it will raise the valve member 30, against the pressure of the spring 32, thereby permitting the steam to pass through the valve chamber 29 to the pipe 37, to its upper terminal, where it will pass upwardly to the inverted cup member 38, which serves as a contact member. When this inverted cup member 38 strikes against the contact member 39, the following circuit will be closed; the electrical conductors 45 and 44, the bell 41, the electrical conductor 42, the inverted cup member 38, serving as a contact member, the contact member 39, the standard 40, the ground, the electrical conductor 46, and the battery. At the same time that the bell 41 is caused to ring by the closing of the said circuit, the lifting of the inverted cup member 38 will permit the steam to escape from the boiler through the pipe 5, the valve chamber 29 and the pipe 37, thereby immediately reducing the pressure in the boiler.

It will of course be understood that a whistle may be adjusted to the pipe 37, and this form of construction is shown in Fig. 2 of the drawings, in which the whistle 50 is mounted on the pipe 37^a, connected with the valve chamber 29^a, the said valve chamber 29^a with its valve and other members corresponding in all respects to the valve chamber 29, with its members, as shown in Fig. 1 of the drawings. The valve chamber 29^a

is connected with the pipe 5 by means of a pipe 28^a.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A valve chamber having two ports, a valve for commanding one of the ports, means for holding the valve yieldingly closed, a pipe having an open terminal and connected with the other port in the valve chamber, a contact member mounted to move freely on the said terminal, adapted to be raised by the pressure in the said open terminal to open communication between the terminal and the atmosphere, a conductor connected with the contact member, and a second contact member disposed over the first contact member with which the first contact member is adapted to engage.

2. A valve chamber having two ports, a valve for commanding one of the ports, means for holding the valve yieldingly closed, a pipe having an open terminal and connected with the other port in the valve chamber, a contact member in the shape of an inverted cup, mounted on the open terminal and adapted to be raised by pressure in the said open terminal, an electric conductor connected with the contact member, and a second contact member with which the first contact member is adapted to engage.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RUDOLPH ARTHUR GASCH.

Witnesses:

C. E. JARVIS,
T. A. BURLEIGH.