J. J. BATE.

Refrigerator-Car.

No. 203,236. Patented May 7, 1878.

Fig. 1.

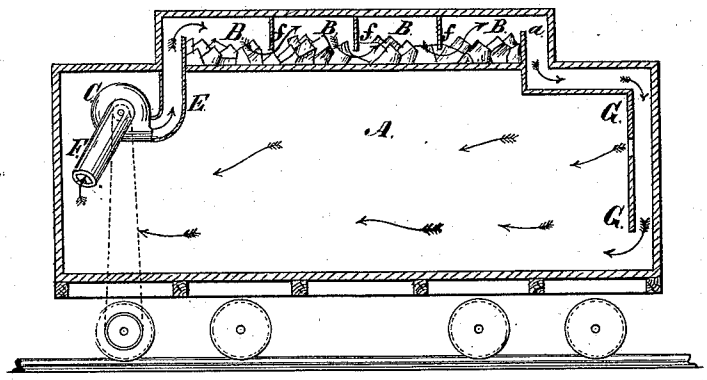
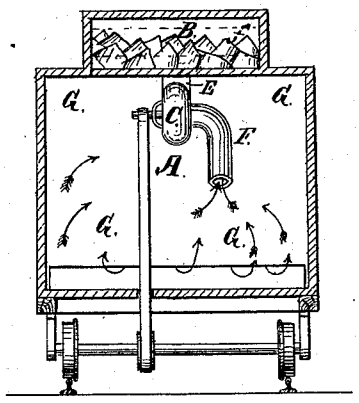


Fig. 2.



Witnesses:

Henry Eichling.

H. Wells Jr.

Inventor:

John J. Bate.

per James a Whitney

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UNITED STATES PATENT OFFICE.

JOHN J. BATE, OF BROOKLYN, ASSIGNOR TO BATE REFRIGERATING COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN REFRIGERATOR-CARS.

Specification forming part of Letters Patent No. **203,236,** dated May 7, 1878; application filed May 10, 1877.

To all whom it may concern:

Be it known that I, JOHN J. BATE, of the city of Brooklyn, county of Kings, and State of New York, have invented an Improvement in Refrigerating-Cars, of which the following is a specification:

This invention comprises a specific construction of refrigerator-car, whereby the largest available space is secured for the hanging or storage of the meats or other articles to be preserved during transportation, and whereby, moreover, a more effective refrigeration and circulation of the air within the car is provided for than has hitherto been secured.

Figure 1 is a longitudinal sectional view of a refrigerating-car constructed according to my invention, and Fig. 2 is a vertical transverse sectional view of the same.

A is the body of the car, when in use, closed against access of external air. B is the ice-box, located at or in the roof of the car, said ice-box being horizontal, as shown in Fig. 1. C is a fan-blower, rotated by means of a belt extended from a suitable pulley on the shaft of a blower to another on one of the axles of the car, or by any other suitable means. This fan-blower C communicates with one end of the ice-box B by a pipe or conduit, E. The inlet of this fan-blower, moreover, is furnished with an inlet-pipe, F. At the opposite end of the ice-box B is an outlet, *a*, from which extends a pipe or conduit, G, said pipe or conduit extending downward and opening at or near the bottom of the body A.

In the operation of the invention the fan-blower draws the air inward through the inlet-pipe, and forces it through the pipe E into the adjacent end of the ice-box B; thence horizontally through the latter and the outlet *a;* thence down through the pipe G, from which it is ejected at or near the bottom or floor of the body A, and, flowing through the latter, passes to the opposite end of the car; and thence again through the inlet-pipe F to the fan-blower C; thence again through the pipe E to the ice-box, and so on, over and over again, through the said ice-box and through the body A, or, in other words, through the said ice-box and the interior of the car.

In order that the air may be caused to pass through the ice, instead of through any space which may exist between the same and the top of the ice-box, downwardly-projecting partitions *f* are extended from the top of the ice-box to within a greater or less proximity of the bottom thereof, so that the air, in its passage through the ice-box, is deflected downward into and through the ice.

It will be observed that by this construction of a refrigerator-car not only is a greater space made available for the reception of the articles to be preserved, but cars of ordinary construction may be readily, and at a comparatively small expense, changed or converted into refrigerator-cars embracing the construction herein set forth.

I do not claim duplicate ice-boxes provided at opposite ends of the car, adjacent to the roof thereof, constructed for the passage through them of external air, and having the central part of the car devoid of ice-boxes, as represented in the Patent No. 125,530, granted to Azel Storrs Lyman, December 5, 1871, antedated November 24, 1871, as such arrangement will not produce the results secured by my invention, and is, moreover, radically different in construction and operation from my said invention; but

What I claim as my invention is—

A refrigerator-car constructed with a closed chamber, A, and having the horizontal ice-box B provided centrally in its roof, a fan-blower, C, at one end of the car, and a vertical partition at the other end, having one or more openings for the passage of air, the air-fan C being located at the end, to insure the repeated and continuous circulation of the air of the aforesaid chamber lengthwise and horizontally through the ice-box, and from end to end of the closed chambers, the whole combined for operation substantially as and for the purpose herein set forth.

JOHN J. BATE.

Witnesses:
EDWARD HOLLY,
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750 words.