

E. H. ASHCROFT.

Railway Car.

No. 54,662.

Patented May 15, 1866.

Fig. 3.

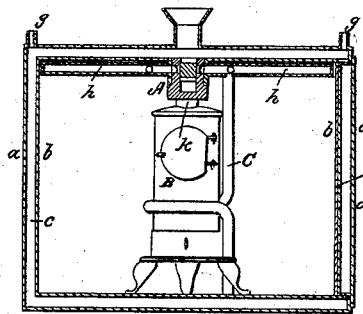


Fig. 2.

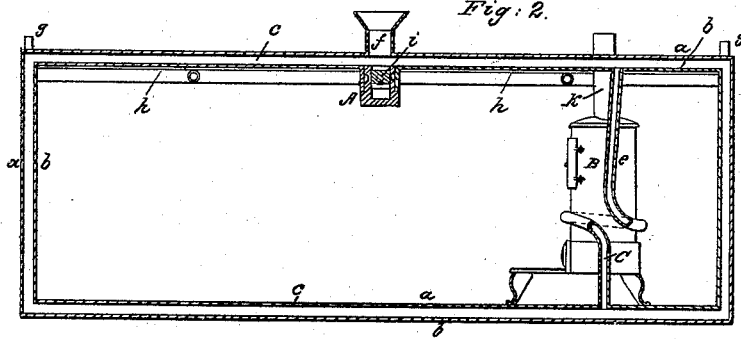
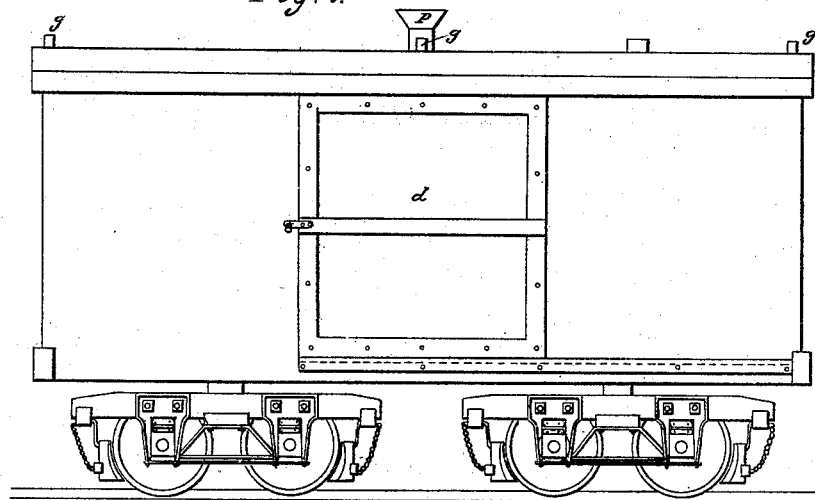


Fig. 1.



Witnesses:  
Samuel P. Piper  
George Andrews.

Inventor:  
E. H. Ashcroft.  
by his attorney  
R. W. Eddy.

# UNITED STATES PATENT OFFICE.

E. H. ASHCROFT, OF LYNN, MASSACHUSETTS.

## IMPROVED RAILWAY-CAR.

Specification forming part of Letters Patent No. 54,662, dated May 15, 1866.

*To all whom it may concern:*

Be it known that I, EDWARD H. ASHCROFT, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and useful or Improved Safety Express-Carriage for Railways or for Common Roads; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, Fig. 2 a longitudinal section, and Fig. 3 a transverse section, of a car or carriage made in accordance with my invention.

In carrying out my invention I surround the interior chamber of the car with a space for holding water, such space being arranged underneath and against the bottom of the chamber, over and against its sides and ends, excepting in places where it may be necessary to have doorways or window-openings in the car.

The car-body so made I prefer to have constructed of iron or steel plates riveted together, and to a suitable intermediate framing, if necessary.

In the drawings, the chamber or interior of the car is surrounded by two casings, *a b*, having a water-holding space, *c*, between them. The door *d*, to close an opening or doorway, *e*, leading through one side of the car, may have a fire-proof lining. The water-space I provide with an induction-tube, *f*, extending upward from the top of the car and having a tunnel-shaped mouth. I also provide such water-space with one or more eduction or steam or water escape pipes, *g*, or the equivalent thereof, they being arranged at the upper part of the car, as represented. In connection with such surrounding water-space *c*, I employ within the car, and at or near its roof, a series of water conduits or pipes, *h h*, which may be arranged so as to extend both longitudinally and transversely of the car, each of said pipes being provided with holes in its lower part. All the pipes of the system should so communicate with each other that water let into one shall flow into the rest of them. Furthermore, the said system of pipes should communicate with a fusible-plug apparatus, so made and applied to them and the water-space at the top of the car that the fusible plug or part of such apparatus, while in a hard state, shall intercept communication between the said pipes and the water-space; and when melted

or in a fluent state such fusible plug should be free to flow away or out of its socket, and thereby cause communication between the pipes and water-space to take place, whereby water from the latter may be induced to flow into the pipes and be discharged by them into the chamber of the car, so as to fall upon any goods, wares, or merchandise contained therein. The said fusible-plug apparatus is shown at *A*, its fusible plug being exhibited at *i*.

Furthermore, I arrange on the car or outside of it, or in a chamber or suitable space situated either within or without the car, and so as to move it, a stove or heating apparatus, the same being as shown at *B* in the drawings. And I apply to or combine with such stove and the water-space of the car a pipe, *C*, to open at one extremity into the upper part of the water-space and at the other at the lower part of such space, the same being in order that there may be a free flowage of water through the pipe, and that such water, while flowing through the said pipe, may be heated by heat from the heating apparatus. By such means I am enabled to warm the fluid in the water-space and to cause heat to circulate through it and thus warm the chamber of the car and the contents thereof.

The fusible plug is to be of a character to melt at a determinate temperature—that is, one somewhat lower than such as would be liable to burn or do injury to any material or object or load of the car with the exception of the heating apparatus, whose smoke-discharge pipe *k* may lead up through the roof of the car in manner as represented.

A car so constructed will not only be safe against fire applied to it externally, but in case of goods or articles taking fire within it the heat generated thereby will be likely to cause the fusion or melting of the fusible plug, and thereby let water into the car and upon the goods or articles in a state of combustion.

It is very necessary in winter to keep an express car warm in order that the guard or man in charge of it may be able to remain in it while it may be on route to its destination. It is for this reason, and also to keep the water from freezing, that I combine with the water-space about the chamber of the car, and to hold such water, a heating apparatus and a circulation-pipe.

The fusible-plug apparatus and the water-discharging pipes I employ with the said wa-

ter-space, for the purpose of putting out fire when accidentally occurring within the car.

Therefore what I claim as my invention is as follows:

1. A safety-car constructed with a water-space, one or more showering-pipes, and a fusible-plug apparatus, arranged substantially in manner and so as to operate with respect to the car-chamber as specified.

2. In combination with a car so made, a heating apparatus and a circulation-coil, or the equivalent or equivalents thereof, applied to the water-heating space, substantially and for the purpose and to operate as explained.

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Witnesses:

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