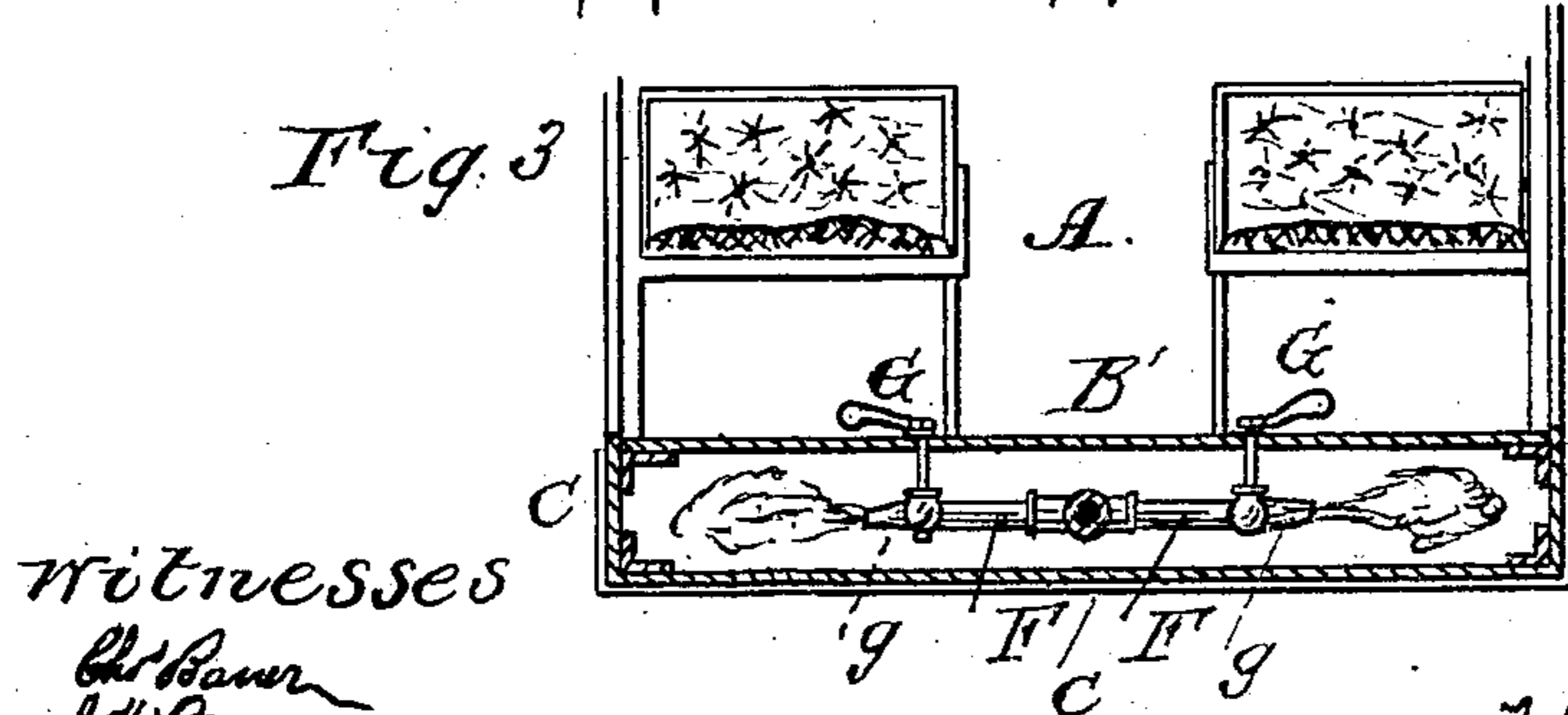
