

H. V. P. DRAPER & N. COVINGTON.

Apparatus for Supplying Locomotive-Engines with
Pure Water.

No. 134,263.

Patented Dec. 24, 1872.

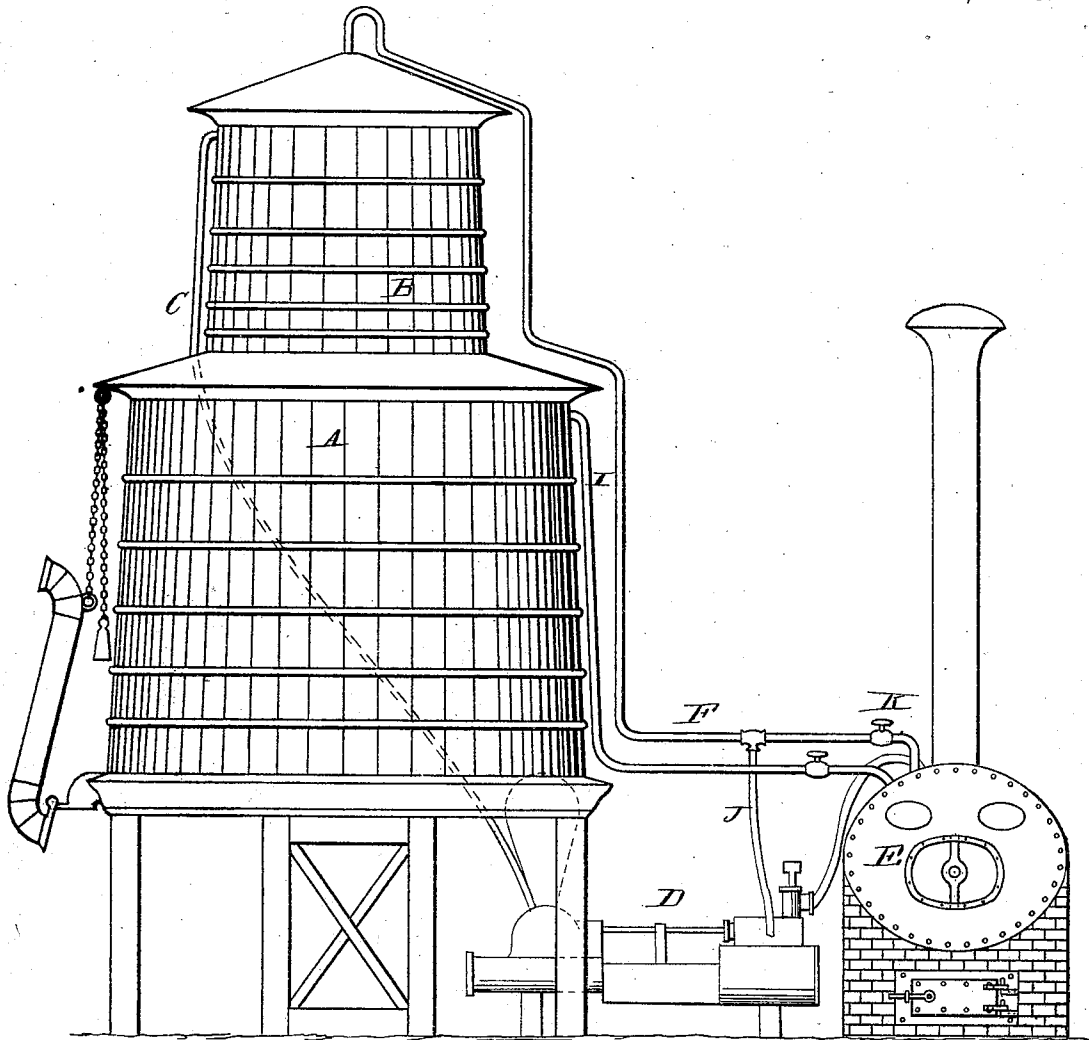


Fig. 1.

WITNESSES.

