(No Model.)

G. R. WIGHT.

REFRIGERATING CAR.

No. 281,421. Patented July 17, 1883.

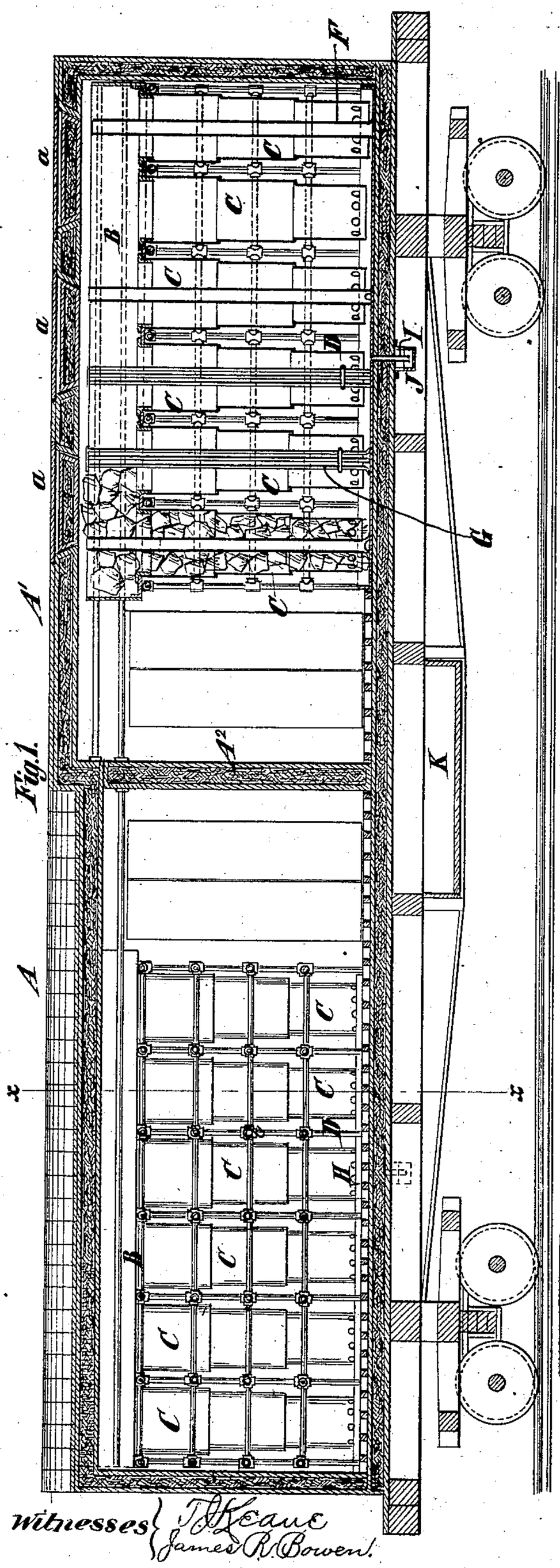

Fig. 1.

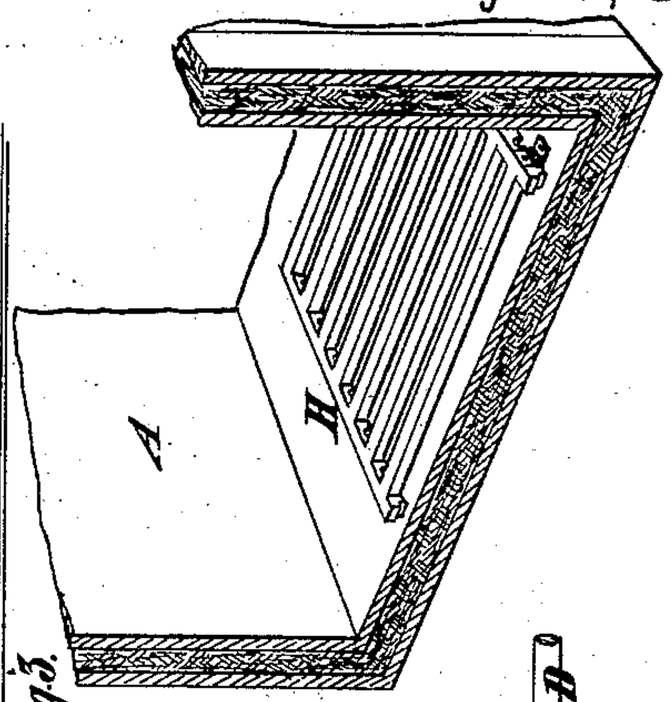

Fig. 3.

