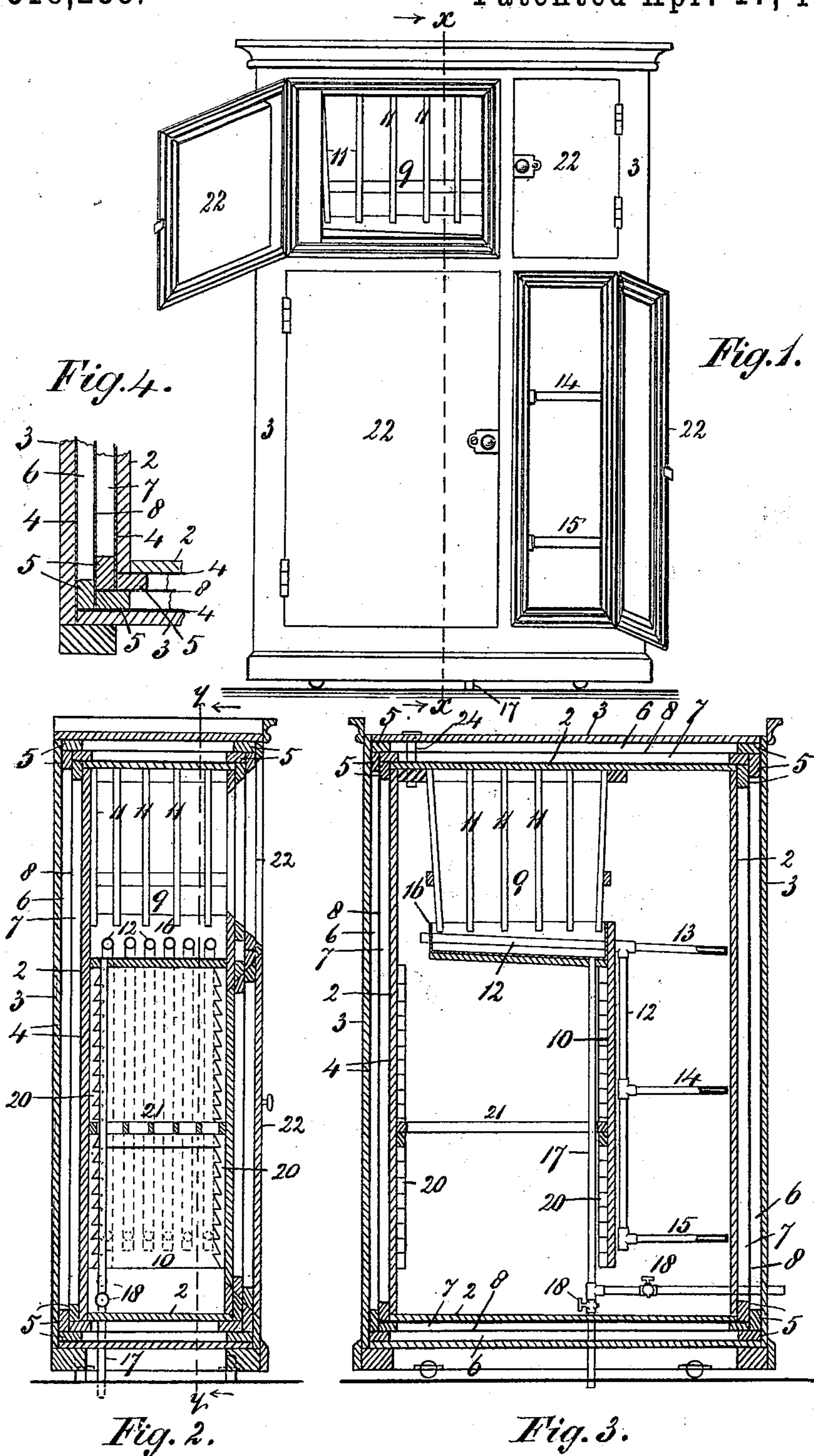


G. FEE.
REFRIGERATOR.

No. 518,233.

Patented Apr. 17, 1894.



Witnesses:
John Grist
H. H. Horsey.

Inventor:
George Fee,
By Henry Grist
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 5.

