(No Model.) 2 Sheets—Sheet 1.

S. HUGHES.

VENTILATING RAILWAY CARRIAGES.

No. 521,795. Patented June 26, 1894.

Fig. 1.

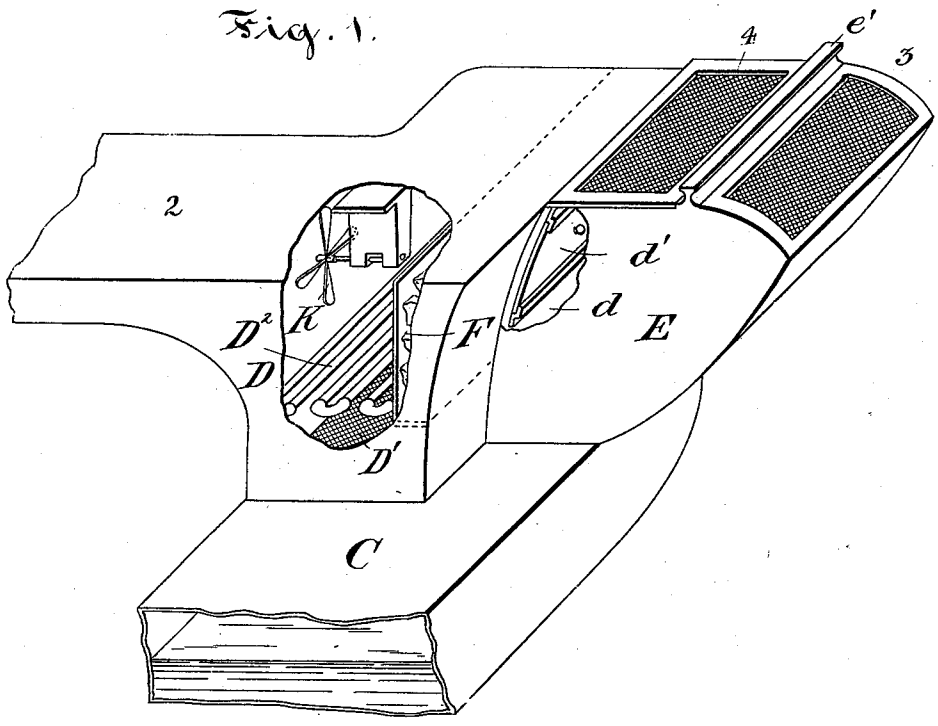
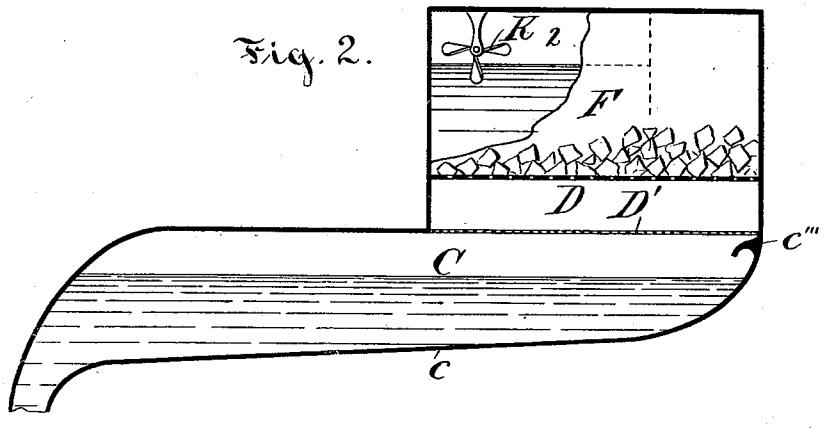


Fig. 2.



