

(No Model.)

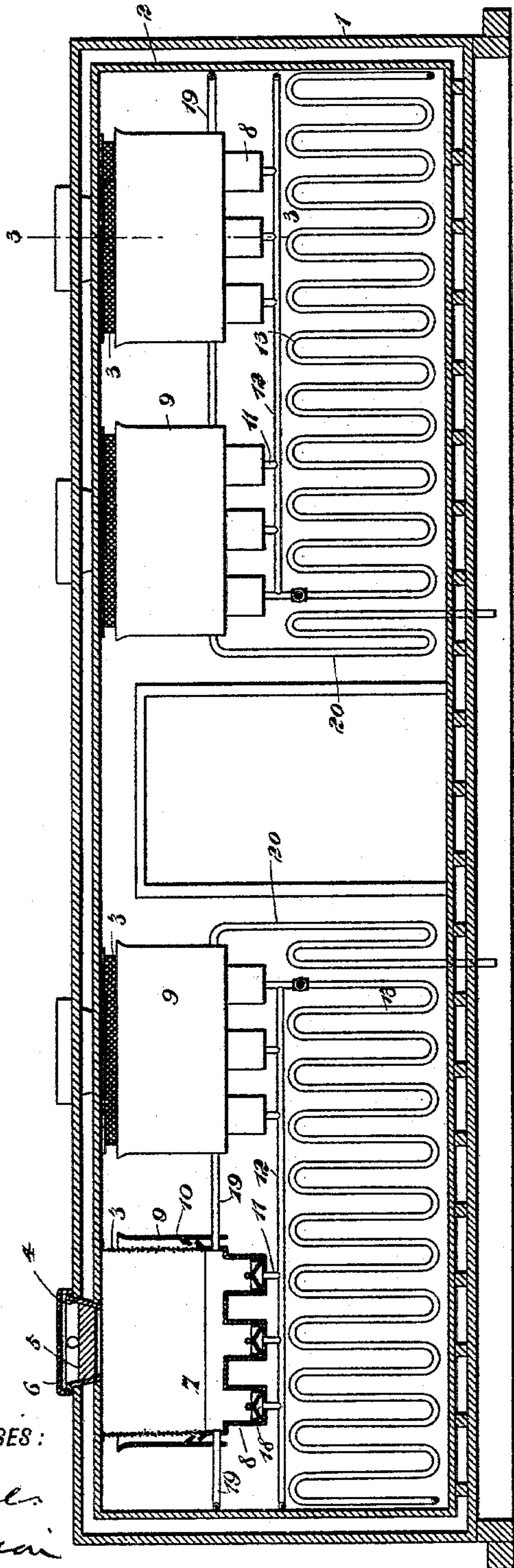
3 Sheets—Sheet 1.

A. J. McARTHUR.  
REFRIGERATOR CAR.

No. 596,820.

Patented Jan. 4, 1898.

*Fig. 1.*



WITNESSES:

