

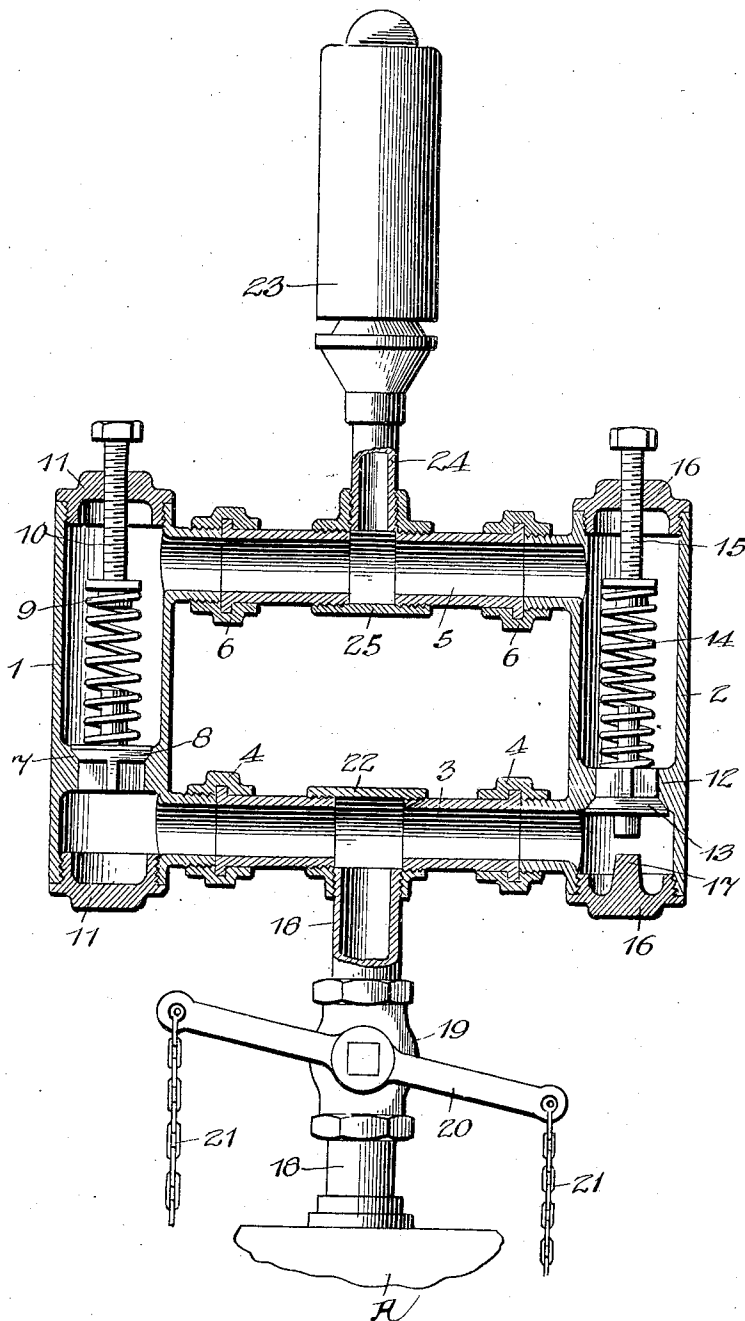
No. 877,581.

PATENTED JAN. 28, 1908.

C. S. MOORE.

AUTOMATIC HIGH AND LOW BOILER PRESSURE ALARM.

APPLICATION FILED MAY 7, 1907.



Witnesses

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# UNITED STATES PATENT OFFICE.

CLARENCE S. MOORE, OF LEXINGTON, KENTUCKY.

## AUTOMATIC HIGH AND LOW BOILER-PRESSURE ALARM.

No. 877,581.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed May 7, 1907. Serial No. 372,440.

*To all whom it may concern:*

Be it known that I, CLARENCE S. MOORE, a citizen of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Automatic High and Low Boiler-Pressure Alarms, of which the following is a specification.