Witnesses:
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

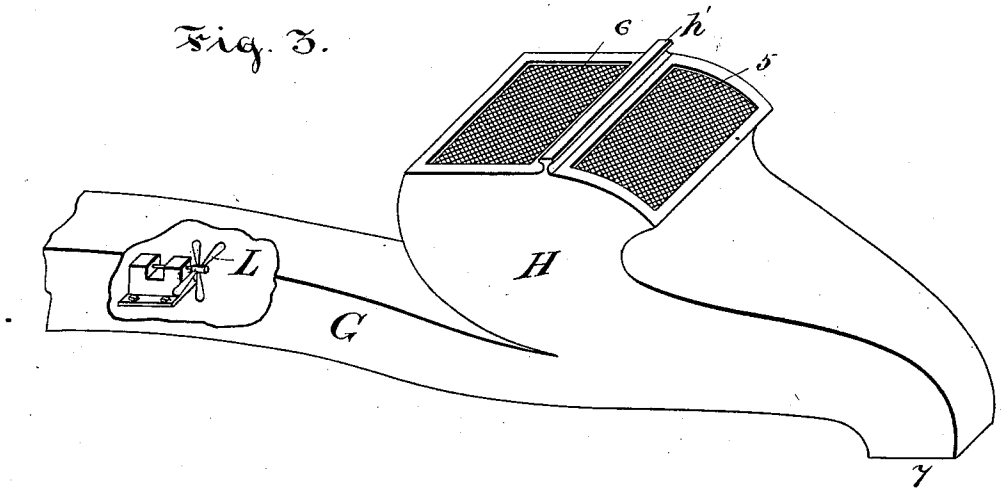
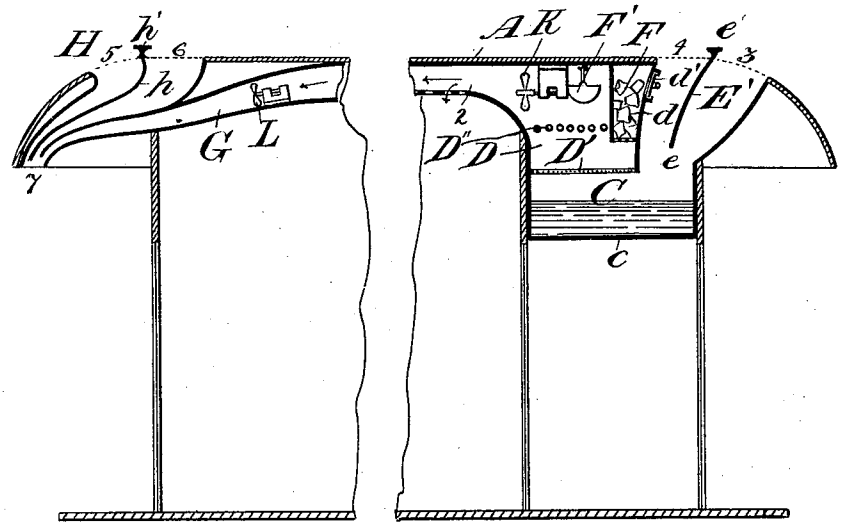


Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL HUGHES, OF LINDSAY, CANADA.

VENTILATING RAILWAY-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 521,795, dated June 26, 1894.

Application filed September 8, 1893. Serial No. 485,057. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HUGHES, of Lindsay, in the county of Victoria, Province of Ontario, and Dominion of Canada, have invented certain new and useful Improvements in Ventilating Railway-Carriages; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

My invention, which will be hereinafter fully set forth and claimed, relates to devices for ventilating railway carriages.

The object of my invention is to further complete the system of ventilating and heating railway carriages which forms the subject of my pending application, Serial No. 481,387, filed July 25, 1893, and thus increase the efficiency of the same.

Figure 1 is a perspective view of the air inlet or injector, showing my improvements applied. Fig. 2 is a transverse section of the same through the ice box, part being broken out to show the duct or channel in the rear. Fig. 3 is a perspective view of the exhaust or ejector showing my improvements applied. Fig. 4 is a longitudinal section of a car, the central portion being broken out, the air inlet being shown at one end and the exhaust at the other.

C, Figs. 1, 2 and 4, is the purifying heating and cooling tank (at each end of the car) with which each fresh air duct 2 is connected at one end by means of the uptake D, D′ being the wire screen between the tank and uptake, D″ the heating coil in said uptake, F′ the lime pot, *c* the sloping bottom of the tank and *c‴* the lip or ridge on the curved side of the tank to check the splashing of the water in the tank.

E is the air inlet or blast pipe with its throat *e* and two mouths 3 and 4 formed by the partition E′ extended above the top to form the ridge *e′* above and near the end of the car roof A (Fig. 4).

G, Figs. 3 and 4, is the exhaust duct, one of which is placed at each side of the car roof, provided at each end with an ejector H having a double mouth and throat 5 and 6 formed by a partition *h* extended above the mouths as a ridge *h′*, said throats terminating in a nozzle 7 below.

F, Figs. 1 and 2, is the ice box; this is placed in the uptake D, securing it to the front, *d*, of the same, which, as far as it is coextensive, forms the back of the inlet, *i. e.*, a partition serving to separate the inlet and uptake. In order to have access to the ice box, a sliding door *d′* may be formed in the said partition, (Fig. 1) and the screen cover to the mouth 4 made movable, or the top of the uptake may be provided with the sliding or trap door.

Near the top of the uptake D, in the mouth of the duct 2, a blast fan K is placed, suitably secured in any convenient position and driven by any suitable or convenient means, such as a cord or direct by electricity, spring, weight and the like.

An exhaust fan L is placed near each exhaust or ejector H in the duct or channel G, also driven in any desired manner either by transmission or direct, by electricity or other power. These fans may either be used as auxiliaries, *i. e.*, for augmenting the currents in the supply and exhaust ducts obtained by means of the injectors and ejectors, or they may be used only when the cars are not in motion.

I claim as my invention—

1. In an overhead tank for a ventilating system for railway cars, the combination with a duct 2 of a blast fan K at its junction with the uptake, an uptake D joining said duct to the top of a tank, an injector E joined to the front of said uptake, a tank C having openings in said injector and uptake, an ice box F secured to the partition between said injector and uptake, a door *d′* in said partition and a movable top on the mouth of said injector substantially as set forth.

2. In a ventilating system for railway carriages, the combination with the exhaust ducts G, of an exhaust or ejector at each end thereof and an electric suction fan near each ejector and within said duct, substantially as set forth.

In testimony whereof I have signed in the presence of the undersigned witnesses.

SAM. HUGHES.

Witnesses:
B. HARVEY,
A. TROWSE.