(No Model.)

G. B. DAVIS.

FREIGHT CAR.

No. 563,022. Patented June 30, 1896.

Fig. 1.

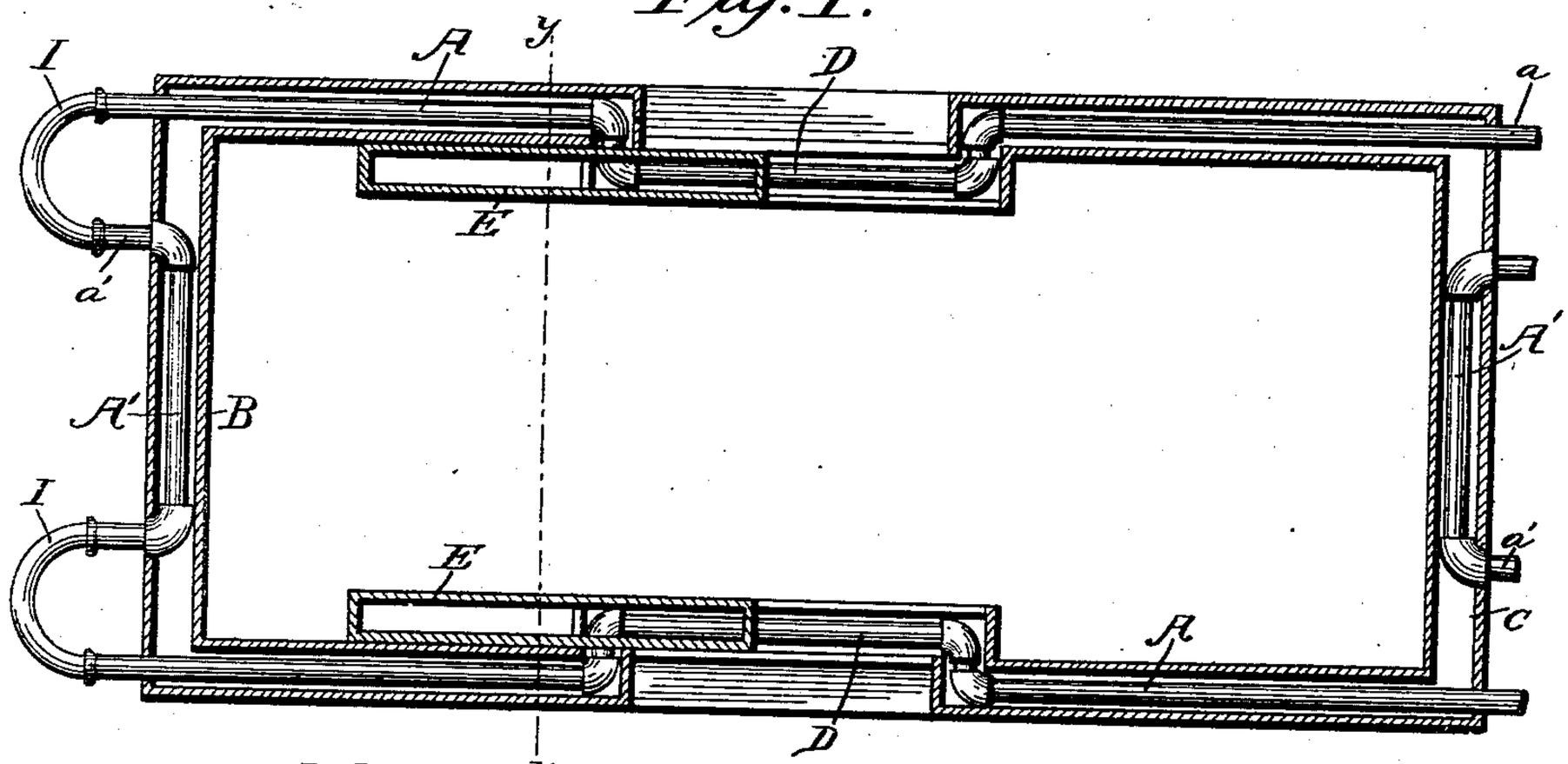


Fig. 2.