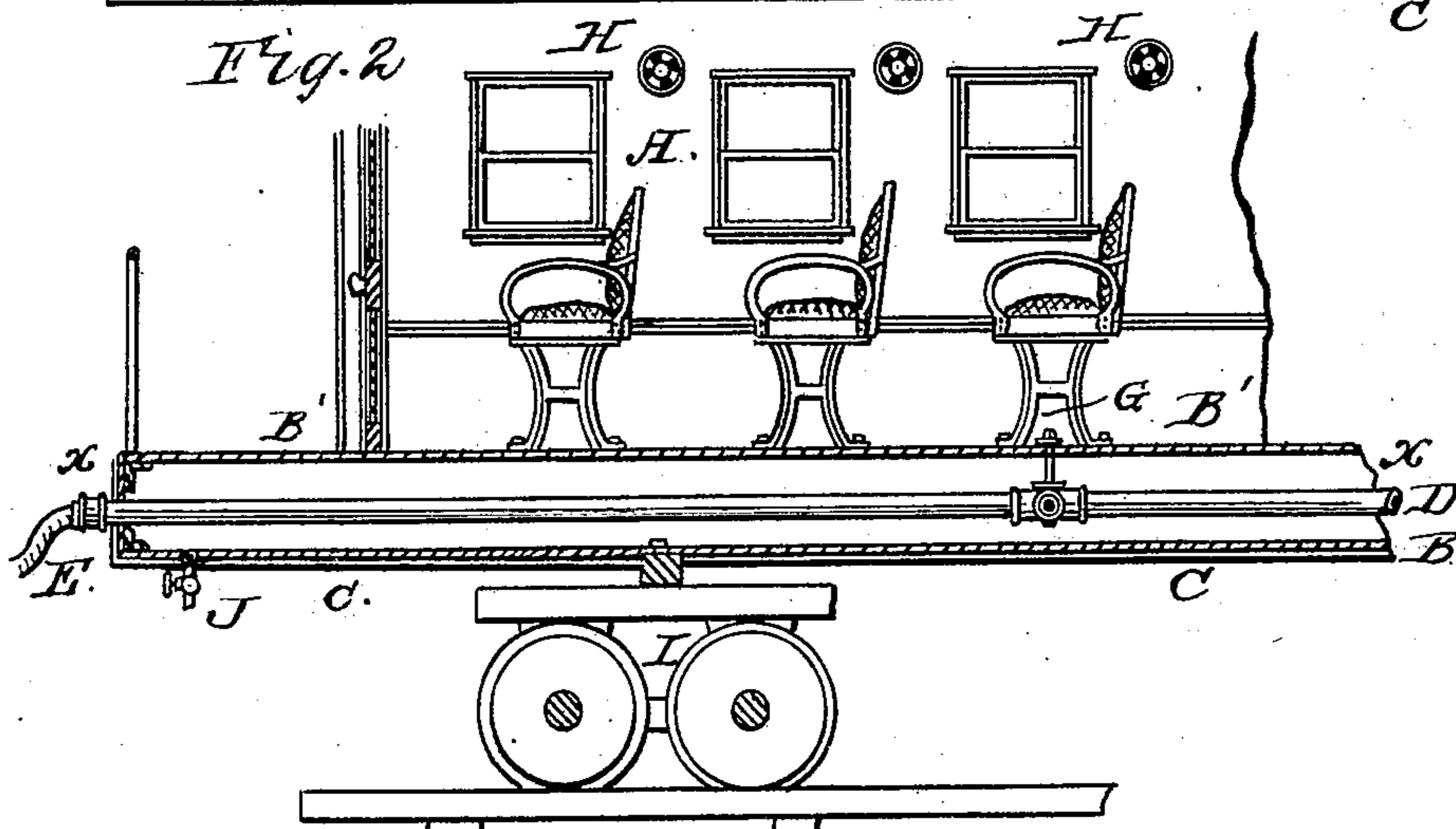
