

H. R. STAFFORD.
 AUTOMATIC SHUT-OFF FOR LOCOMOTIVE STEAM PIPES.
 APPLICATION FILED NOV. 17, 1919.

1,405,950.

Patented Feb. 7, 1922.

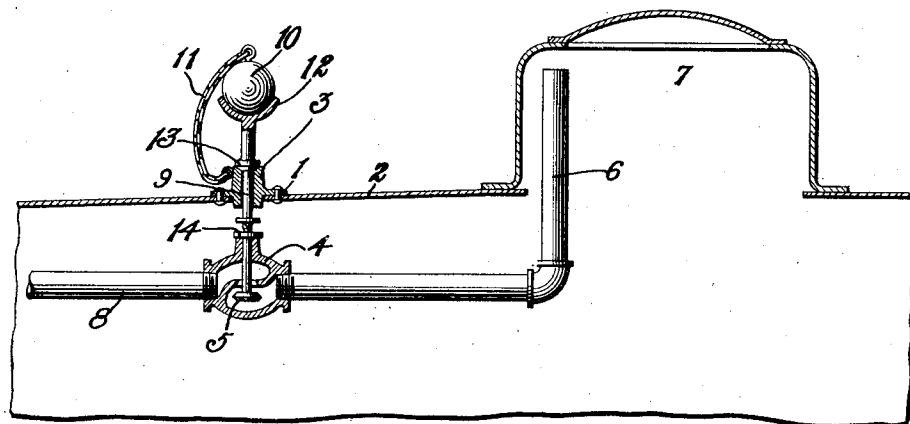


Fig. 1.

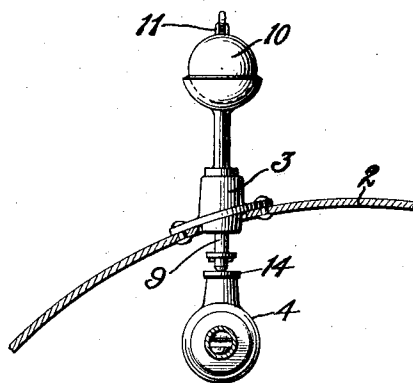


Fig. 2.

WITNESS

Gustav Genslinger.

INVENTOR.

Hal. R. Stafford
By Ernest A. Hachner
Atty.

UNITED STATES PATENT OFFICE.

HAL R. STAFFORD, OF NORTH PLAINFIELD, NEW JERSEY; MARY M. STAFFORD
ADMINISTRATRIX OF SAID HAL R. STAFFORD, DECEASED.

AUTOMATIC SHUT-OFF FOR LOCOMOTIVE STEAM PIPES.

1,405,950.

Specification of Letters Patent.

Patented Feb. 7, 1922.

Application filed November 17, 1919. Serial No. 338,635.

To all whom it may concern:

Be it known that I, HAL R. STAFFORD, a citizen of the United States, residing at North Plainfield, in the county of Somerset and State of New Jersey, have invented new and useful Improvements in Automatic Shut-Offs for Locomotive Steam Pipes, of which the following is a specification.

This invention has reference to and is especially useful in connection with a safety automatic shut off for steam pipes connected with locomotive cab turrets, and is arranged to automatically shut off the supply of steam and prevent injury to the occupants of the cab in case of accidents or where, as in the case of a wreck, the locomotive suffers severe jar or is overturned.

One of the objects of my improvement is the provision of a device of the character specified in which all of the mechanism will be located outside of the cab of the locomotive.

Another object of this invention is the provision of a device of the character referred to in which there is no need of providing any stuffing box through the boiler shell, leakage being provided against by the provision of a stem having a loose fit in a plug located in the shell and provided with a valve disc seated on the plug when the apparatus is in working position. Tightness is not essential, of course, after the apparatus has functioned as a safety device.

In order that my improvement may be better understood, I will now proceed to describe the same in connection with the accompanying drawings, wherein—

Figure 1 is a view showing a partial longitudinal section of a locomotive boiler with my improvement applied thereto and Figure 2 is a transverse partial sectional view of the apparatus shown in Figure 1.

At a point marked 1 in the upper part of the boiler shell 2 I have located a plug 3 situated above a valve casing 4 which has a valve 5 controlling communication between the dry pipe 6 leading from the dome 7 and the pipe 8 which ordinarily leads to the cab turret or other point of distribution of the steam obtained through the pipe 6.

The valve 5 is normally arranged to close in the direction of the flow of the steam pressure and is held open in operative position as shown in Figure 1 by means of the downward pressure of the stem 9 under the weight of a ball or other suitable device 10, the movement whereof is restricted by the chain 11 so that the ball will not be lost when it is dislodged from the socket or cup 12.

The stem 9 is a loose fit within the plug 3 and has a valve at 13 which is held closed when the ball 10 is in position and the valve 5 is opened and avoids the necessity of the introduction of any stuffing box around the stem 9. The upper end of the stem of the valve 5 is arranged with a flat or flanged head 14 against which the stem 9 bears so as to allow for certain relative shifts of position or movement between the stem 9 and the stem of the valve 5.

It will be obvious from an examination of the structure above described that should the engine turn over or meet with any accident such as a collision, the consequent shock or displacement of the engine from its normal position or level would cause the ball to be thrown off and this will allow the flow of steam to close the valve 5. If necessary a spring may be introduced under the valve 5 in order to more certainly ensure its closure.

In case the ball should become dislodged by ordinary buffing shocks or other causes in service, it is obvious that it can be readily replaced by the engine man as it will be held in accessible position by the safety chain 11.

I claim:

1. The combination with the boiler shell, dome and dry pipe leading from the dome to the turret of a locomotive, of a valve in the dry pipe located at a point intermediate the dome and the turret and displaceable means extending through the boiler shell normally holding said valve in open position, said means being adapted to be displaced to permit closure of the valve upon shock or accident to the locomotive.

2. The combination with the boiler shell, dome, and dry pipe leading from the dome to the turret of a locomotive, of a valve in

the dry pipe located at a point intermediate
the dome and the turret and displaceable
means extending through the boiler shell
normally holding said valve in open posi-
5 tion, said means being adapted to be dis-
placed to permit closure of the valve upon
shock or accident to the locomotive and said

means also being adapted to seal the aper-
ture through the boiler when in normal posi-
tion.

In testimony whereof, I have hereunto
signed my name.

HAL R. STAFFORD.