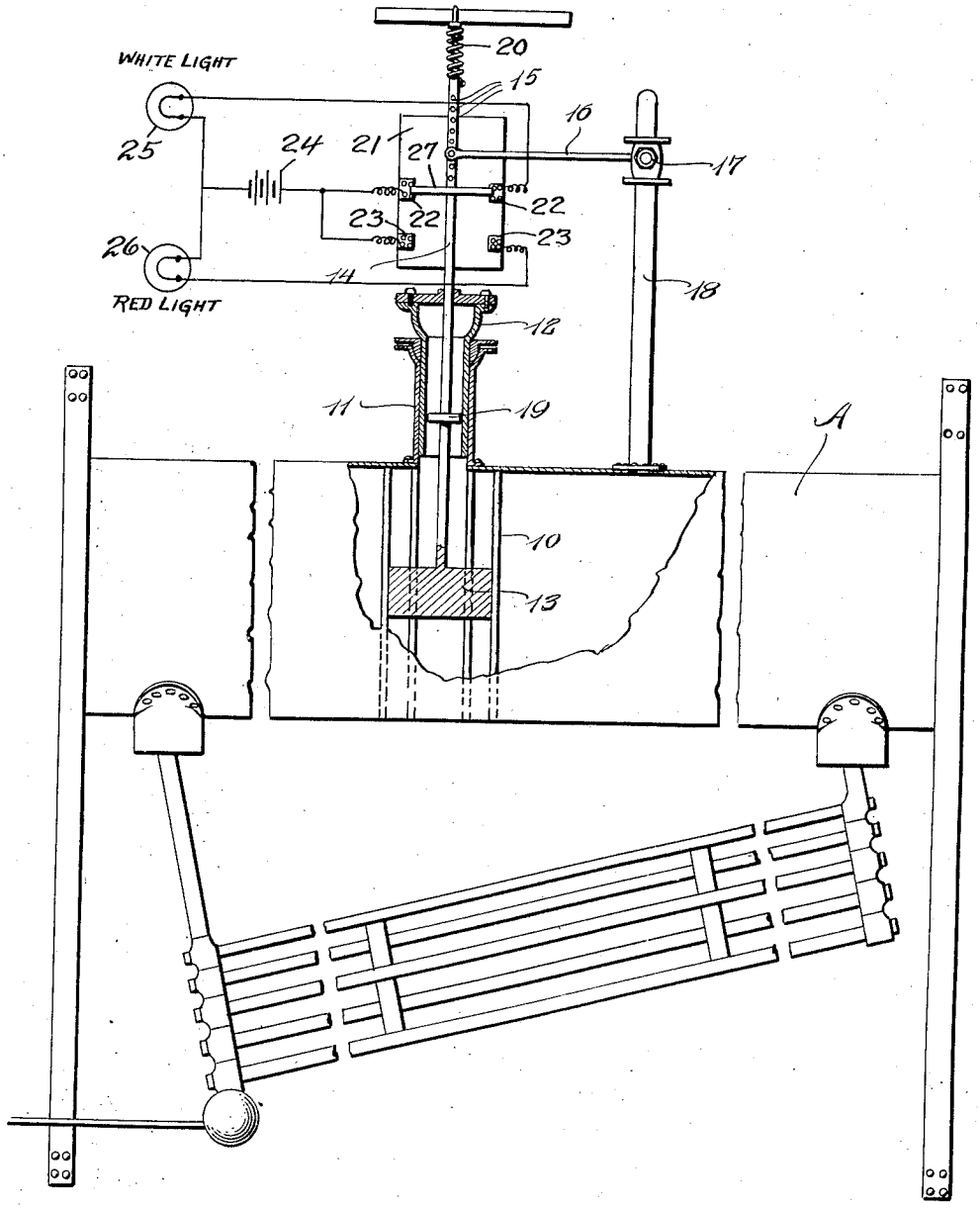
M. F. McNERNEY.

AUTOMATIC BOILER FEED.

APPLICATION FILED NOV. 4, 1919.

1,395,133.

Patented Oct. 25, 1921.



