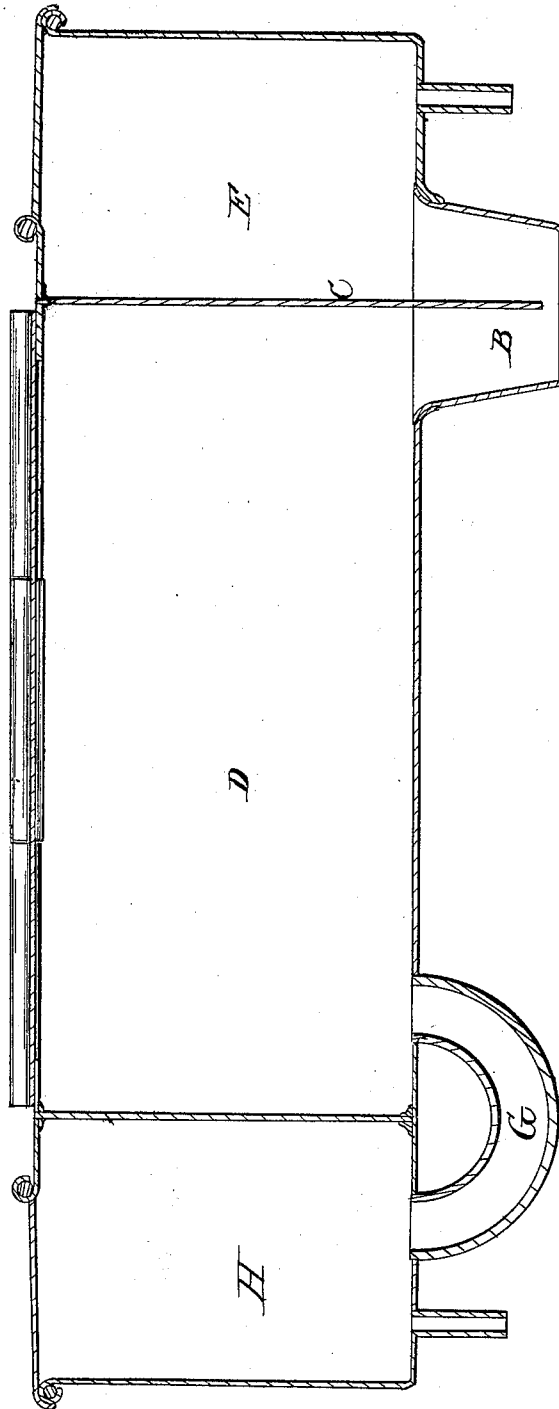


J. KIMBALL.
TANK FOR STEAM ENGINES.

No. 18,315.

Patented Sept. 29, 1857.



UNITED STATES PATENT OFFICE.

JOHN KIMBALL, OF CONCORD, NEW HAMPSHIRE, ASSIGNOR TO ROBERT HALE, OF ROXBURY, MASSACHUSETTS.

TANK FOR LOCOMOTIVES.

Specification of Letters Patent No. 18,315, dated September 29, 1857.

To all whom it may concern:

Be it known that I, JOHN KIMBALL, of Concord, in the county of Merrimac and State of New Hampshire, have invented a new and Improved Construction of Water-Tank for Steam-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which is represented a vertical section through a tank with my improvements attached.

For the purpose of preventing the freezing of the feed water of locomotives and steam engines and for economical purposes it is exceedingly desirable that a method should be devised by which the exhaust steam as it proceeds from the engine or a portion of it should be employed to heat the feed water within the tank or tender. This exhaust steam however carries with it more or less oil from the cylinder, and it is well known that when this oil is introduced into the boiler it causes it to foam or prime and it has not therefore been found practicable to pass the exhaust steam directly into the feed water.

My improvement has for its object to enable me thus to employ the exhaust steam without the above mentioned inconvenience; and my invention consists in a peculiar construction of tank or tender which I will now proceed to describe.

In the accompanying drawings is represented the tank, near one end of which a well or depression B is formed, into which a partition C descends which divides the tank into two chambers D and E between which there is no communication except through the trap thus formed. The feed water being introduced into the chamber D

will flow through the trap and rise in the chamber E. The exhaust steam is thrown into the chamber D, the oil which it carries with it rising to the surface of the water, and the water for the engine is drawn off from the chamber E, which will be constantly supplied through the trap from the bottom of the other chamber. It is evident that no oil will ever pass into the chamber E, as the trap will be constantly full of water even when the tank is emptied for the purpose of cleansing. In addition to thus divesting the water of the oil introduced by the exhaust steam it is evident that all sticks and chips or other light articles will be retained within the main body of the tank, while any sediment or sand that may be introduced into the tank will remain in the trap and may be subsequently cleaned out. At the opposite end of the tank is shown a modification of my invention which I consider the entire equivalent of the one above described. In this case the tank is divided into two compartments as before, between which the only communication is through the bent pipe G, the operation of which will be similar to that of the well B, the pipe remaining constantly full of water and effectually preventing the passage of the oil into the chamber H, from which the water for the supply of the boiler is drawn.

What I claim as my invention and desire to secure by Letters Patent is—

Dividing the water tank into two compartments thus introducing a trap between the two for the purpose of intercepting the passage of the oil to the boiler as set forth.

JOHN KIMBALL.

Witnesses:

M. W. DICKERMAN,
G. McQUESTEN.