

No. 626,389.

Patented June 6, 1899.

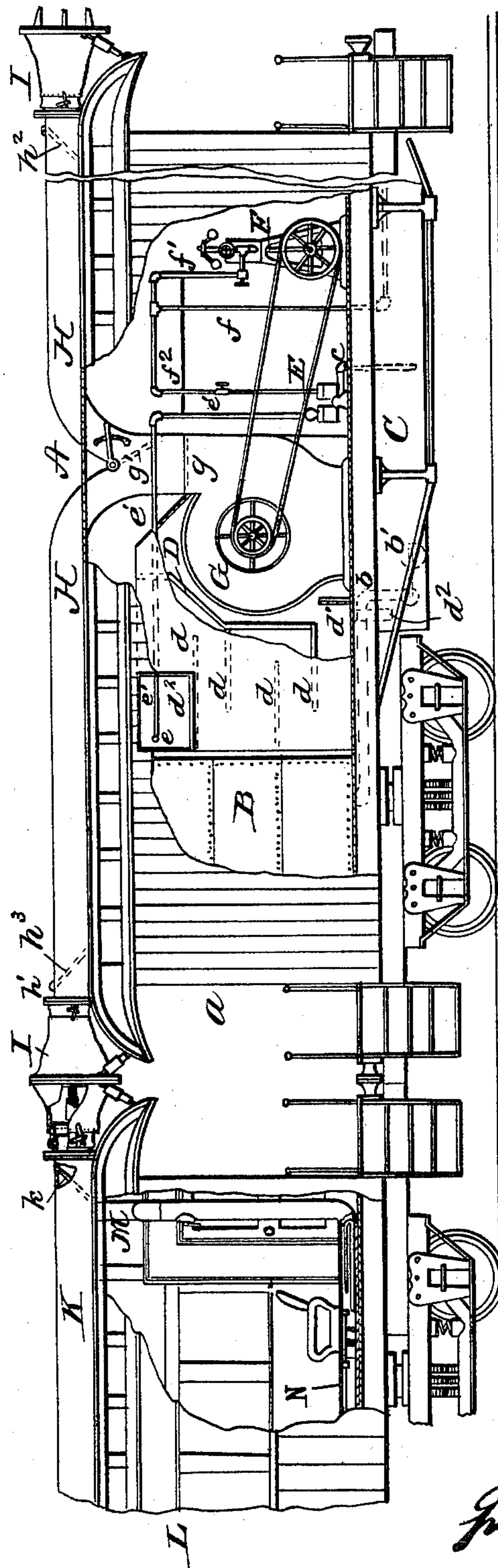
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RAILWAY CAR AND TRAIN VENTILATION.

(Application filed May 27, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses  
F. L. Ourand.  
George J. Heber

Inventor  
Joseph McCreery  
John W. H. Singleton  
Attorney

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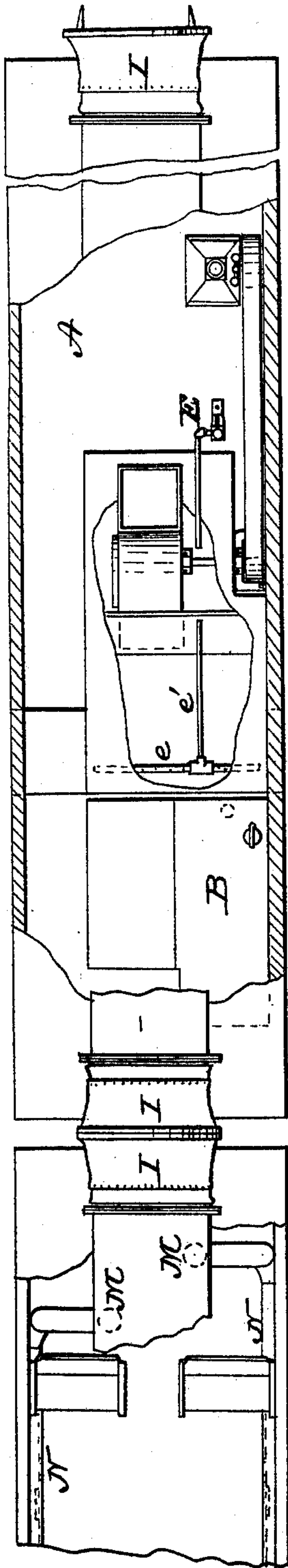
J. McCREERY.  
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Fig. 2



Witnesses  
F. L. Curand  
George J. Peter.

Inventor  
Joseph McCreery  
per W. H. Singleton  
Attorney



# UNITED STATES PATENT OFFICE.

JOSEPH MCCREERY, OF TOLEDO, OHIO.

## RAILWAY CAR AND TRAIN VENTILATION.

SPECIFICATION forming part of Letters Patent No. 626,389, dated June 6, 1899.