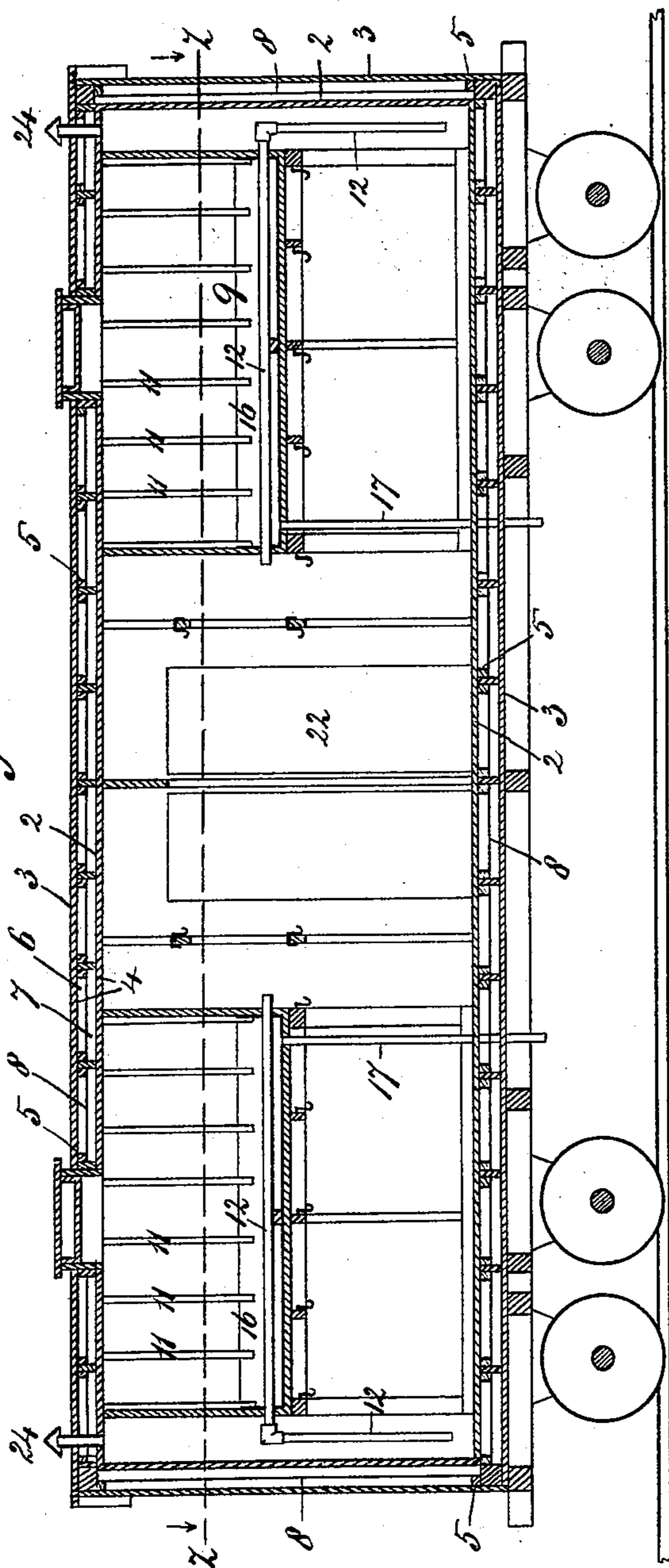
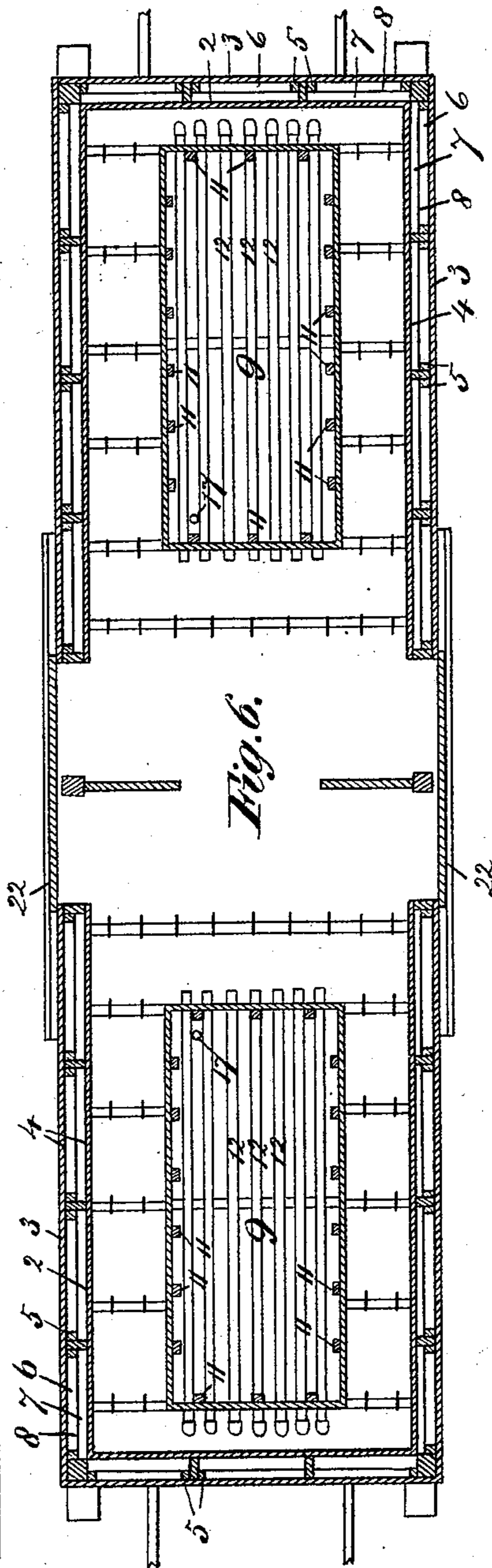