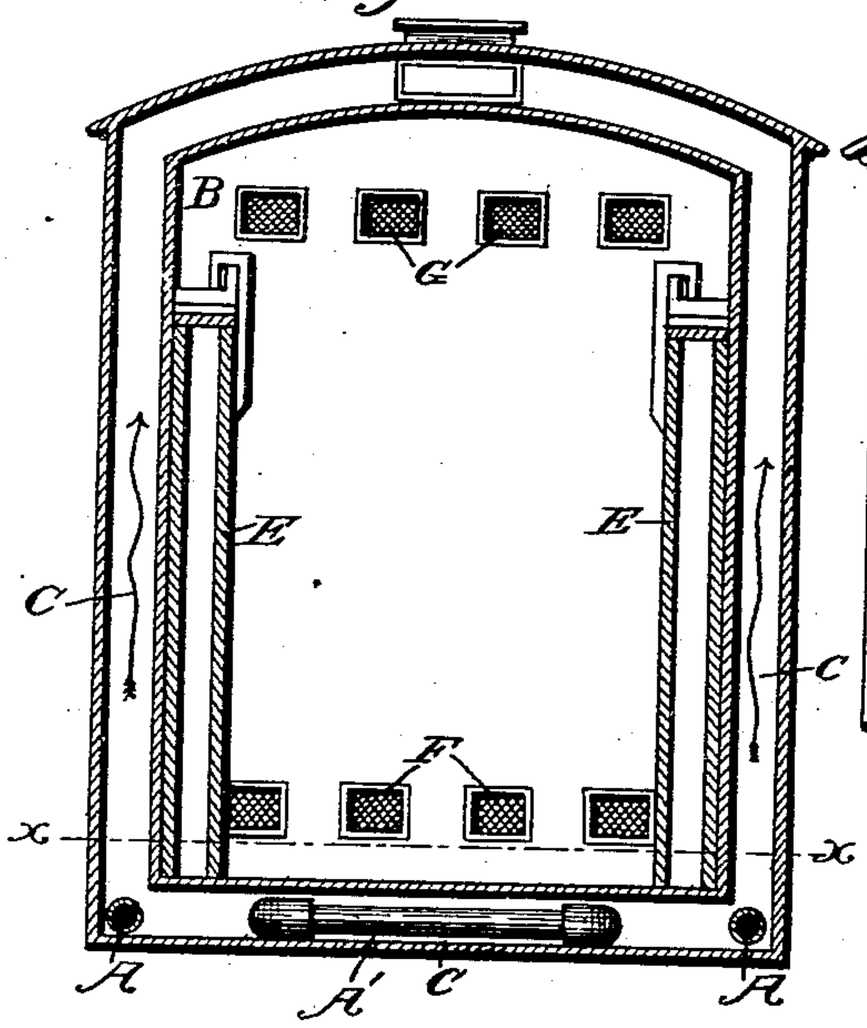
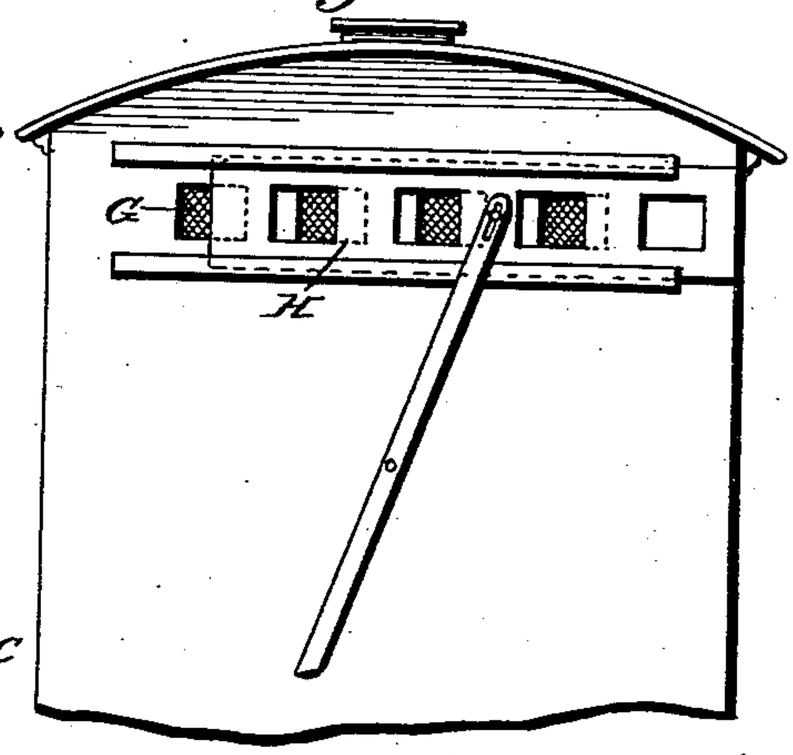


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE B. DAVIS, OF SIERRA MADRE, CALIFORNIA.

FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 563,022, dated June 30, 1896.

Application filed August 1, 1894. Serial No. 519,204. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. DAVIS, a citizen of the United States, residing at Sierra Madre, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Freight-Cars; and I do hereby 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.

The purpose of the present invention is the provision and construction of a car designed especially for the transportation of perishable products, such as fruits and vegetables, which will secure perfect ventilation and a surrounding or enveloping chamber for the passage of heated air.

The improvement consists of the novel features and the peculiar construction and combination of parts which hereinafter will be more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a plan section of a freight-car on the line *x x* of Fig. 2. Fig. 2 is a cross-section on the line *y y* of Fig. 1. Fig. 3 is an end view of a freight-car constructed according to my invention.

In general appearance the freight-car is of usual form and size, the surrounding space enveloping the freight room or chamber being provided by an inner wall or lining of matched lumber secured to cleats attached to the main walls of the car. This inner lining or wall B extends parallel with the respective side, end, top, and bottom walls of the car, providing a space of about two inches, more or less, as desired, for the circulation of heated air. In cold weather heated air will occupy the space C to prevent the freight, fruits, vegetables, &c., from freezing. A pipe A, about an inch in diameter, more or less, extends along each side of the car and is connected at one of its ends *a* with the engine or other generator for supplying steam to heat the space C or to the pipe from the next adjacent car. This pipe is located near the floor of the car and is depressed at each side, as shown at D, to conform to the space occupied by the sliding doors. At the ends are provided pipes A′, having outwardly-extending arms *a*′. These are brought into use only when the car on which they are placed is the last one of a train, at which time short rubber hosing I is employed to connect the end of the pipe A with the pipe A′. Of course, these pipes are provided at each end of each car, because either end of any car may be at the end of the train. These doors E are double-walled and are open at the top and the bottom, the lower ends coming opposite the depressed parts D of the pipe A. Importance is attached to these doors open at the top and bottom and arranged over the depressed parts A′ of the pipes A, whereby the space between the walls thereof will be affected the same as the remaining space between the walls of the car and thus the temperature within the car be kept at the same at all points.

To secure ventilation, boxes F, about six inches square, are located near the floor of the car at each end, and similar openings G are located near the top of the car. These openings extend through both the inner and the outer walls and are protected by wire-netting to keep out flies and cinders. Dampers or valves H will be provided to regulate the size of the openings to control the air inlets and exits. Such valves are shown only at the top, it being understood, however, that similar valves should in practice be employed at the openings F at the bottom. The cool air enters the lower openings and the heated air escapes through the upper openings. There will be as many openings in the series as desired. Usually four will be sufficient.

In cold weather the heat radiated from the pipe A will heat the air in the space C and prevent the freight from freezing. This same space in summer will prevent the rays of the sun from working injury to the fruits, &c., placed in the storage or freight room.

Having thus described the invention, what is claimed as new is—

1. A freight-car having double-walled sides, ends, top and bottom providing an enveloping space, sliding double-walled doors open at the top and bottom hot pipes located in the bottom of said enveloping space formed by the double-walled sides and depressed beneath said doors, and detachable flexible connection between said pipes, substantially as and for the purposes specified.

2. A freight-car having an enveloping space

provided between double-walled sides, end and top, sliding double-walled doors hot pipes extending along the bottom of the enveloping space so formed and having a depressed portion located beneath said door and depressed at each side, sliding double-walled doors open at the top and bottom and arranged in line with said depressed portions ventilating-openings extending through the double wall located near the floor of the car at each end and near the top of the car, and valves to regulate the size of said openings, substantially as and for the purposes specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE B. DAVIS.

Witnesses:
C. H. ANDREWS,
THOMAS JACKMAN.