(No Model.)

W. T. COTTIER.

VENTILATED FREIGHT CAR.

No. 517,794. Patented Apr. 3, 1894.

Fig. 1.

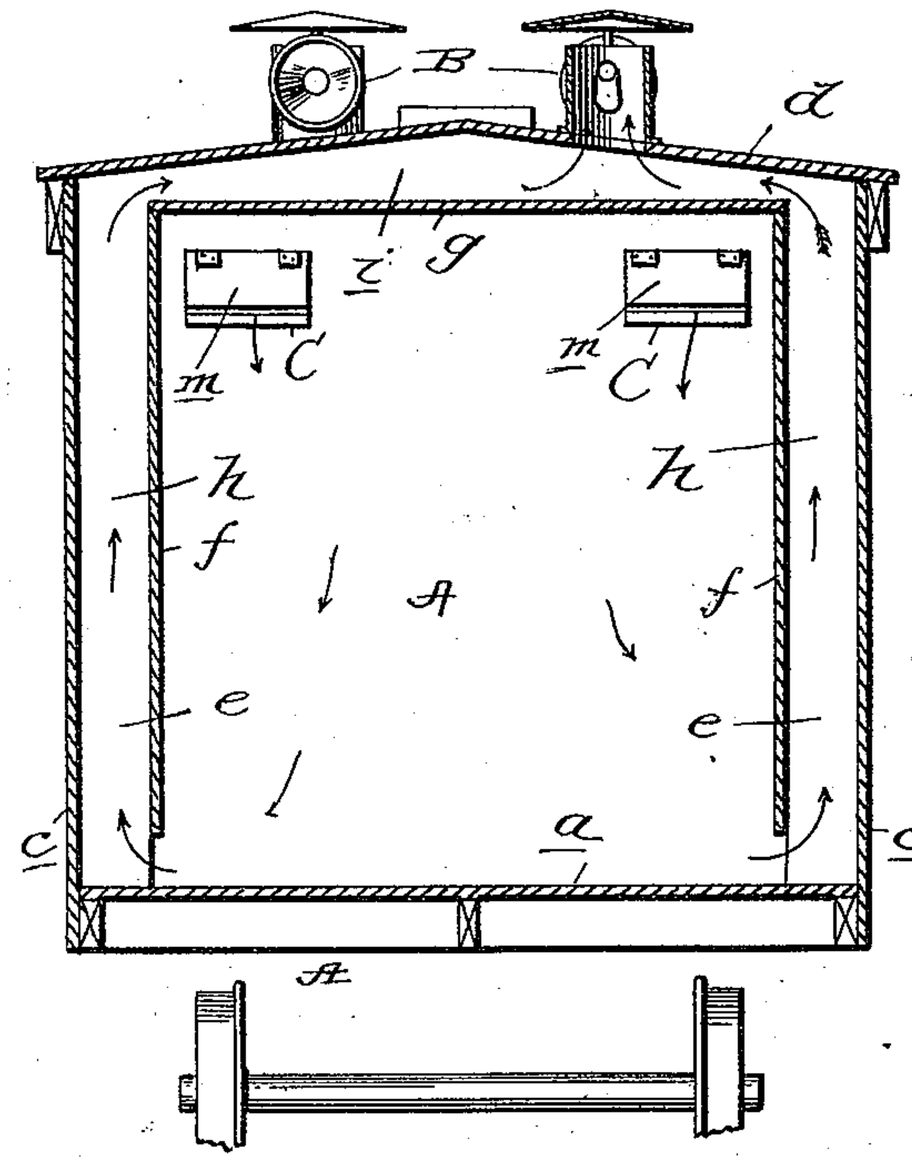


Fig. 2.