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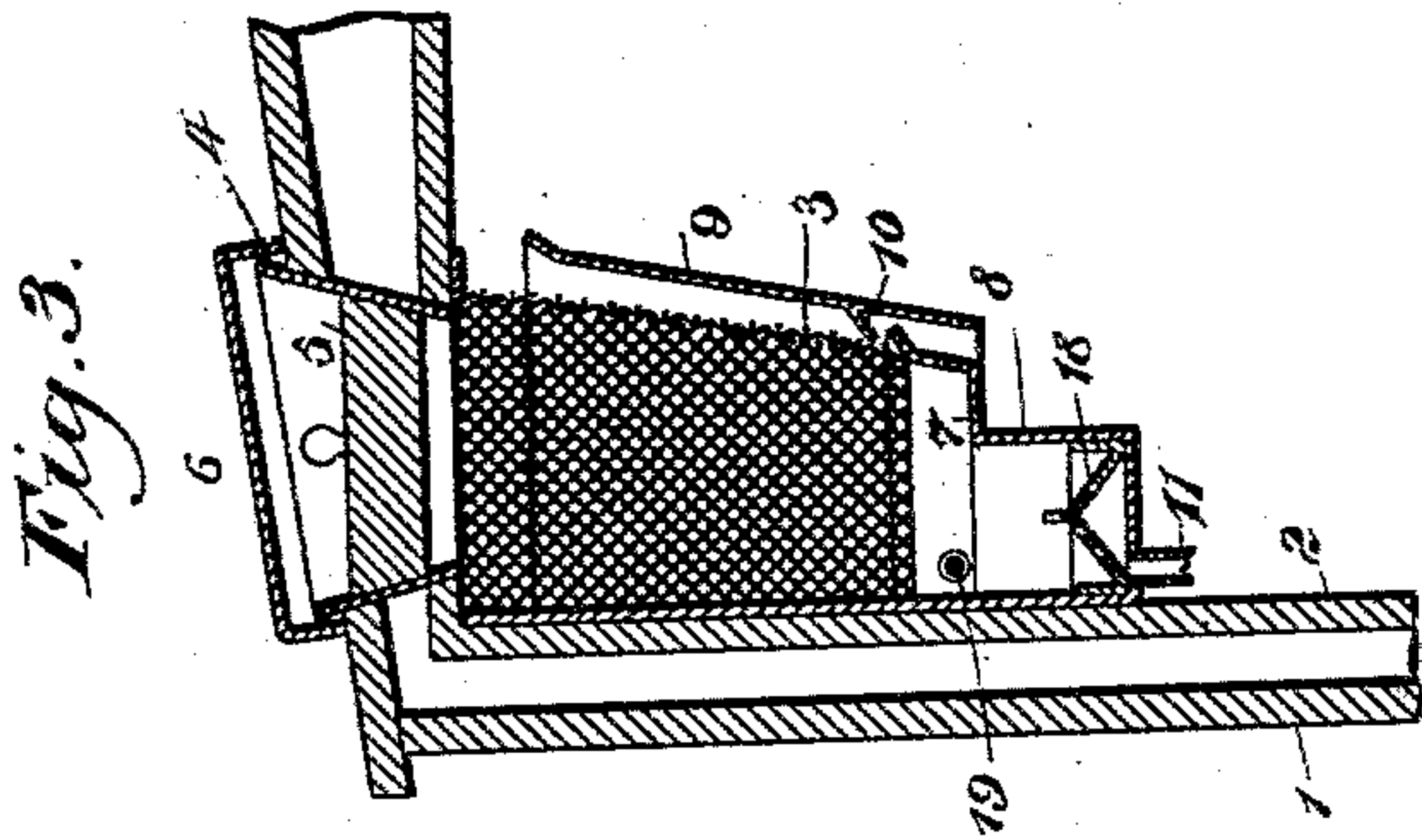
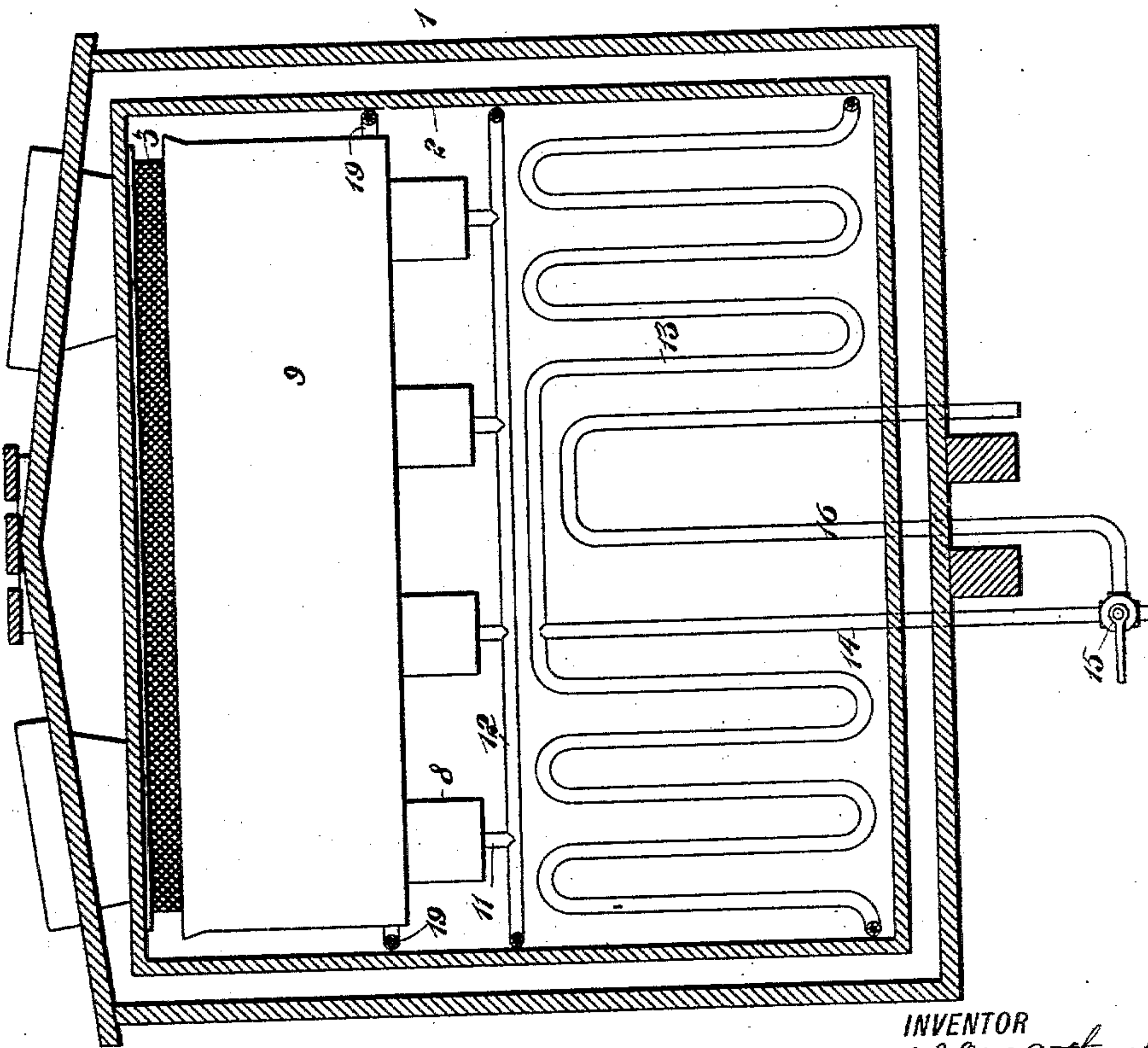