My invention relates to an automatic mechanism for sounding an alarm in case of the rising or falling of the steam pressure within a boiler, below the normal, and my invention particularly contemplates the provision of a novel, useful and inexpensive device for accomplishing this result.

My invention further resides in the following features of construction, arrangement and operation as will be hereinafter described with reference to the accompanying drawing, in which,

The figure is a central vertical sectional view taken through my improved mechanism, and showing certain connections thereof in elevation.

In the practical embodiment of my invention I provide the high and low pressure valve chambers 1 and 2, arranged in spaced relation, and having a pipe 3 connected between their lower portions, said pipe 3 comprising short sections connected by means of the couplings 4 in order that the same may be lengthened or shortened as desired. The valve chambers 1 and 2 are further connected at their upper ends by means of a pipe 5, comprising sections similar to the pipe 3, connected by means of the couplings 6.

The high pressure chamber 1 is provided with a valve seat at 7 between the entrance of pipes 3 and 5, and is further provided with the valve 8 seated downwardly upon said seat 7 and normally held thereupon by means of the coil spring 9, the pressure of which may be regulated by means of a screw bar 10 arranged through the upper one of the caps 11 which close the ends of said chamber.

The low pressure valve chamber 2 is provided with a valve seat 12 between the entrance of pipes 3 and 5, and is further provided with a valve 13 seated upwardly against said seat 12, and adapted to be held upon its seat by means of the steam pressure within pipe 3, a coil spring 14 being arranged above said valve 13 and regulated by a screw bar 15 similar to the screw bar 10, said spring 14 being adapted to force valve 13 from its

seat when the steam pressure within pipe 3 drops to a degree capable of being overcome by the tension of said spring 14. Screw bar 15 is arranged through the upper one of the caps 16 which close the ends of the chamber 2, the lower cap 16 being provided with an upwardly extending stop 17 arranged to hold the valve 13, when the same is forced from its seat, in such position that when the steam pressure rises it will force said valve upwardly and again seat the same. A pipe 18 leads from the boiler A, and is provided with a valve at 19, operated by means of an oscillatory arm 20 provided with operating chains 21, connected at its outer ends and extending downwardly within reach of the operator. This valve 19 is provided as a cutoff to be closed when the pressure is rising or falling after the alarm has been sounded. The pipe 18 is connected centrally within the pipe 3 by means of the ordinary T connection 22.

The alarm which I have shown in the form of a whistle 23 is connected by means of its pipe 24 centrally within the pipe 5 by means of a T connection 25, similar to the connection 22.

From the foregoing description it will be seen that as the steam pressure rises above the normal within the pipes 18 and 3, the low pressure valve 13 will be forced tightly against its seat, while the high pressure valve 7 will be raised from its seat, allowing the steam to flow through the chamber 1 into the pipe 5 and thence to the whistle. In like manner when the pressure falls below normal, the high pressure valve 7 will be forced tightly upon its seat by means of the spring 9, while the valve 13 thus having its support removed will be forced downwardly upon its seat by means of the spring 14, allowing the steam to fall through chamber 2 to pipe 5 and thence to the whistle.

Having thus fully described my invention I claim:

1. In a device of the character described, the combination of the high and low pressure valve chambers arranged in spaced relation, and having a common connection with the boiler at their lower ends and a similar connection with the alarm at their upper ends, of the high and low pressure valves oppositely seated within their respective chambers, and means for regulating said valves, substantially as described.

2. In a device of the character described,

the combination of the high and low pressure  
valve chambers arranged in spaced parallel  
relation, and having a common connection  
with an alarm at their upper ends, a valved  
5 pipe adapted for connection with the boiler  
at one end and having a common connection  
with the lower portions of said chambers at  
its upper end, high and low pressure valves  
oppositely seated in their respective cham-

bers between said upper and lower connec- 10  
tions, and means for regulating said valves,  
substantially as described.

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

CLARENCE S. MOORE.

Witnesses:

FRANK S. READ,

JOHN L. BROOKS.