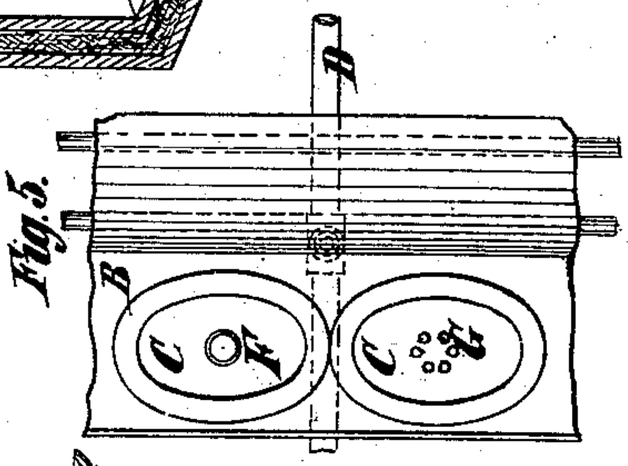

Fig. 5.

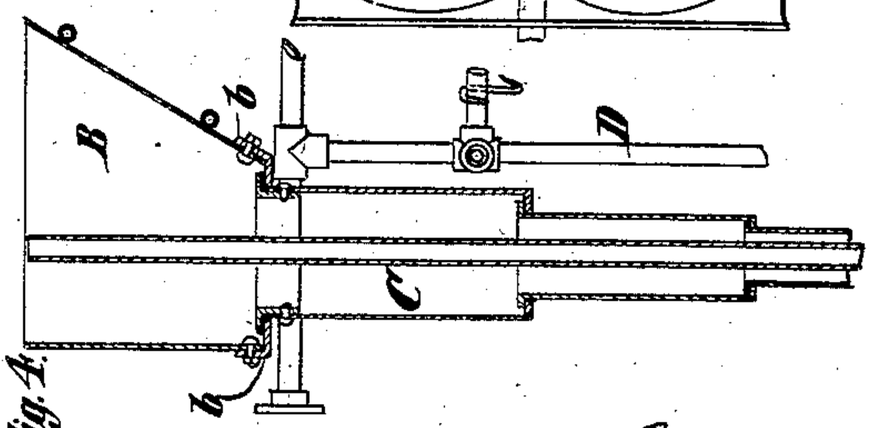

Fig. 4.

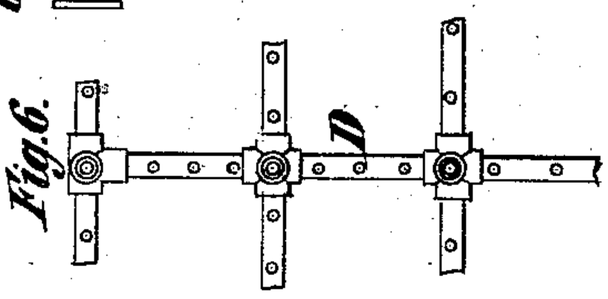

Fig. 6.

