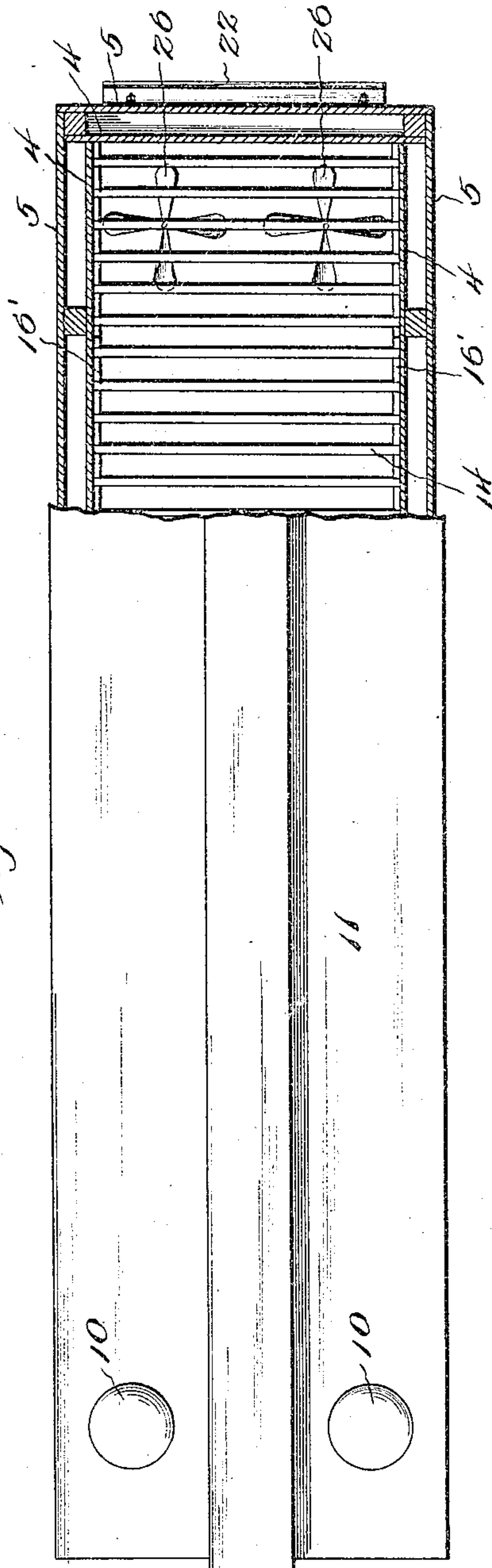
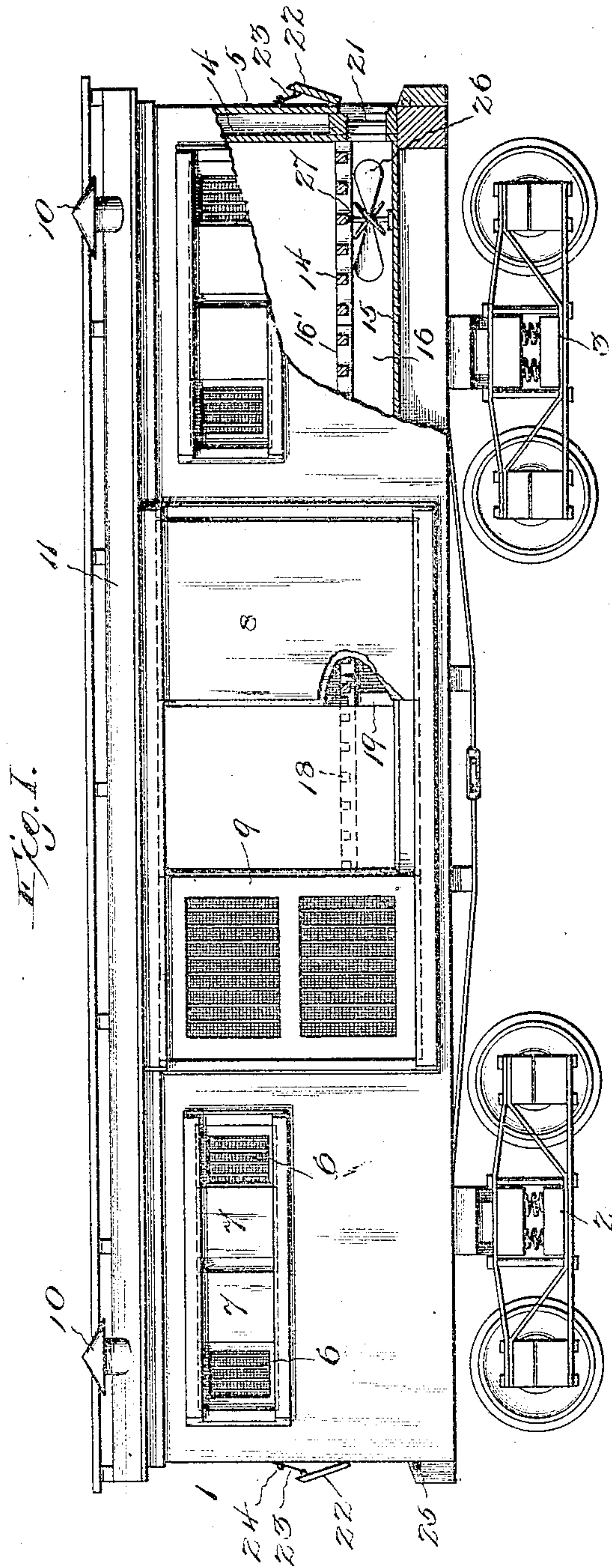