Fig. 2.



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Fig. 4.

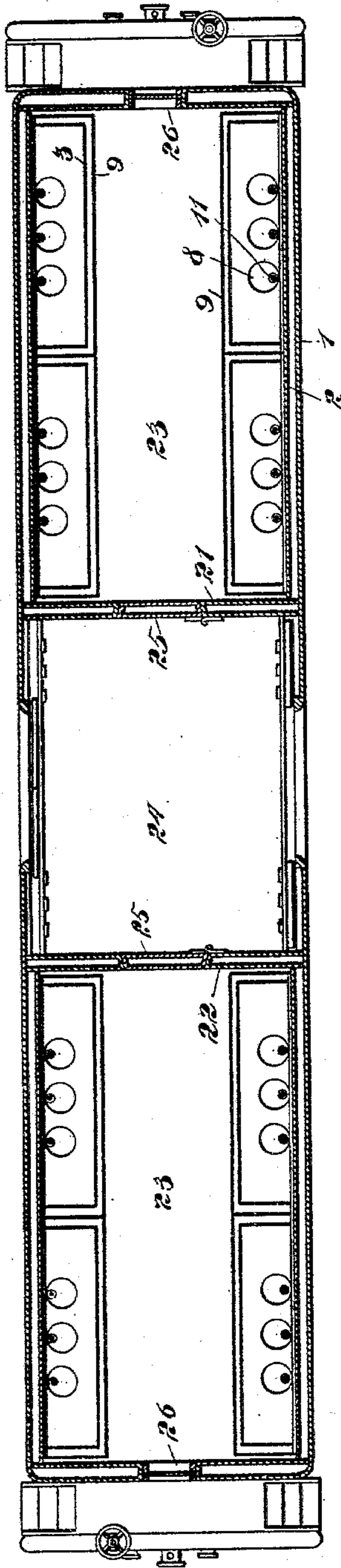
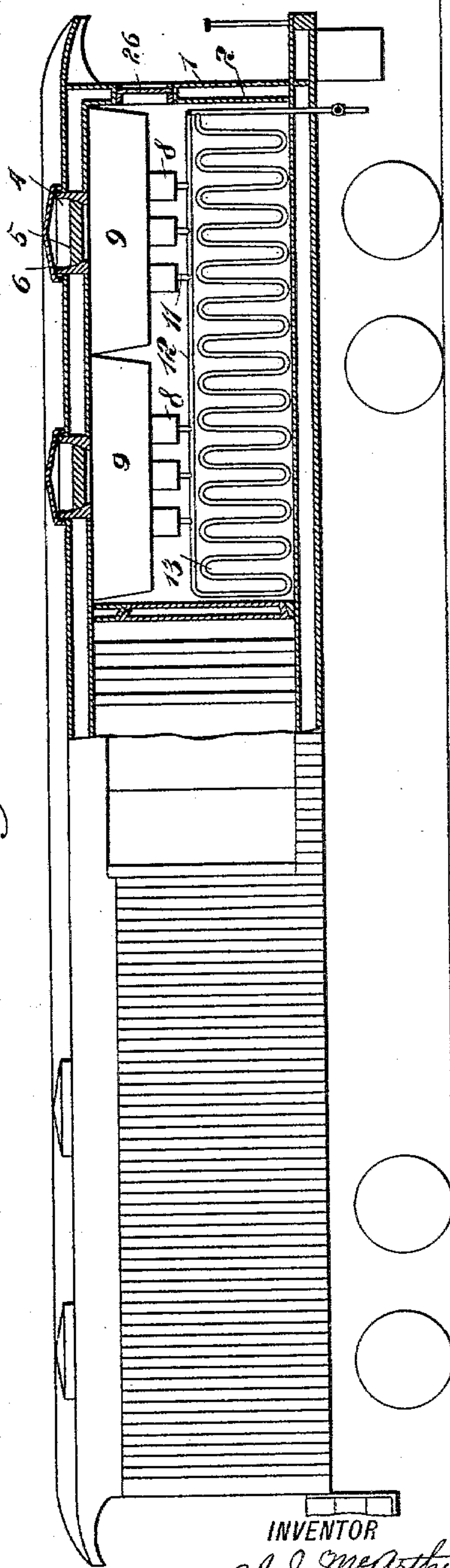