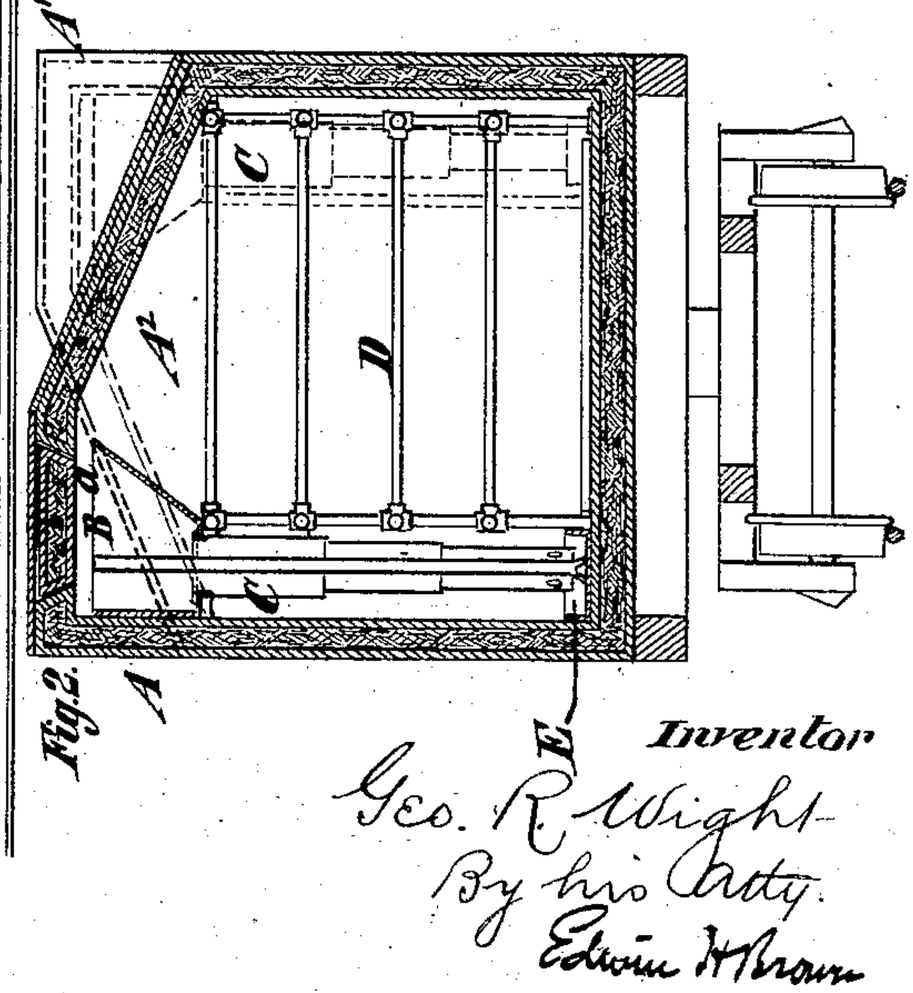

Fig. 2.

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Inventor
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By his Atty.
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UNITED STATES PATENT OFFICE.

GEORGE R. WIGHT, OF NEW YORK, N. Y.

REFRIGERATING-CAR.

SPECIFICATION forming part of Letters Patent No. 281,421, dated July 17, 1883.

Application filed December 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. WIGHT, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Refrigerating Apparatus for Cars and other Purposes, of which the following is a specification.

My improvements consist in the combination of a provision-chamber, an ice-bunker, pipes communicating therewith and extending downward from the same nearly to the bottom of the chamber, and a ceiling or roof slanting downwardly from over the ice-bunker, whereby the cooled air will descend through the said pipes into the lower part of the chamber, and the heated air will rise and be deflected by the slanting ceiling or roof toward the ice-bunker.

They also consist in the combination, in a car divided into two compartments by a partition, of ice-bunkers, pipes communicating therewith and extending downward from them nearly to the bottom of the car, and a ceiling or roof slanting from over each ice-bunker toward the opposite side of the car, whereby a good circulation of air is insured.

They also consist in the combination of a provision-chamber, an ice-bunker, pipes communicating therewith and extending from it nearly to the bottom of the chamber, and a grating elevated above the bottom of the chamber, so as to afford a circulation of air from said pipes under the articles packed in the chamber for preservation, and the grating hinged so that it may be swung into an upright position.

They also consist in the combination, in a car, of an ice-bunker, pipes communicating therewith and extending downward from it nearly to the bottom of the car, a grating elevated to afford a circulation under the articles packed in the car, and a ceiling or roof inclined so as to deflect heated air as it rises toward the ice-bunker.

They also consist in the combination, in a refrigerating apparatus, of an ice-receptacle, and a series of rods arranged therein, and forming a channel through the receptacle which cannot be choked with ice.

They also consist in the combination, in a refrigerating-car, of an ice-bunker, pipes extending therefrom nearly to the bottom of the car, and a series of rods arranged in each of the pipes, and forming a channel through the pipe which cannot be choked with ice.

They also consist in the combination, with a refrigerating-car, of an ice-bunker, and pipes extending therefrom nearly to the bottom of the car, when in place, and detachably connected with it, and made in telescopic sections, each of which is connected with the one above it.

They also consist in the combination, in a refrigerating-car, of an ice-bunker, and a frame for supporting articles to be kept refrigerated, and constituting a support for the ice-bunker.

In the accompanying drawings, Figure 1 is a longitudinal section of a car embodying my improvements. Fig. 2 is a transverse section of the same, taken on the plane of the dotted line *x x*, Fig. 1. Fig. 3 is a section of the car in perspective. Fig. 4 is a vertical section of an ice-bunker, one of the pipes leading therefrom, and a part of the frame which serves to support the articles packed in the car. Fig. 5 is a plan of a portion of the ice-bunker and the said frame, and Fig. 6 is a view of a portion of said frame.

Similar letters of reference designate corresponding parts in all the figures.

A A′ designate the car-body. It is, in this example of my invention, divided by a transverse partition, A^2, into two compartments. The partition is preferably removable. This car-body is mounted on wheeled trucks in any suitable manner. It is of any suitable construction rendering it a non-conductor of air. As here shown, it consists of an inner and an outer shell with non-conducting material between them.