No. 792,190.

PATENTED JUNE 13, 1905.

H. S. BAYER.
RAILWAY CAR.

APPLICATION FILED AUG. 7, 1902.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY SAMOSET BAYER, OF CHARLESTON, SOUTH CAROLINA, ASSIGNOR,
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AND TRUST COMPANY, TRUSTEE, OF CHARLESTON, SOUTH CAROLINA,
A CORPORATION OF SOUTH CAROLINA.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 792,190, dated June 13, 1905.

Application filed August 7, 1902. Serial No. 118,779.

To all whom it may concern:

Be it known that I, HENRY SAMOSET BAYER, of Charleston, in the county of Charleston, State of South Carolina, have invented certain new and useful Improvements in Railway-Cars, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce improvements in railway-cars adapted for the transportation of fruit and other perishable goods in which economical and effective means of ventilation are provided whereby the contents of the car may be kept fresh for a relatively long period without the employment of ice or other refrigerating agent. The said object is accomplished by providing means for promoting a constant circulation of fresh cool air underneath the entire contents of the car and by causing the same to circulate from beneath up through the entire contents of the car and out through suitable vents provided for the purpose in the walls of the car.

In the accompanying drawings, Figure I is a side elevation of one of my cars, showing the doors and the ventilating-gates open, one corner of the car being broken away to afford a partial vertical sectional view. Fig. II is a top plan view of the subject-matter of Fig. I with one end of the car broken away and illustrating a horizontal section of that portion above the false bottom of the car.

Referring to the numerals on the drawings, 1 indicates a car-body which may be of any ordinary or preferred construction, and 2 and 3 the ordinary trucks of the car. I prefer to employ a car-body having double walls 4 and 5, such as are provided in many ordinary box-cars. The spaces between the inner and outer walls 4 and 5 may be filled with non-conductive material or not, as preferred.

The body may be provided with grated windows 6 and solid shutters 7 for closing the same when required, as well as with solid doors 8 and screen-doors 9 upon opposite

sides of the car, and in the roof I employ a suitable number of ventilating-caps 10, two at each end of the roof 11 being indicated in the preferred form of embodiment of my invention illustrated.

My invention being assumed to be applicable to a form of box-car of the general type above described consists in providing within the car throughout its entire length a false bottom 14. The false bottom 14 is preferably sectional, so that it may be conveniently removed for cleaning purposes when required, and preferably consists of a series of grids or frames embodying parallel cross-bars or other open-work construction of dimensions convenient for handling which are supported at a required distance above the floor 15 of the car, as upon side plates 16, extending substantially from end to end of the car along its opposite sides. The intermediate grid 18, (shown in dotted lines in Fig. I of the drawings,) which is employed to span the doorway upon opposite sides of the car, may be assembled in side bars and supported only at its opposite ends, as upon uprights 19, or by other means, as preferred.