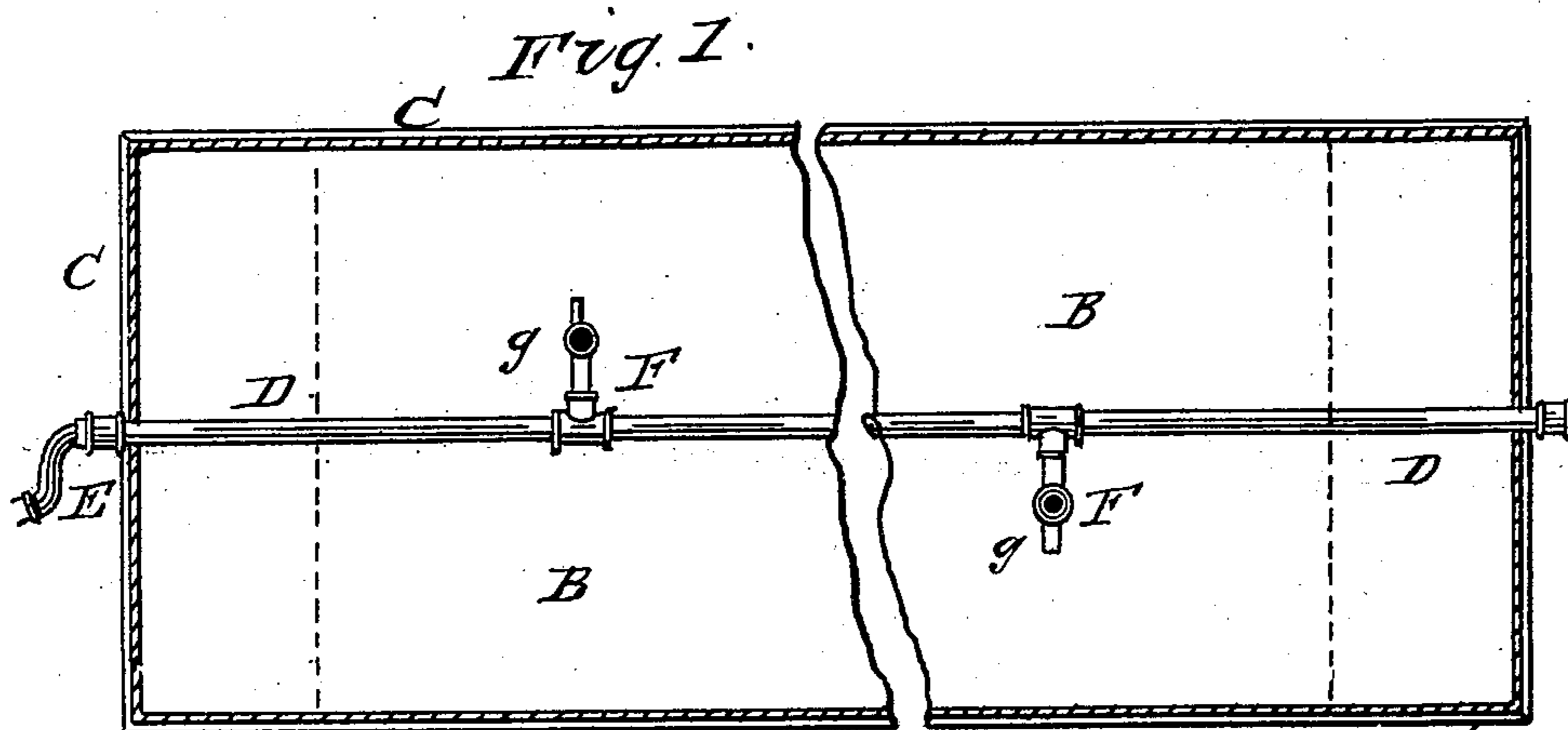