In each compartment, near the roof, is an ice-bunker, B, and communicating therewith are pipes C, which extend nearly to the bottom of the car. The ice-bunker in one compartment is adjacent to the opposite side of the car from the side which the other ice-bunker is the nearer, and hence they counterbalance each other. The ceiling or roof of the car has a slanting portion extending from over each ice-bunker toward the side of the car which is the farther from it. The roof has also horizontal portions over the ice-bunkers, and these are provided with openings fitted with removable covers *a*, whereby provision for the introduction of ice is afforded. The ice-bunkers are severally composed of a stout metal base-piece, *b*, and sheet-iron front, back, and end

pieces bolted thereto and together. They are supported by a frame, D, which is fitted into the compartments of the car. This frame is composed of rods or pipes connected by coupling-pieces. Certain of its bars or pipes extend in front of the ice-bunkers, and others extend below the ice-bunkers, between the pipes C, and serve to support the ice-bunkers firmly. The frame consists, essentially, of two lengths extending nearly from end to end of the compartments, and cross-bars connecting them. The rods or pipes composing the frame preferably have holes, into which other rods may be inserted when needed. Meats and other articles hung from these frames will be kept cool. The frames may be taken to pieces and removed when it is not desirable to use the car for refrigerating purposes, but is desirable to use it for ordinary freight—as, for instance, on a return-trip.

The pipes C are made of telescopic sections severally supported by the next higher section, and the topmost section is supported by the ice-bunkers B. When the car is not desired for use as a refrigerating-car, these pipes may be detached from the ice-bunkers and telescoped into little space. Below these pipes are drip-pans E, which may be removed on lifting the lower sections of the pipes. As the pieces of ice in these pipes may clog or jam together during the shaking of the car, and prevent the circulation of air through the pipes, I preferably employ in these pipes air-pipes F, or a series of circularly-arranged rods, G, to preclude such mishap.

H designates a grating, which may be made of wood or other suitable material, and is slightly elevated above the floor of the car. Various articles may be placed on this grating, and it still affords provision for a circulation of air from the pipes C along the bottom of the car. It is preferably secured in place by hinges, so that it may be swung into an upright position, when that will render the space within the car any more convenient for packing particular goods when the car is used as an ordinary car.

I designates pipes communicating with the drip-pans and extending through the bottom of the car to traps J.

K designates a box arranged under the cars, which may be employed for carrying tools or other articles.

Instead of adopting a transverse partition, as shown, I may employ a longitudinal partition, and arrange an ice-bunker and appurtenances on each side of it. I may also, if desirable, arrange an ice-bunker or ice-bunkers in the center of the car. In either of these cases the ceiling or roof will have portions slanting from an intermediate portion toward each side of the car. Any suitable kind of doors may be arranged in the sides or ends of the car to afford access to its interior.

It will be seen that by my invention I produce a very simple and effective refrigerating-car, which, whenever occasion requires it, may be converted into a car for carrying ordinary freight. It may be found desirable to make the ice-bunkers and pipes of corrugated sheet metal.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a provision-chamber, an ice-bunker, pipes communicating therewith and extending downward from the same nearly to the bottom of the chamber, and a ceiling or roof slanting downwardly from over the top of the ice-bunker, substantially as and for the purpose specified.

2. The combination, in a car divided into two compartments by a partition, of ice-bunkers, pipes communicating therewith and extending downward from them nearly to the bottom of the car, and a ceiling or roof slanting from over each ice-bunker toward the opposite side of the car, substantially as and for the purpose specified.

3. The combination of a provision-chamber, an ice-bunker, air-pipes communicating therewith and extending from it nearly to the bottom of the chamber, and a grating elevated above the bottom of the chamber, and hinged so that it may be swung into an upright position, substantially as and for the purpose specified.

4. The combination, in a car, of an ice-bunker, pipes communicating therewith and extending downward from it nearly to the bottom of the car, a grating elevated to afford a circulation under the articles packed, and a ceiling or roof inclined so as to deflect heated air as it rises toward the ice-bunker, substantially as specified.

5. The combination, in a refrigerating apparatus, of an ice-receptacle and a series of rods arranged therein and forming a channel through the receptacle which cannot be choked with ice, substantially as specified.

6. The combination, in a refrigerating-car, of an ice-bunker, pipes extending therefrom nearly to the bottom of the car, and a series of rods arranged in each of the pipes and forming a channel through the pipe which cannot be choked with ice, substantially as specified.

7. The combination, with a refrigerating-car, of an ice-bunker and pipes extending therefrom nearly to the bottom of the car, when in place, and detachably connected with it, and made in telescopic sections, each of which is suspended from the one next above it, substantially as and for the purpose specified.

8. The combination, in a refrigerating-car, of an ice-bunker and a frame for supporting articles to be kept refrigerated, and constituting a support for the ice-bunker, substantially as specified.

GEO. R. WIGHT.

Witnesses:
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