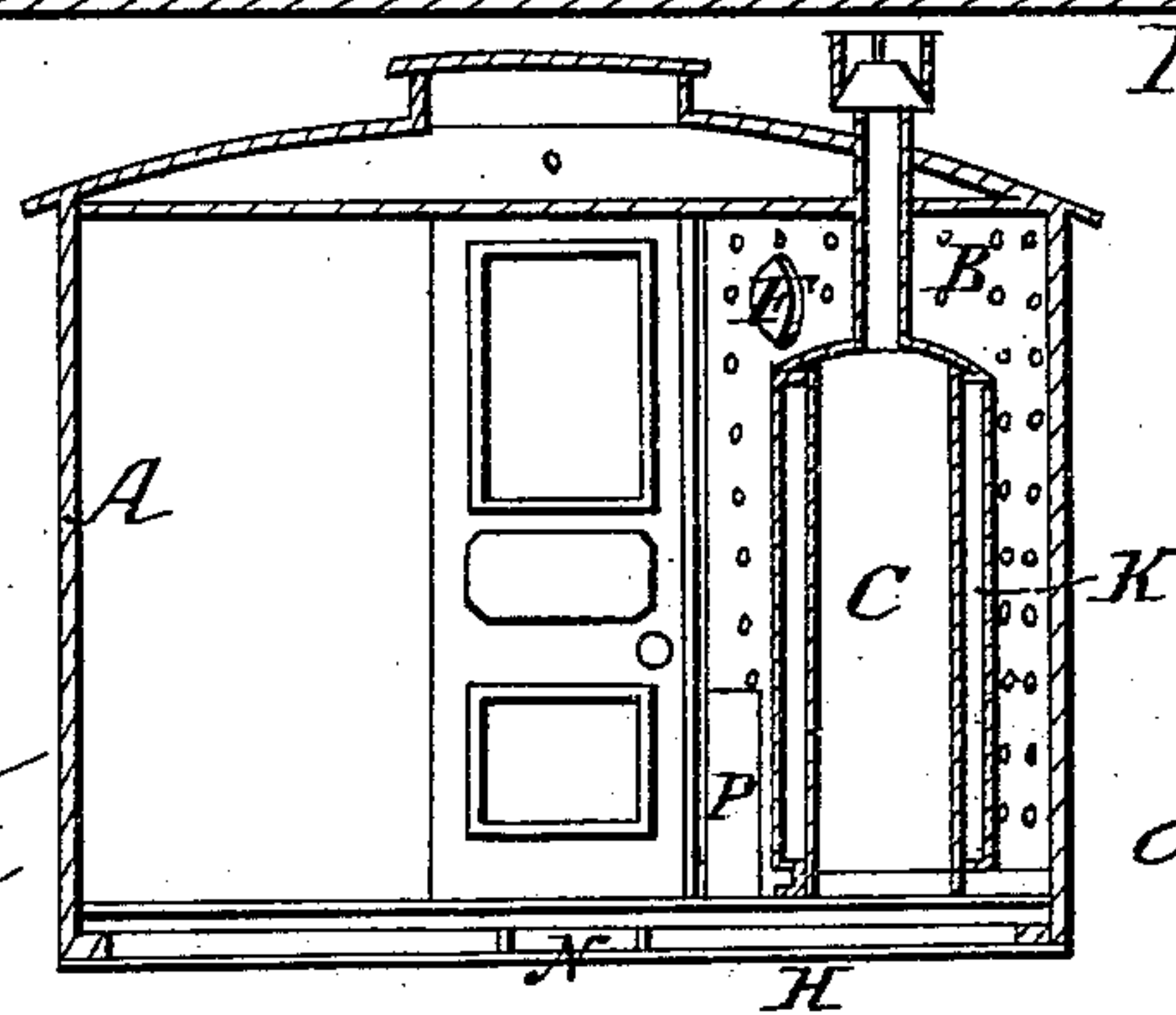
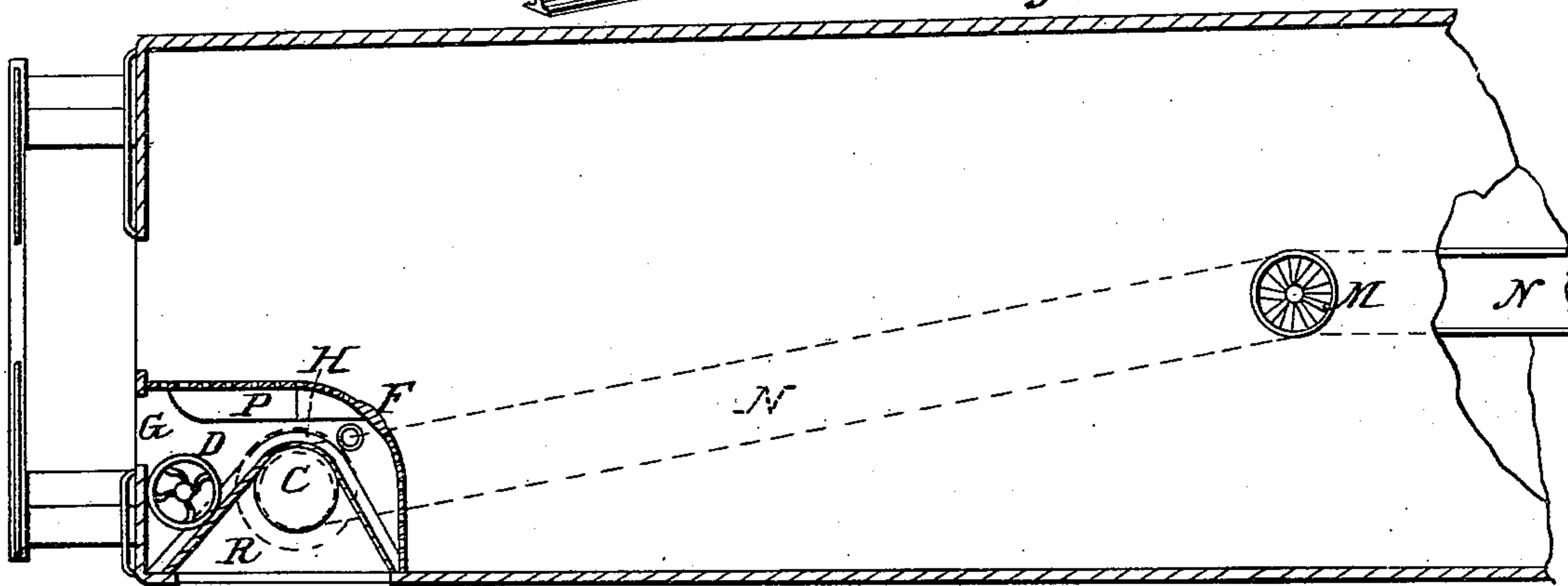