Fig. 5.



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# UNITED STATES PATENT OFFICE.

ANDREW J. MCARTHUR, OF GAINESVILLE, FLORIDA.

## REFRIGERATOR-CAR.

SPECIFICATION forming part of Letters Patent No. 596,820, dated January 4, 1898.

Application filed December 26, 1896. Serial No. 617,135. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW J. MCARTHUR, of Gainesville, in the county of Alachua and State of Florida, have invented a new and Improved Refrigerator-Car, of which the following is a full, clear, and exact description.

This invention relates to refrigerator-cars for the transportation of meats or other similar perishable articles; and the object is to provide a car with a cooling or refrigerating mechanism by means of which the cold air will be equally distributed and in which the pipes may be easily and quickly cleaned.

I will describe a refrigerator-car embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of a refrigerator-car embodying my invention with the side ice-receptacles omitted. Fig. 2 is a transverse section of the car with the side ice-receptacles omitted. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a horizontal section showing a car of modified construction, and Fig. 5 is a partial elevation and partial vertical section thereof.

Referring to the drawings, 1 designates a car having an interior casing 2, which provides an air-space between the bottom of the car and the casing, the side walls of the car and the casing, and the roof of the car and the casing.

Arranged at the sides of the car and at each side of the side doors thereof are ice-receptacles 3, consisting of heavy woven wire having a comparatively close mesh. These receptacles may be supported from the roof of the car or from the interior lining thereof, as indicated in Fig. 1, or they may be supported on suitable brackets extended from the sides of the interior wall of the car.

The roof of the car is provided with openings 4, leading into the receptacles 3, so that ice may be placed therein through said openings. The openings are provided with covers 5, which fit closely against the inner sides of the walls of the opening, and they will also be provided with auxiliary covers 6. The bottoms 7 of the receptacles consist of suit-

able galvanized iron, and depending from the bottom 7 of each receptacle is a series of water-legs 8.

Surrounding each receptacle 3 and spaced therefrom is a jacket 9. This jacket 9 has extended from its interior surface a lip 10, which is inclined downwardly and inwardly and projects over an outwardly-turned flange at the upper end of the bottom 7 of the receptacle. This lip 10 will serve to discharge the drip from the ice that may flow through the meshes of the receptacle 3 into the bottom of said receptacle.

The several water-legs 8 are connected by pipes 11 with a pipe 12, extended along the side of the car between the door and one end, and this pipe 12 also extends around the end of the car, as plainly shown in Fig. 2. At the ends of the car ice-receptacles similar to the ones above described are secured. The pipe 12 at its ends communicates with a coiled pipe 13, extending along the sides of the car and also across its end. It will be seen that the pipes 13 at opposite sides of the door of the car are not connected one with the other. Each set of pipes 13 at the ends of the car has a pipe 14 extended from its upper portion down through the bottom of the car. This pipe 14 is designed for use as a siphon when cleaning the pipes and ice-receptacles of water, as will hereinafter be described. Connected to the pipe 14 near the floor of the car is a drip-pipe 16. This drip-pipe 16 extends upward nearly to the top plane of the coil 13 and then downward through the bottom of the car. The connection between the pipes 14 and 16 is controlled by a three-way valve 15, which is normally open to the drip-pipe, but is to be reversed when the pipe 14 is used for siphoning.

