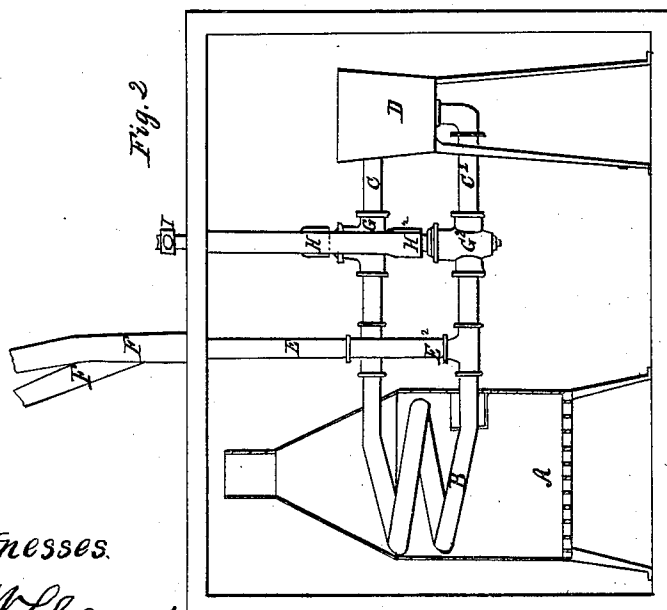
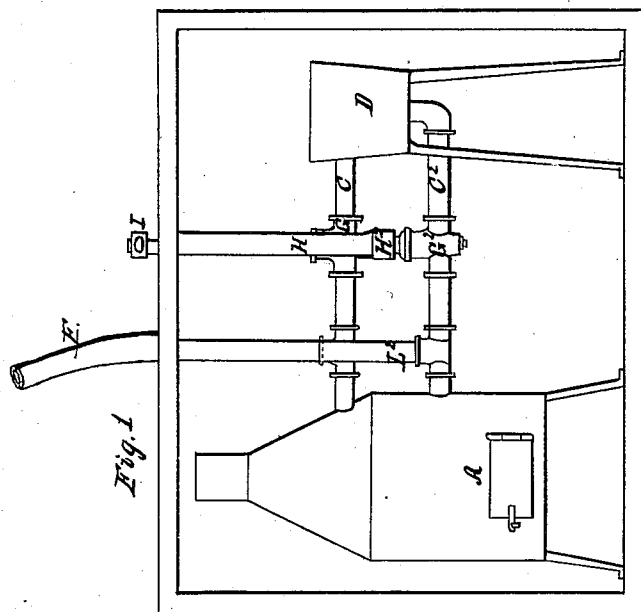


No. 81,132.

PATENTED AUG. 18, 1868.

W. A. BRICKILL.  
FEED WATER HEATER FOR STEAM FIRE ENGINES.



Witnesses.

*B. M. Lears*  
*John Bushman*

*Inventor*

*William A. Brickill by Alfred D. Smith*

# United States Patent Office.

WILLIAM A. BRICKILL, OF NEW YORK, N. Y.

*Letters Patent No. 81,132, dated August 18, 1868.*

## IMPROVEMENT IN FEED-WATER HEATERS FOR STEAM FIRE-ENGINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM A. BRICKILL, of the city, county, and State of New York, have invented, made, and applied to use a new and useful Water-Heater, to be Applied to and Used in Connection with Steam Fire-Engines; and I do declare the following to be a full, clear, and correct description of my invention, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a front view of my water-heater for steam fire-engines.

Figure 2 is a sectional view of the same.

In the drawings, like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists in combining with a steam fire-engine a water-heater, so constructed and connected to the boiler of a steam fire-engine that the water in the same is made to pass through the heater and become heated, so that steam may be more rapidly generated than if my invention were not used in connection with the engine.

The object of the invention is to expedite, in a great measure, the extinguishing of fires, by supplying water, heated to very nearly the boiling-point, to the boilers of steam fire-engines, and its value will be appreciated more particularly in large cities, where steam fire-engines are mostly employed.

To enable those skilled in the arts to make and use my invention, I will describe the construction and operation of the same.

A shows a box or receptacle for the heater B, and having within it a grate to support the fire.

C and C<sup>2</sup> are water-pipes leading from the heater B to a water-tank, D, as hereinafter described; and E and E<sup>2</sup> are branch-pipes, connected with and running from the pipes C and C<sup>2</sup> to the rubber pipes or tubes F, which are intended to form the connection between the boiler of the engine and the heater B.

G and G<sup>2</sup> show cocks upon the pipes C and C<sup>2</sup>, which cocks may be opened or closed, as desired, by the elongated socket-wrenches H and H<sup>2</sup>, operated in turn by the flat wrenches I, placed on their upper ends.

D is a water-tank, through the bottom of which the end of the pipe C<sup>2</sup> enters, while the end of pipe C enters the same about centrally or a little above the centre of the tank D.

Such being the construction, the operation is as follows:

The heater may be connected with the boiler of a steam fire-engine by inserting the ends of the rubber tubes in the boiler of the engine, one a short distance above the other, so that one shall receive the cold water from the boiler and convey it to the heater or coil B, while the other shall receive and conduct the water, when heated, from the heater to the boiler of the engine, thus establishing and maintaining a free circulation between the heater and the boiler.

The elastic nature of the pipes or tubes F allows the engine to be placed in any desired position in the engine-house, or to be moved in any direction to a certain extent, without the necessity of disengaging the heater from the engine.

The connection between the tubes and the boiler may be made in any convenient manner, generally a coupling for connecting the two being preferred, which at any moment may be readily detached, and allow the connection between the tubes and the boiler to be instantly broken.

As soon as an alarm of fire is given, the engine is detached from the heater and proceeds to the fire.

During the absence of the engine, communication between the water-tank D and the heater B is established by opening the cocks G and G<sup>2</sup> upon the pipes C and C<sup>2</sup>, by which the heater is supplied with water from the tank D, which, when heated, is returned to the tank, as in the case of the boiler, the object being to preserve the coil or heater.

I am well aware that the form of heater used, as well as of supplying water to the same after the engine has been detached therefrom, may be varied, without changing the nature of my invention, which, as already set forth, consists in connecting to or combining with a steam fire-engine, a heating-apparatus, so that water

heated to very nearly the boiling-point may be supplied to the boiler of the engine, that steam may be more rapidly generated, and consequently I do not wish to be understood as intending to claim any peculiar arrangement of heating-apparatus herein shown.

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

The combination, with a steam fire-engine, of a heating-apparatus, constructed substantially as described, for the purposes fully set forth.

Witnesses:

A. SIDNEY DOANE,

B. W. SPEARS.

W. A. BRICKILL.