Application filed May 27, 1898. Serial No. 681,948. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH MCCREERY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Railway Car and Train Ventilation; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to ventilating railway-cars, more particularly passenger-cars; and it has for its object to so temper the atmosphere in the cars that it shall be of the proper degree of temperature and moisture.

The object of the invention is accomplished by means of a device which will be hereinafter described.

Figure 1 represents in side elevation, partly in section, sufficient of a passenger-train to illustrate the construction and use of the invention. Fig. 2 represents a plan view, partly in section, of the device.

In the annexed drawings, the letter A represents a car, which may be partly a baggage-car equipped with the apparatus. At one end *a* of the car A is placed a water-tank B, connected by a pipe *b* with a tank C under the car, an ordinary float-valve *b'* controlling the flow of water through the pipe *b*. Within the car and adjacent to the tank B is placed an air cleansing and cooling device D of any approved construction containing the alternating baffle-plates *d* and the water-fender *d'*, extending transversely of the air cleansing and cooling device. Near the top of the air cleansing and cooling device D there is an opening *d*<sup>2</sup> to admit air into such air cleansing and cooling device. Arranged transversely of the air cleansing and cooling device at the air-inlet *d*<sup>2</sup> is a perforated pipe *e*, with which communicates a water-pipe *e'*, connected with the pump E. To this pump E there leads a water-supply pipe *c* from the tank C under the car. Adjacent to the pump E is a small engine F, and both the pump and engine may be operated by steam from the locomotive through the pipes *f*, *f'*, and *f*<sup>2</sup>. Located conveniently near the air cleansing and cooling device D is a blower G, so arranged that its intake is near the top of the water-fender *d'*.

This blower is run by the engine F. The outlet or uptake *g* of this blower G branches so as to communicate with the pipes H and H', there being a valve *g'* where the uptake communicates with the two pipes. These two pipes H H' pass out through the top of the car and lie longitudinally along the middle of the top. At the outer end *h'* *h*<sup>2</sup> of these pipes is placed one half of a coupling I, so that these pipes may be connected with similar pipes upon the tops of adjacent cars. While I have devised a particular form of coupling for these pipes, only so much need be illustrated and described here as suits the purposes of this case. These couplings I are made of sufficiently flexible material to allow for the natural movement between cars, and the ends of the two parts of each coupling are supported from the top of the car in such a manner as to keep the two parts of the coupling properly alined, so that they may catch when the cars are run together.

A car equipped as above described is intended to be used with a train of passenger-cars, each car having on its top a pipe similar to either of the pipes on the top of the apparatus-car, except that in the passenger-car the pipe runs continuously from end to end, having a half-coupling at each end. At each end of the pipe K on top of the passenger-car L there is connected a down-pipe M on each side of the car, which communicates with a longitudinal pipe N, running along the side of the car at the bottom. At stated intervals these pipes N have openings, which may be regulated by valves in the usual manner. These pipes N may run alongside of or on top of the usual heater-pipes in the car.

The pipes H, H', and K have valves *h*<sup>3</sup> *h*<sup>4</sup> *k* at their ends, regulated or controlled by handles which pass down into the car. These valves are opened or shut, according as it is desired to have air pass through the pipes or not.

In use air enters the air cooling and cleansing device D at the air-opening *d*<sup>2</sup>. At the same time water is withdrawn from the tank C through the pipe *c* by the pump E and forced through the pipes *e'* and *e* and passes out of the perforations of the pipe *e* as spray. The water and air commingling pass amid the baffle-plates *d*, being drawn through the



air cooling and cleansing device by the force of the blower G. On reaching the bottom the water is caught by the water-fender  $d'$  and passes through the outlet-pipe  $d^3$  into the tank C, while the air, which has been moistened and tempered, passes through the blower G and is forced into the pipe H or H', according to the setting of the valve  $g'$ . The apparatus-car is provided with these two pipes, so that the air may be blown in either direction, rendering it unnecessary to reverse the car. The air is forced through the pipe H to the coupling I and into the pipe K, and passes down the pipes M into the pipes N and issues at the opening in the latter pipes into the car.

Having described my invention, what I claim is—

1. A car provided with two water-tanks, one above the other and connected by a pipe, an air cleansing and cooling device, a pump for forcing water from the lowermost tank into such air cleansing and cooling device, a blower for withdrawing the air from the lat-

ter, and a pipe attached to the blower for distributing the air to the other cars of the train, as set forth.

2. The combination, in a car, of the tank, C, at the bottom, the air cleansing and cooling device, D, having air-inlets  $d^2$ , at the top, and an outlet at the bottom, the pump, E, and the pipes,  $c e' e$ , for forcing water from the tank, C, into the air cleansing and cooling device near its top, the blower, G, having its intake at the opening in the bottom of the air cleansing and cooling device and having an outlet and a pipe for distributing the air to the train connected at such outlet, and the engine for operating such blower, as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH MCCREERY.

Witnesses:

EMMA M. GILLET,  
W. J. NEWTON.