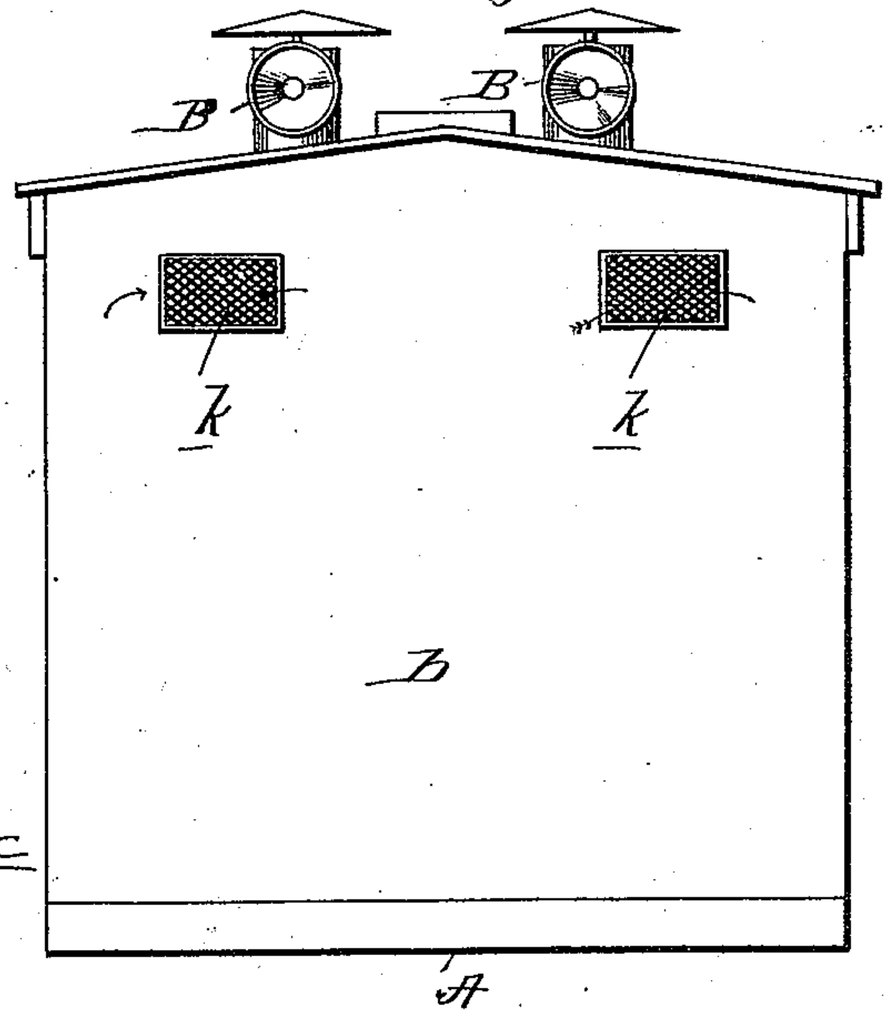
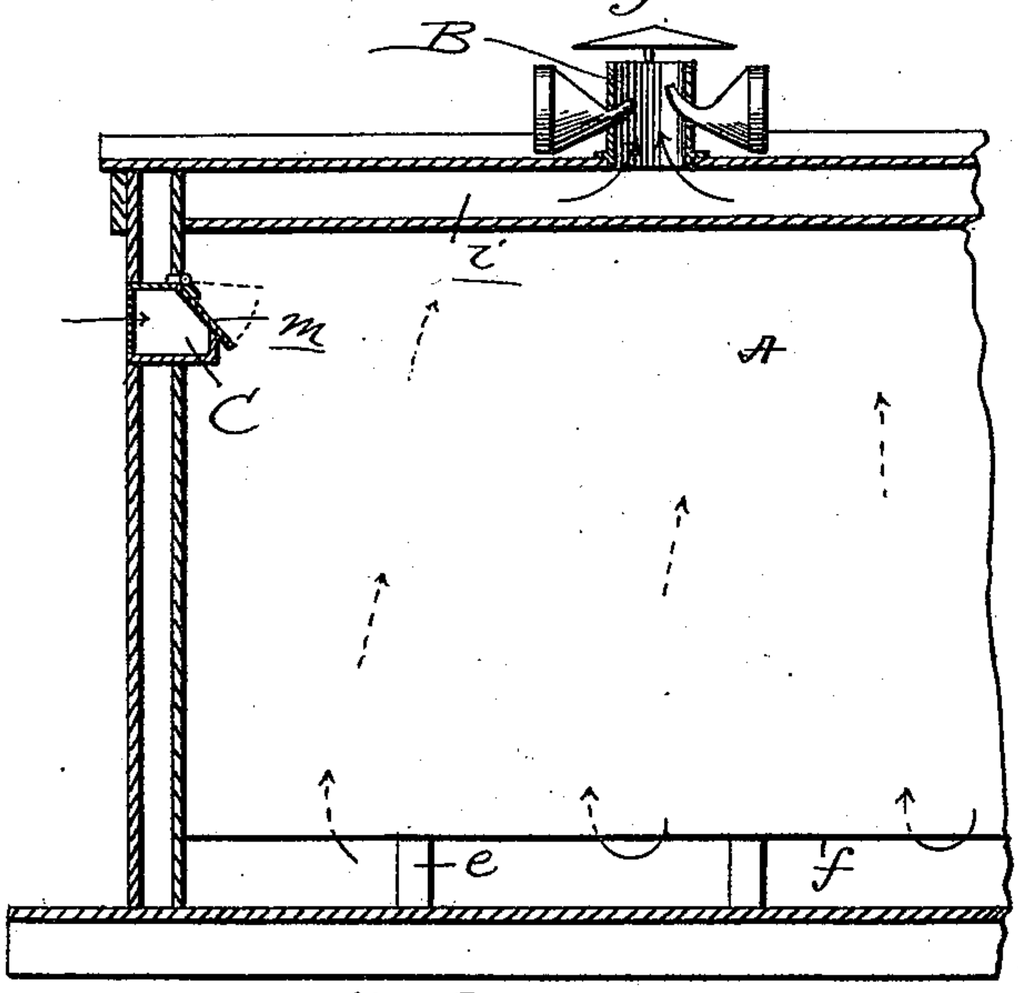
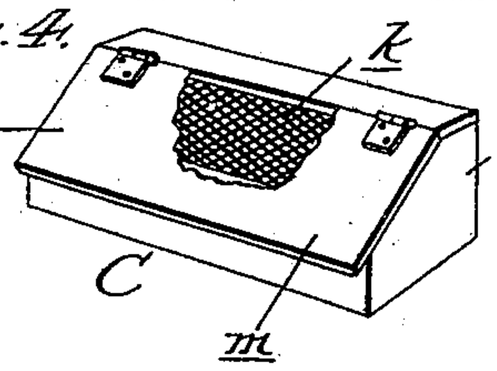


Fig. 3.



