

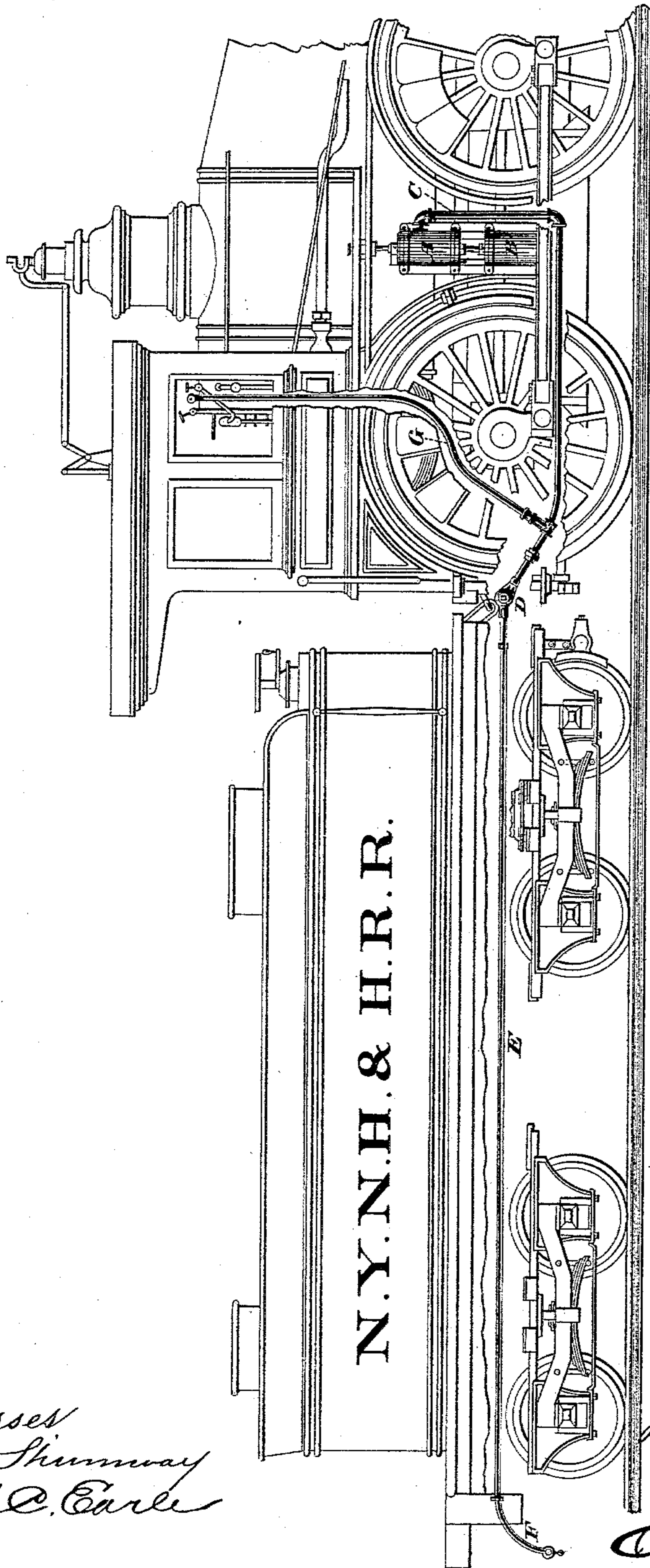
(No Model.)

J. HENNEY, Jr.

HEATING DEVICE FOR RAILWAY CARS.

No. 373,659.

Patented Nov. 22, 1887.



Witnesses
J. N. Shumway
Fred C. Earle

John Henney, Jr.
Atty. Inventor,
Fred C. Earle

UNITED STATES PATENT OFFICE.

JOHN HENNEY, JR., OF NEW HAVEN, CONNECTICUT.

HEATING DEVICE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 373,659, dated November 22, 1887.

Application filed March 14, 1887. Serial No. 230,794. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENNEY, Jr., of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Heating Devices for Railway-Cars; and I do hereby declare the following, when taken in connection with accompanying drawing, and the letters of reference marked thereon to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents a side view of so much of a locomotive and tender as necessary for the illustration of the invention.

This invention relates to an improvement in heating railway-cars, having for its object to derive the heat from the locomotive, and whereby the presence of fire in the several cars of the train may be avoided.

Attempts have been made to utilize the exhaust from the cylinders of the locomotive; but this, for obvious reasons, has been found impracticable. By my invention I utilize the exhaust from the air-pump, which is applied to work the brakes of the train. This pump works constantly and gives substantially a constant or continuous supply of exhaust-steam, and the application of the exhaust from this air-pump to heating purposes does not to any appreciable extent impede or interfere with the proper working of the air-pump. The supply of steam is maintained the same, whether the train be in motion or stationary.

To illustrate my invention I show so much of a locomotive as is necessary to a clear understanding of my invention.

A represents the steam-cylinder of the air-pump B, to which cylinder the steam is admitted for operating the piston in the cylinder in the usual manner. From the exhaust-passage of the steam-cylinder a tube, C, leads to a suitable connection, D, between the locomotive and tender, the connection D joining the tube C with a leading-tube, E, which extends rearward to the rear end of the tender, where a flexible connection, F, is applied, by which the tube E may be coupled with the heating steam-pipes of the next car. The heating-coils may be such as in common use in railway-cars at the present time, and which derive their supply from a boiler in the car, it being understood that in place of the boiler in the car the heating-tubes are to be extended through the car to a point where the

coupling F may be conveniently joined. The air-pump cylinder A being supplied with steam, the piston works back and forth in the usual manner and the exhaust passes through the tube D rearward through the coils of the several cars of the train, giving a sufficient supply of steam for heating the cars.

By utilizing the exhaust from the steam-cylinder of the air-pump the supply of steam for heating purposes costs nothing, as the air-pump necessarily works continuously, whether the train be standing or moving. The movement of the piston of the air-pump cylinder is so slow that no difficulty is experienced in sending the exhaust through the circuitous passage of the heating-coils of the car; nor is the resistance so great as to any practical extent to interfere with the proper working of the air-pump. By thus utilizing the exhaust-steam from the air-pump for heating purposes the disagreeable puffing which attends the working of this pump when the locomotive is stationary under the usual arrangement of the exhaust is avoided.

To provide against the possibility of interruption in the working of the steam-pump, I introduce an auxiliary steam-supply tube, G, which leads direct from the boiler into the exhaust-tube, this auxiliary tube being provided with a valve, so that should direct steam at any time be desirable it may be admitted direct from the boiler.

I claim—

1. In combination with the steam cylinder of the air-pump of a locomotive, a tube leading from the exhaust-passage of said cylinder rearward, said tube being provided with connections adapted to couple the corresponding tubes of the cars of the train, substantially as described, and whereby the exhaust-steam from the steam-cylinder of the air-pump will be conducted through the tubes in the cars.

2. The combination of the steam-cylinder of the air-pump of a locomotive with a tube leading from the exhaust-passage of said cylinder rearward and adapted to be coupled with corresponding tubing in the cars of the train, and an auxiliary tube leading directly from the boiler into said exhaust-tube, substantially as and for the purpose described.

JOHN HENNEY, JR.

Witnesses:

EDWARD CURTIS,
LEONIDAS S. JACKSON,