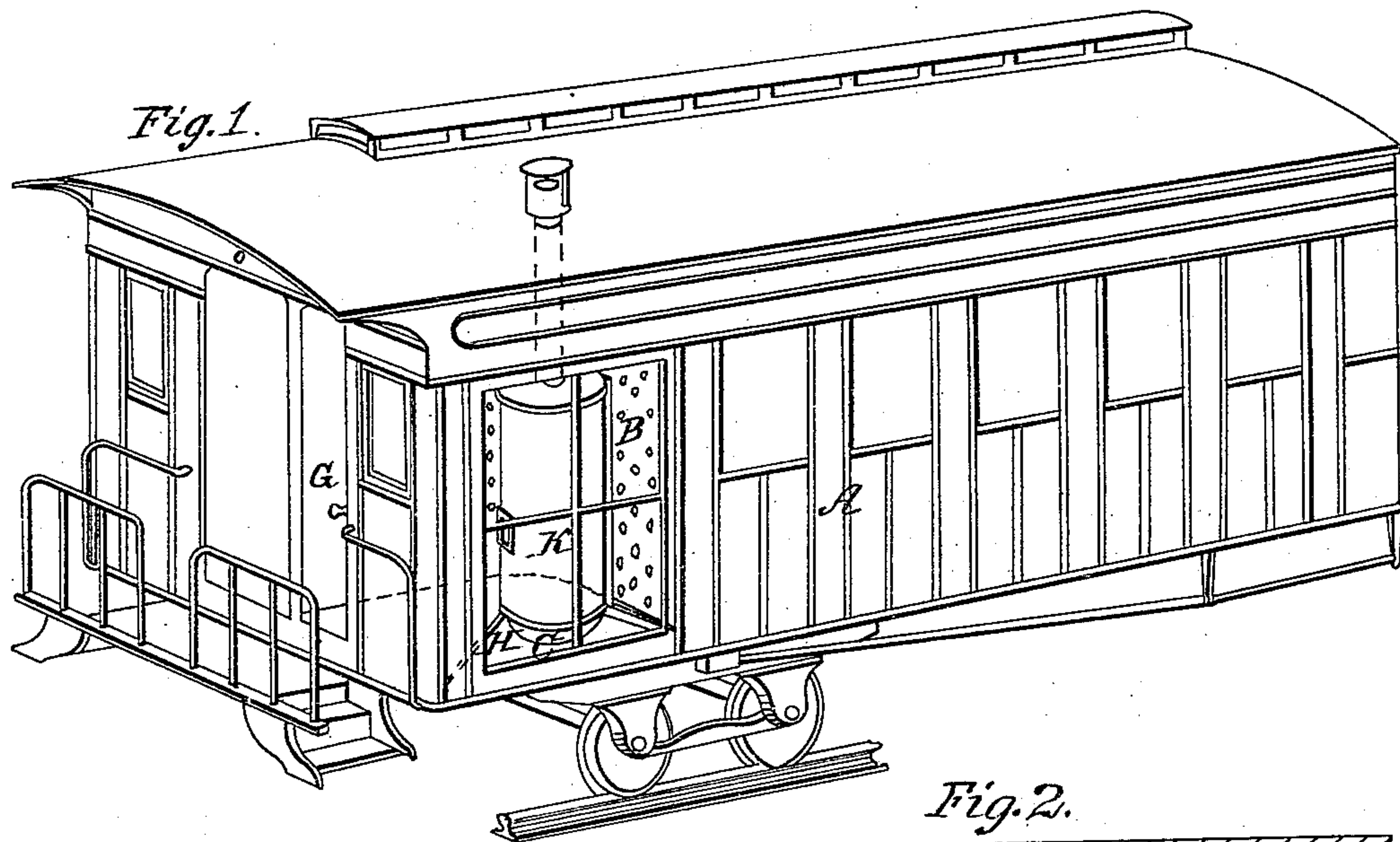