In practice the false bottom may be located about ten or twelve inches above the floor 15, enough space being provided to insure abundant and free supply of air for circulation without unnecessary reduction of the carrying capacity of the car.

Opening into the ventilating chamber or space between the floor 15 and the false bottom 14 I provide, preferably at the opposite ends only of the car, an elongated aperture extending, preferably, the full distance between the side walls of the car and equal in height to the height of the ventilating-chamber. Each of the air-inlet openings is preferably provided with a grating 21 and with an external gate or flap 22, hinged at one edge to the end wall 5, to which it is attached. Each gate 22 is preferably provided with one or more hooks 23, adapted to engage an eyelet 24 above the door or an eyelet 25 below

the door, whereby means are provided for securing the gate in the open or closed position, as required.

In practice both of the gates 22, one being
5 located, as above specified, at each end of the car, are kept open; but under some conditions one may be kept open and the other closed, if preferred. By means of the open inlet or inlets a constant supply of fresh air
10 to the ventilating-chamber is supplied, and from the ventilating-chamber it readily circulates through the false bottom 14 into the interior of the car, whence it finds egress through the ventilating-caps 10 and also
15 through the screen doors and windows, if they be open.

While the car is in motion, it necessarily takes in through the forward inlet-opening such an abundant supply of air as will pro-
20 duce a constant and considerable pressure upon the volume of air within the ventilating-chamber and drive it with force throughout the whole interior of the car. The air-pressure so produced may be relied upon un-
25 der ordinary conditions to promote effective circulation of air throughout the car, or, if preferred, for distributing circulation within the car a series of fans 26 within the ventilating-chamber may be employed for that
30 purpose. The fans are preferably constructed with suitable arbors 27, which are mounted vertically within bearings provided for them in the floor 15 and false bottom 14, respectively. If fans be employed, two at
35 each end of the car constitute a preferred number; but the fans at best constitute only auxiliary means for breaking up and distributing for circulation the currents of air which strike them, being preferably driven
40 exclusively by the force of such air-currents as are derived within the car through the terminal air-inlet openings.

What I claim is—

1. A car-body having a false bottom de-
45 fining a single ventilating-chamber extending unobstructedly from end to end and side to side of the car and communicating with the interior of the car and freely communi-

cating at each end of the ends of the car with the external atmosphere. 50

2. The combination with a car-body provided with a false bottom defining underneath it within the car a ventilating-chamber, bounded only by said false bottom, the bottom, sides, and ends of the car, of parts
55 provided with apertures in the opposite ends of the car respectively, each aperture being equal in height to the height of the ventilating-chamber and in width to the internal width of the car, and communicating unob-
60 structedly with the ventilating-chamber.

3. The combination with a car-body provided with a false bottom defining a single ventilating-chamber extending unobstructedly from end to end, and from side to side of
65 the car, of parts provided with apertures in the opposite ends of the car equal in height to the height of the ventilating-chamber, and communicating unobstructedly therewith, respectively. 70

4. The combination with a car-body provided with terminal apertures and side plates extending substantially from end to end within the car along its opposite sides, of a series of grids supported exclusively by said
75 side plates, and constituting, as a means of defining an unobstructed ventilating-chamber, a false bottom.

5. The combination with a car-body provided with a false bottom defining a single
80 ventilating-chamber extending from end to end and from side to side of the car, of parts provided with apertures in the opposite ends of the car communicating directly and unobstructedly with the ventilating-chamber, and
85 a fan operatively located within the ventilating-chamber and adapted to be driven by the forced draft, imparted by the motion of the car, through said chamber, for the purpose of breaking up and distributing said draft. 90

In testimony of all which I have hereunto subscribed my name.

HENRY SAMOSET BAYER.

Witnesses:

GEORGE LAMB BEUST,
SAMUEL STEVENS BEUST.