Fig. 6.



Witnesses:

John Grist
Edw. Horsey.

Inventor:

George Fee
By Wm. Grist
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE FEE, OF NORTH BAY, CANADA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 518,233, dated April 17, 1894.

Application filed October 12, 1893. Serial No. 487,932. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FEE, of North Bay, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Refrigerators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

10 Figure 1, is a perspective view of my refrigerator. Fig. 2, is a vertical section of the same on line X X. Fig. 3, is a like section on line Y Y Fig. 2 the branch pipes broken away at their termination to show the closed
15 ends. Fig. 4, is an enlarged detail showing in section the "make up" or construction of the walls. Fig. 5, is a longitudinal vertical section of a refrigerator car embodying my invention, and Fig. 6, is a section of the same
20 on line Z Z, Fig. 4.

My invention has for its object to economize the consumption of ice while maintaining a low temperature; to distribute the temperature uniformly within the food compartments, and to create circulation of air, where-
25 by a dry atmosphere is obtained for the preservation of the food products contained in the several compartments or divisions of the refrigerator.

30 My invention consists in the construction of the exterior walls to exclude heat from without, and the combination of metal pipes or tubes from the ice chamber through or into the food compartments or divisions down-
35 wardly, or utilized as shelving for the food products, for distributing refrigeration by the ice and ventilation by currents of air through said pipes, as hereinafter set forth.

40 The walls of the refrigerator are made up or constructed of an inner shell 2, and an outer shell 3, both lined on the inside with oil cloth 4, which is kept in place by slats 5, which form air-tight spaces 6 and 7, close against the inner and outer shells, said spaces
45 being formed or divided by an oil cloth partition 8, whereby a double range of air spaces are formed intermediately of the inner and outer shells, to prevent the penetration of heat and to make the refrigerator air-tight

from without, for the better circulation of air 50 within, and for the preservation of the food products contained in the different compartments or divisions.

The ice chamber 9, is at the top of the refrigerator and may occupy more or less space 55 as may be desired, and it may be supported by a partition 10, dividing the food compartments, or in any other suitable manner, and said partition is open at the bottom to allow circulation of air at and near the floor. The
60 ice chamber is provided with slats 11, to keep the ice off the walls and to allow for circulation of air.

24, is a ventilating hole through the top of the refrigerator, preferably in close proximity 65 to the ice chamber, to permit escape of moist and heated air which has done its work of refrigeration.

The bottom of the ice chamber is formed by a series of iron or metal pipes or tubes 12, 70 side by side more or less apart as may be desired, and these pipes extend into food compartments, and may if desired have branches 13, 14, 15, to be utilized as racks or shelves on which to lay the food. These pipes re- 75 frigerate the compartments by contact with the ice owing to the cold from the ice following the lead of the pipes and communicating it to the several compartments. The terminating ends of the pipes 13, 14, 15, are plugged 80 or closed to exclude air, and the upper and lower ends of the pipes 12, are open, so that air will circulate, the cold air descending outside the pipes forcing the warmer air through them, and thereby a constant circulation of 85 air is maintained automatically in the several compartments of the refrigerator.

Below the ice chamber is secured a drip-pan 16, which is prevented from overflow by a water pipe 17, which passes through the wall 90 or floor and may be provided with valves 18, to direct the flow in either direction.

20, are notched rack-bars to receive adjustable shelving 21.

22, are the doors of the refrigerator, and 95 they are made up of material in like manner as the walls and are fitted to shut air-tight.

I claim as my invention—

A refrigerator having a series of metal pipes 12, in the ice chamber and extending downwardly, and open at both ends, branch pipes 13, 14, 15, extending into the food compartments and closed at the end terminating
5 in said compartments to transmit cold from the ice chamber, said pipes 12, externally

transmitting cold and internally inducing an air current, substantially as set forth.

GEORGE FEE.

Witnesses:

PATRICK JOSEPH O'MEARA,
JOHN JOSEPH MACKEY.