Witnesses

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AUTOMATIC BOILER-FEED.

1,395,133. Specification of Letters Patent. Patented Oct. 25, 1921.

Application filed November 4, 1919. Serial No. 335,588.

To all whom it may concern:

Be it known that I, MATHEW F. McNERNEY, a citizen of the United States, residing at Goldfield, in the county of Teller and State of Colorado, have invented new and useful Improvements in Automatic Boiler-Feeds, of which the following is a specification.

This invention relates to boilers, either high or low pressure, and has for its object the provision of an automatic device whereby water will be fed to the boiler so that the water level therein will remain constant, the advantage being that the boiler will need scarcely any attention under normal conditions, and that danger of injury to the boiler caused by too low a water level will be reduced to the minimum.

An important object is the provision of a controlling device of this character which has associated therewith an electric signaling device whereby in the event of failure of the water feed to operate, a warning signal will be energized at the desired location whereby to apprise the proper person of the fact that the water level within the boiler is too low.

An additional object is the provision of a device of this character which will be simple and inexpensive in manufacture and installation, highly efficient in use, durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings in which—

The figure is an elevation of a boiler, parts being in section, showing my device associated therewith.

Referring more particularly to the drawings, the letter A designates a boiler which in the present instance is shown as being of the Cahall type though it will be understood that my invention is equally well adapted for use upon any ordinary boiler.

In carrying out my invention I provide within the boiler, a casing 10 which communicates at all times with the interior of the boiler, and I also provide upon the top of the boiler a casing 11 communicating with the casing 10. A high pressure stuffing box 12 is disposed above the casing 11, as clearly shown. Disposed within the casing 10 is a float 13 carried by the lower end of a rod 14 which extends upwardly through the casing 11 and stuffing box 12 and which has its upper end provided with a series of holes 15 providing means for adjustable connection with the handle 16 of a control valve 17 located in a feed water pipe 18 leading into the boiler A. The rod 14 is preferably provided within the casing 11 with an enlarged portion 19 constituting a piston, the purpose of which is to check too free movement of the rod.

In the operation of the device it will be seen that when the water level within the boiler A is normal, the handle 16 of the control valve will be in the cut-off position. When the water level drops the float 13 will drop which will result in opening the valve 17 to admit water into the boiler.

In order to compensate for any possible water logging of the float 13, I preferably provide a spring 20 which is connected with the upper end of the rod 14 and with the ceiling of the room in which the boiler is located and this spring may be adjusted in any ordinary way.

In the event of failure of the water supply, or other unforeseen contingency, in order to prevent burning out of the boiler, I provide a signal operated by movement of the float. This signal comprises a suitable supporting base 21 mounted adjacent the upper portion of the rod 14 and secured upon this base are two sets of contacts 22 and 23. The contacts 22 are connected in a circuit with a source of current 24 and a white incandescent bulb 25 disposed in the office of the plant where the boiler is installed or at any other desired location. The contacts 23 are connected in circuit with the source of current and a red incandescent bulb 26 disposed at the same location. The rod 14 carries a cross bar 27 which engages and bridges the contacts 22 for causing energization of the white light while the water level is at the proper position. When the water level drops to a dangerous point and the float 13 and rod 14 move downwardly, the bar 27 will engage and bridge the contacts 23 so that the red light will be energized, thus warning the person in charge of the dangerous condition of affairs.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simple and efficient automatic water supply mechanism and

an alarm, the device being very advantageous as requiring scarcely any attention and being positive in operation.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form, construction, and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

In combination with a boiler and a water supply pipe leading thereto, a float disposed within the boiler and having a rod extending upwardly therethrough, an indicating device comprising signals of dissimilar nature, a support mounted adjacent the rod, two sets of contacts carried by said support and connected in series with a source of current and said signal devices, and an arm carried by said rod and bridging one set of contacts for energizing one signal when the water level within the boiler is normal, and said arm bridging the other set of contacts for energizing the other signal when the water level is below normal.

In testimony whereof I affix my signature.

MATHEW F. McNERNEY.