F. M. MEDDOCK.

Car Heater.

No. 83,076.

Patented Oct. 13. 1868.



Witnesses
Chas. Bauer
J. H. Layman.

Inventor
F. M. Meddock
By Humphreys & Atty

United States Patent Office.

FRANCIS M. MEDDOCK, OF MAINSVILLE, OHIO.

Letters Patent No. 83,076, dated October 13, 1868.

DEVICE FOR HEATING RAILROAD-CARS.

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, FRANCIS M. MEDDOCK, of Mainsville, in the county of Warren, and State of Ohio, have invented a certain new and useful "Mode of Warming Railroad-Cars;" and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

This invention consists in warming a passenger-car by means of a metallic chamber, which extends under the entire body of the same, and into which steam is admitted from the locomotive through suitable pipes and flexible connections, the apparatus being arranged in such a manner that the top plate of the steam-chamber forms the floor of the car, and so that the temperature can be regulated, to suit the comfort of the passengers, by means of valves or cocks, which can be operated by the conductor or brakemen.

In the accompanying drawings—

Figure 1 is a longitudinal section through the steam-chamber at the line X-X;

Figure 2 is a vertical section of a portion of a car and steam-chamber; and

Figure 3 is a transverse section of the same.

A represents a portion of the body of a passenger-car, which may be constructed either of wood or iron, although I prefer the latter, and this body rests upon a stout metallic steam-chamber, B, which is of the same length and width as the car, and from six to ten inches in depth. The sides, ends, and bottom of this chamber are encased in a wooden or other non-conducting jacket, C, which prevents the condensation of steam within said chamber.

Placed centrally within the steam-chamber B, is a pipe, D, which communicates with the locomotive by means of the flexible connections E, which may be made of India rubber, leather, or any other suitable material that will yield to the various oscillations of the car.

Attached to the main steam-pipe D, are branch-pipes F, having valves *g* and stems G, which latter project upward through the top plate B, of the steam-chamber, and said plate constitutes the floor of the car.

The upper end of the stems may have a square or other non-circular head, so as to admit of the valves being operated by a wrench or spanner, which, being in the possession of the conductor only, the valves cannot be tampered with by the passengers.

As the valve-stems project through the floor, directly under the seats, they will not be in the way of the passengers, and they can be operated by the conductor with the greatest facility.

H are registers in the sides of the car, for the escape of foul air.

The steam-chamber and car are supported upon the customary trucks I.

J are cocks for the discharge of air, condensed steam, &c., from chamber B.

The operation of my warming-apparatus will be readily understood, by referring to the drawings, and it will be seen that as soon as the valves *g* are opened, steam will rush into the chamber B, and fill it, and heat is transmitted through the imperforate floor B' to the interior of the car, and as the feet of the passengers rest upon this floor, it will not be necessary to raise the temperature as high as it would be if stoves or hot air were employed, it being a well-known fact, that if the extremities are kept warm, the body will require very little if any artificial heat.

The steam which is employed may either be drawn directly from the boiler of the locomotive, or else a portion of the escape steam may be used, without materially diminishing the blast of the engine.

This method of warming cars will be found very effective, easily operated, and economical, as it will only be necessary to use steam of from two to four pounds in excess of the atmospheric pressure.

This plan of warming cars is not only economical, but it is perfectly safe under all circumstances, and in case a collision or other accident should occur to the train, the cars would not take fire and consume the passengers, as has frequently been the case where stoves have been employed.

In its most preferred form, both the steam-chamber and car should be constructed of plates of stiff iron, and strengthened with suitable ribs and angle-iron braces, but the apparatus can be adapted to all of the wooden cars now in use, by the simple attachment to them of the steam-chamber B and its accessories.

The main pipe D and its branches F being enclosed within the chamber B, and surrounded with steam, there is no danger of their bursting by the condensed water freezing within them, which would often happen if the pipes were located outside of the chamber, so as to be exposed to the inclemencies of the weather.

I claim herein as new, and of my invention—

The steam-chamber B beneath the car-floor, traversed longitudinally by steam-pipes D, which are attached, as between adjacent cars, by flexible connections E, and which are provided in the chamber of each car with branch-pipes F and valves *g* operatable from the inside of the car, and adapted to be closed or opened, as the necessities of each car in the train may require, substantially as described.

In testimony of which invention, I hereunto set my hand.

FRANCIS M. MEDDOCK.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.