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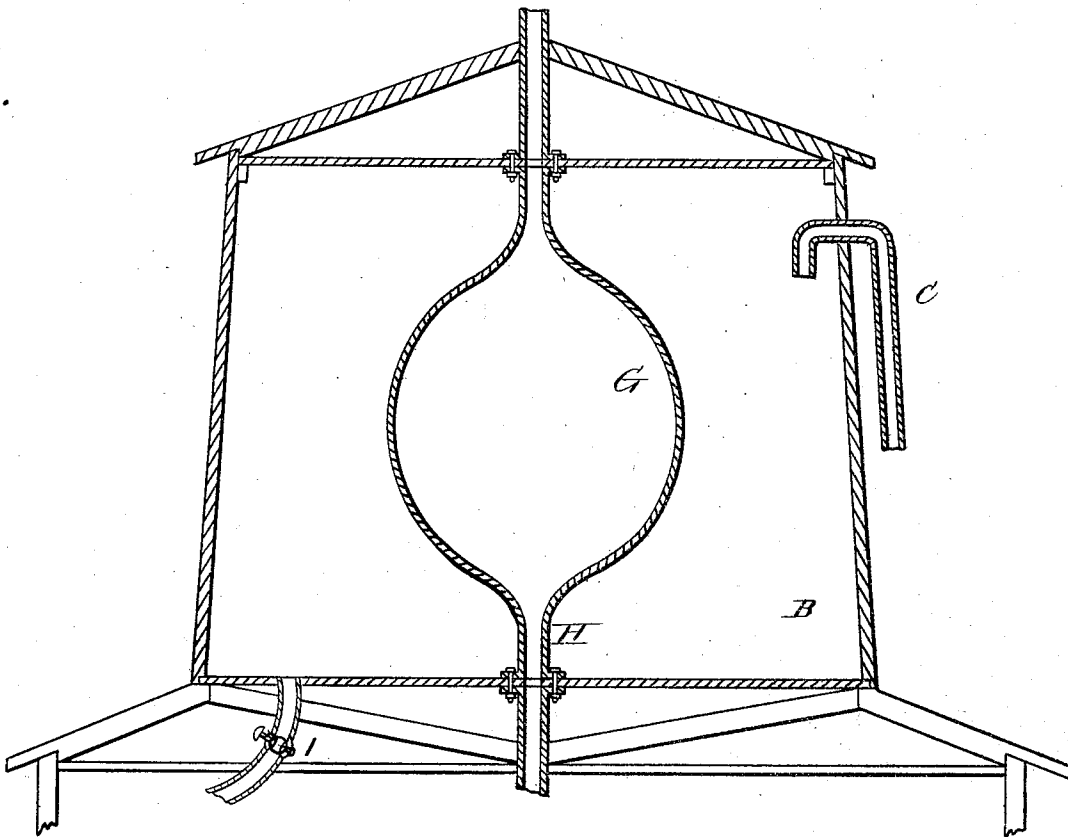


Fig. 2.

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UNITED STATES PATENT OFFICE.

HENRY V. P. DRAPER AND NATHANIEL COVINGTON, OF HANNIBAL, MO.

IMPROVEMENT IN APPARATUS FOR SUPPLYING LOCOMOTIVE-ENGINES WITH PURE WATER.

Specification forming part of Letters Patent No. 134,263, dated December 24, 1872.

To all whom it may concern:

Be it known that we, HENRY V. P. DRAPER and NATHANIEL COVINGTON, both of Hannibal, in the county of Marion and State of Missouri, have invented a new and valuable Improvement in Condensers; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a railway water-tank with cooling-reservoir attached, inclosing condenser. Fig. 2 is a sectional view of cooling-reservoir and condenser, with pipes, &c.

This invention has relation to railroad water-tanks; and it consists in the combination, with a tank, of a steam-boiler and a steam-condensing apparatus for the purpose of providing a supply of perfectly-pure water, the product of condensed steam, for the use of locomotives.

Referring to the accompanying drawing, A represents a railway water-tank, upon the top of which is placed the cooling-reservoir B, supplied with cold water, through a pipe, C, by means of a steam-pump, D. E designates a steam-boiler; F, a steam-pipe leading from said boiler to a condenser, G, contained within the reservoir B, and communicating, by means of a pipe, H, with the tank A. The condenser is made of metal, and fastened within the reservoir at a distance from the walls thereof of, say, two feet at the sides, top, and bottom, enabling it to be completely surrounded by this quantity of water, which is constantly passing in through the supply-pipe C and passing off through the waste-pipe I, which

leads from the bottom of the reservoir to the boiler or source of supply, thus keeping the condenser always cool.

The steam, entering the condenser from the pipe F, comes in contact with its smooth cold surface, and is immediately reconverted into water free from all impurities, such as carbonate of lime, siliceous, &c., the same being precipitated. The steam being condensed, the water passes into the tank A, and may be fed to locomotives in the usual way.

J designates the steam-exhaust pipe from the pump or engine, leading into the steam-pipe F, and thereby conducting the exhaust steam to the condenser so as to prevent waste. K designates a stop-cock connected with the lower end of the steam-pipe F. This cock is closed until steam is generated. Afterward it is opened and the steam allowed to pass to the condenser.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The stationary railway tank A, cooling-reservoir B, condenser G, steam-boiler E, steam pump or engine D, water-supply pipe F, combined and arranged substantially as and for the purpose set forth.

2. In combination with the subject-matter of the above clause, the exhaust-pipe J, when arranged as described, and for the purpose specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

HENRY V. P. DRAPER.
NATHANIEL COVINGTON.

Witnesses:

L. R. ANDERSON,
T. S. MERRICK.