Arranged within each water-leg 8 is a perforated cover 18 for the pipes 11. These perforated covers 18 rest upon the bottom of the water-legs and are inclined upward toward the center. Each cover 18 is provided with a ring or similar handle, with which a hook may engage when it is desired to lift the cover from the water-leg. These covers are designed to prevent the entrance of sawdust or similar material to the system of piping.

To prevent the flooding of the car from melted ice should the pipes 13 become clogged



or stopped up, I provide a safety-outlet for the several ice-receptacles. This safety-outlet consists of pipes 19, connecting one ice-receptacle with another at the ends of the car and those at the sides of the car at one side of the door, and from the receptacle nearest the door a discharge-pipe 20 extends downward, then upward, and then downward to the bottom of the car. The pipes 19 and 20 connect with the metallic closed bottom portions of the ice-receptacles just above the water-legs, and therefore any water accumulating in the bottom of the receptacles will be discharged through said pipes.

It will be seen that the jacket 9 is open at the lower end, so that cold air may circulate freely through said opening, and the jacket also terminates at its top a short distance below the ceiling of the car, and the upper edge of the jacket is flared outward, so as to catch any water or drip that may be thrown outward from the top of the receptacle by the motion of the car.

When in use, the pipes 13 will be full of water, and the supply will be maintained by the melting of the ice in the several receptacles, and as there is a continuous drip through the pipe 16 the amount of water in the pipes and receptacles will remain practically even.

Should it be desired to clear the pipes and receptacles of water, the valve 15 is opened to the pipe 14, and then the pipe 14 will serve as a siphon to draw all the water from the pipes and receptacles. The pipe 14 may, if desired, be connected with a pipe leading from the engine-boiler for the purpose of admitting steam when it is desired to use a warm car instead of a refrigerator-car.

In the example of my improvement shown in Figs. 4 and 5 I have provided a car particularly adapted for express purposes—that is, it is provided with partitions 21 22, dividing the car into the refrigerating-chambers 23 and the receiving-chamber 24, with which the side doors of the car communicate. The partitions 21 22 are provided with suitable doors 25, and the ends of the car may be provided with windows 26. While on the road, the chambers 23 may be employed for refrigerating purposes and the chamber 24 may be used for express packages or similar articles, and it is obvious that the entire car may be used for express matter. I have shown the car as divided into three chambers, but a greater or less number may be provided without departing from the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A refrigerator-car, comprising a series of ice-receptacles secured in the upper portion thereof, and each having a body portion of

perforated material, a jacket surrounding the said body portion and spaced therefrom, a lip extended inward from said jacket over an outwardly-flared upper end of the bottom of the receptacle, water-legs at the bottom of the receptacle, a pipe leading along the sides of the car and around the ends thereof and having communication with said water-legs, and a coiled pipe with which said first-named pipe communicates, substantially as described.

2. In a refrigerator-car, a series of ice-receptacles having a woven-wire body portion, a jacket surrounding each receptacle, the said jacket being spaced from the body portion and open at its top and bottom, a lip extended inward from the jacket over an outwardly-flared upper edge of the bottom of the receptacle, water-legs attached to the bottom of the receptacle, a pipe extended along the sides and ends of the car, a pipe connection between said pipe and the water-legs, perforated traps or covers removably placed in the water-legs, and a coiled pipe arranged along the sides and ends of the car and having connection with the first-named pipe, substantially as specified.

3. A refrigerator-car, having a series of ice-receptacles arranged in its upper portion, each receptacle consisting of a woven-wire body portion and a sheet-metal bottom having water-legs, a jacket surrounding the body portion of each receptacle, pipes extended along the sides and ends of the car with which said water-legs communicate, coiled pipes connecting with said first-named pipes, and a siphon-pipe connecting with each coiled pipe, substantially as specified.

4. A refrigerator-car, having a series of ice-receptacles arranged along its sides and ends, coiled pipes arranged along the sides and ends of the car and having communication with the ice-receptacles, siphon-pipes connecting with the coiled pipes at the ends of the car and extended downward through the bottom of the car, and drip-pipes connected with the siphon-pipes near the bottom of the car and extended upward and then downward through the bottom of the car, substantially as specified.

5. A refrigerator-car, having a series of ice-receptacles arranged within it, coiled pipe in the car having communication with the ice-receptacles, siphon-pipes connecting with the coiled pipes and leading through the bottom of the car, and drip-pipes connecting with the siphon-pipes near the bottom of the car and extended upward and then downward, substantially as specified.

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Witnesses:

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