

(No Model.)

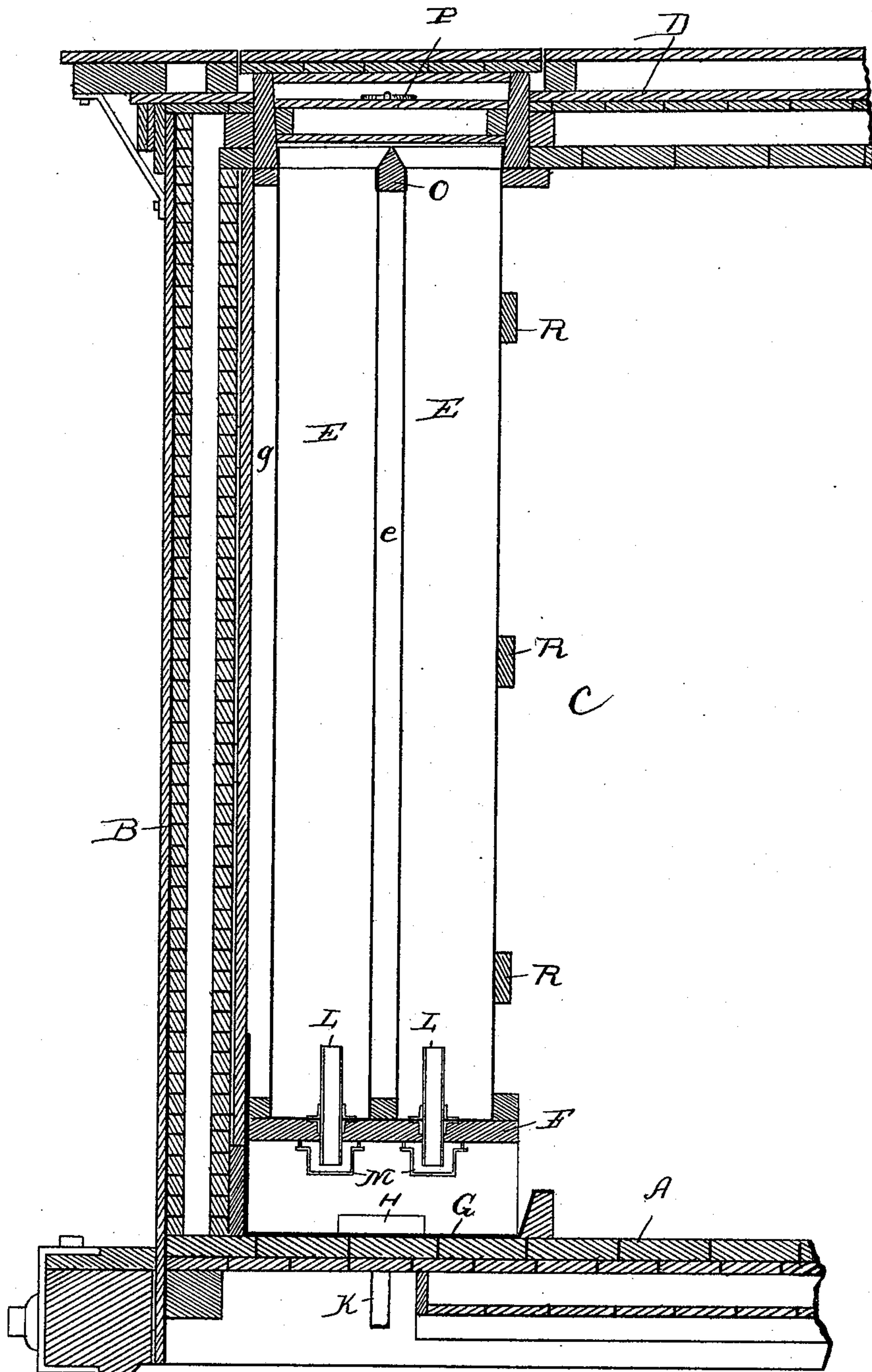
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E. R. HUTCHINS.
ICE TANK FOR REFRIGERATOR CARS.

No. 497,376.

Patented May 16, 1893.