Witnesses!
C. H. Raeder
W. F. Matthews.

Fig. 4.



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WILLIAM TALBOT COTTIER, OF LOS ANGELES, CALIFORNIA.

VENTILATED FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 517,794, dated April 3, 1894.

Application filed April 12, 1893. Serial No. 470,085. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TALBOT COTTIER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Ventilated Freight-Cars; and I do 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.

My invention relates to improvements in car ventilation, and it has for its general object to provide a car embodying such a construction that a cool, dry, and wholesome atmosphere will be maintained in its interior, whether it is moving or at a stand still.

Other objects and advantages of the invention will be fully understood from the following description and claim when taken in connection with the accompanying drawings, in which—

Figure 1, is a vertical, transverse section of a car embodying my invention. Fig. 2, is a front, end elevation of the same. Fig. 3, is a detail, vertical longitudinal section, and Fig. 4, is a perspective view of the fresh air induction device, removed.

Referring by letter to said drawings:—A, indicates my improved car. This car is preferably of the form usually employed and it comprises the floor or bottom wall *a*, the outer end walls *b*, the outer side walls *c*, and the top *d*, all of which may be constructed and connected together in the ordinary or approved manner.

Arranged within the car and connected to the inner sides of the studding *e*, as better shown in Fig. 1, are the inner side walls *f*, which extend to a point adjacent to the top of the car and are connected by a horizontal wall *g*, as illustrated. These inner side walls *f*, and the walls *g*, serve in conjunction with the walls *c*, and *d*, to form the flues *h*, and the expansion chamber *i*, and inasmuch as the said walls *f*, do not extend to the floor *a*, it will be seen that air and vapors can pass from the interior of the car into the flues *h*, and through said flues, the expansion chamber *i*, and the ventilators B, into the open air. The ventilators B, of which two are preferably employed at each end of the car, one on either side of the running board, are disclosed in my prior application filed March 7, 1893, Serial No. 464,976, and as they form but a general part of my present invention, a specific description of them is deemed unnecessary.

C, indicates the fresh air induction devices of my improved car. These devices C, of which two are preferably employed at each end of the car, are connected to the end walls *b*, in any approved manner, and they respectively comprise a casing *j*, a gauze or grating *k*, which is designed and adapted to prevent the entrance of dirt and cinders into the car, and a hinged or flexibly connected door *m*. This hinged door which is designed to open inwardly, normally rests in an inclined position, as shown, by reason of the end walls of the casing *j*, being beveled, and it is designed to swing open when a vacuum or partial vacuum has been created in the car, so as to admit fresh air thereto, and is adapted to close when the car is supplied with fresh air. By this means it will be seen that when the car is running in one direction, the induction devices at one end of the car will be thrown open while those at the opposite end will be closed and the fresh air prevented from passing through the car, or in one set of induction devices, and out the other. By the construction described, it will be seen that the air taking through the ventilators B, will create a strong suction, and this in conjunction with the expansion chamber *i*, will create a strong draft from the interior of the car through the flues *h*, which will thoroughly exhaust the car of all vapors, noxious odors, &c., and will maintain a cool, dry, and wholesome atmosphere within the same. This continual draft through the flues *h*, also occasionally creates a vacuum, or partial vacuum within the car, and when this takes place the doors *m*, of the induction devices are swung open by the pressure of the outside air and a supply of the same enters the car. Thus it will be seen that the car is charged with fresh air at intervals and is exhausted of the same, whereby all vapors and gases will be carried off as soon as generated.

It will be readily noted from the foregoing description that my improved car may be constructed almost as cheap as the ordinary car, that the ventilation is entirely automatic,

and that by reason of the advantages pointed out, it is adapted to carry fruits, meats, and all perishable goods, and preserve the same in a wholesome state.

Having described my invention, what I claim is—

The improved ventilated freight car constructed as described, with the ceiling *g*, of less length and width than the interior of the car, and the side walls *f*, depending from the ceiling so as to leave a space between their lower edges and the floor of the car, whereby vertical flues *e*, are formed in the sides and an expansion chamber *i*, formed in the top of the car, the fresh air induction devices C, having the gauze covering in the front walls, and the inclined hinged doors *m*, on their rear sides, and said induction devices being arranged in the end walls of the car body near the top thereof, so that air entering at one end while the car is in motion, will tend to close the induction devices at the opposite end, and the ventilators B, arranged on the top of the car and in communication with the expansion chamber, and flues connecting the expansion chamber with the interior of the car, substantially as specified.

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

WILLIAM TALBOT COTTIER.

Witnesses:
LEE D. CRAIG,
WALTER R. CRAIG.