A. J. GIBSON.  
Heating and Lighting Cars.

No. 84,740.

Patented Dec. 8, 1868.



Witnesses  
Ben. Thuston  
G. H. Roberts.

Inventor  
A. J. Gibson.



# United States Patent Office.

ABRAM J. GIBSON, OF CINCINNATI, OHIO, ASSIGNOR TO HIMSELF, BENJAMIN J. THURSTON, AND THOMAS A. HARROW, ALL OF THE SAME PLACE.

Letters Patent No. 84,740, dated December 8, 1868.

## MODE OF CONSTRUCTING THE HEATING AND LIGHTING-APPARATUS ON RAILWAY-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, ABRAM J. GIBSON, of Cincinnati, Hamilton county, and State of Ohio, have invented a new and improved Mode of Heating and Lighting Railroad-Cars, of which the following is a full and clear description, reference being had to the accompanying drawings, making a part of this specification.

Figure 1 represents a perspective view of one end of my improved fire-proof safety-car.

Figure 2 is a plan of the car-floor and platform.

Figure 3 is a transverse vertical section of the car, taken through the furnace and light.

My invention relates to the construction of a car in a manner to prevent destruction by fire from the heating and lighting-apparatus; also, to allow of placing the wheel connecting with the brake in a position, in the fire-proof room, where the brakeman can attend promptly to his duty in a comfortable place.

To enable those skilled in the art to fully understand and construct my invention, I will describe it.

It being essential, in case of accident, of a car going down an embankment, or of a collision, that the fire and light become instantly detached and separated from the car—

A is the car-body.

B is a fire-proof partition to divide off sufficient space to receive a portable furnace, C; also, to allow the wheel D, connecting with the brake, to be placed in the same room with the furnace C.

P is a fuel-box.

The partition B is fastened firmly to the floor of the car, and extends upward to the roof of the car, and fastened firmly above. Also, the sides of partition B are fastened in like manner as the top and bottom.

The partition B may be constructed of iron of sufficient strength not to be broken or allow the furnace C to enter the compartment used for passengers.

The partition B is perforated throughout, to allow hot air to escape from the furnace-room R into the body of the car, but not to allow fire or flame to enter through.

In the upper part, near the top of partition B, at F, is to be inserted in an aperture made in the partition B, a plano-convex lens to reflect and diffuse the rays of light the full length and breadth of the car, from a common chimney-lamp burner hung opposite the lens in the fire-proof room R.

The room R is divided off from the body of the car to receive the furnace C, wheel D, connecting with the brake and the light.

The room R is entered by means of a slide-door, G, leading from the platform of the car.

The small room R is made proof against fire by means of the iron partition B, the floor, ceiling, and front end of the small room being lined with zinc or other suitable material.

On the side, near the end of the car opposite the furnace, is a light structure of sash and glass, of nearly the dimensions of that side of the small room R, to admit of the furnace C, when detached from its position by accident, to be thrown out through the window.

On the floor of the furnace-room R is fastened a rib of iron, H, projecting upward to prevent the furnace C taking an inward direction when detached, but to guide it outward through the window.

The furnace C is constructed of cast iron, of cylindrical form, with an outside jacket, K, of wrought-iron, to retain hot-air.

The hot air is conducted from the furnace C by means of a pipe, N, down under the floor of the car, to regulator M.

The advantage of providing a separate or special fire-proof room for heating and lighting a car is very important, as the result must show.

In the event of the destruction of a car by accident, being displaced from the track, or of a collision, the fire and light being separate from the interior of the car, and placed in a fire-proof room, would evidently be instantly separated from the entire structure.

Another and all-important point gained in this invention is locating the wheel connecting with the brake in a position where the person acting as brakeman can attend to the fire and light, and be in position to instantly operate the brake in case of warning of danger.

Having described my improved fire-proof car, the construction, arrangement, and operation, I make the following claims, which I desire to secure by Letters Patent:

I claim—

1. A perforated metallic partition, enclosing and constituting a fire-proof lighting and heating-chamber, in one end of a railway-car, constructed in the manner and for the purpose substantially as herein set forth.

2. One or more lenses, in the perforated metallic partition of a fire-proof lighting and heating-chamber of a railway-car, as and for the purpose above specified.

3. The safety-sash or window, when so constructed as to constitute the outer side of a lighting and heating-chamber in a railway-car, as hereinbefore described and set forth.

A. J. GIBSON.

Witnesses:

BEN. J. THURSTON,  
G. K. ROBERTS.