Fig 1.



Witnesses:

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H. W. Munday

Inventor:

Eugene R. Hutchins
By Munday, Curtis & Adcock,
his Attorneys.

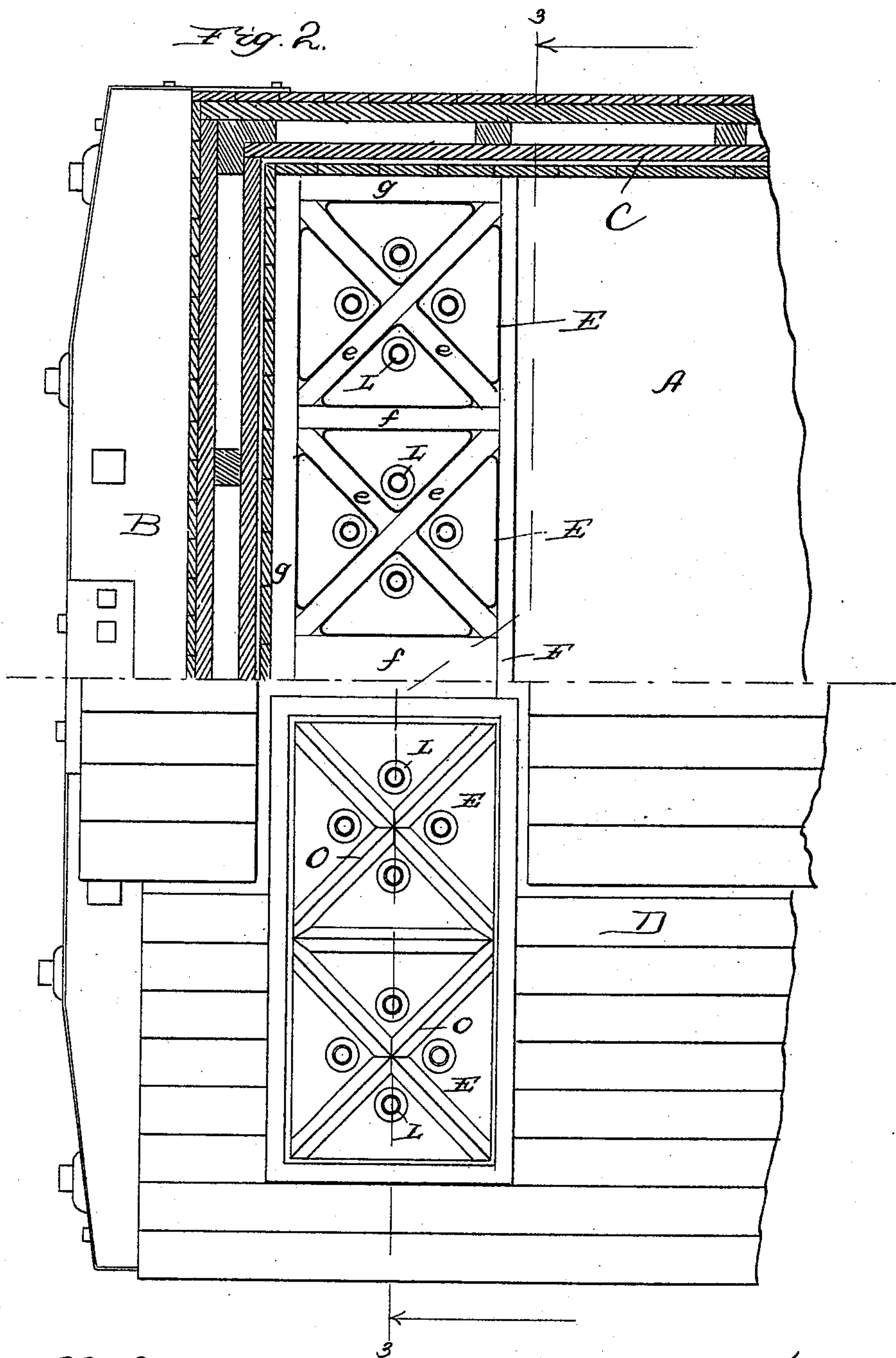
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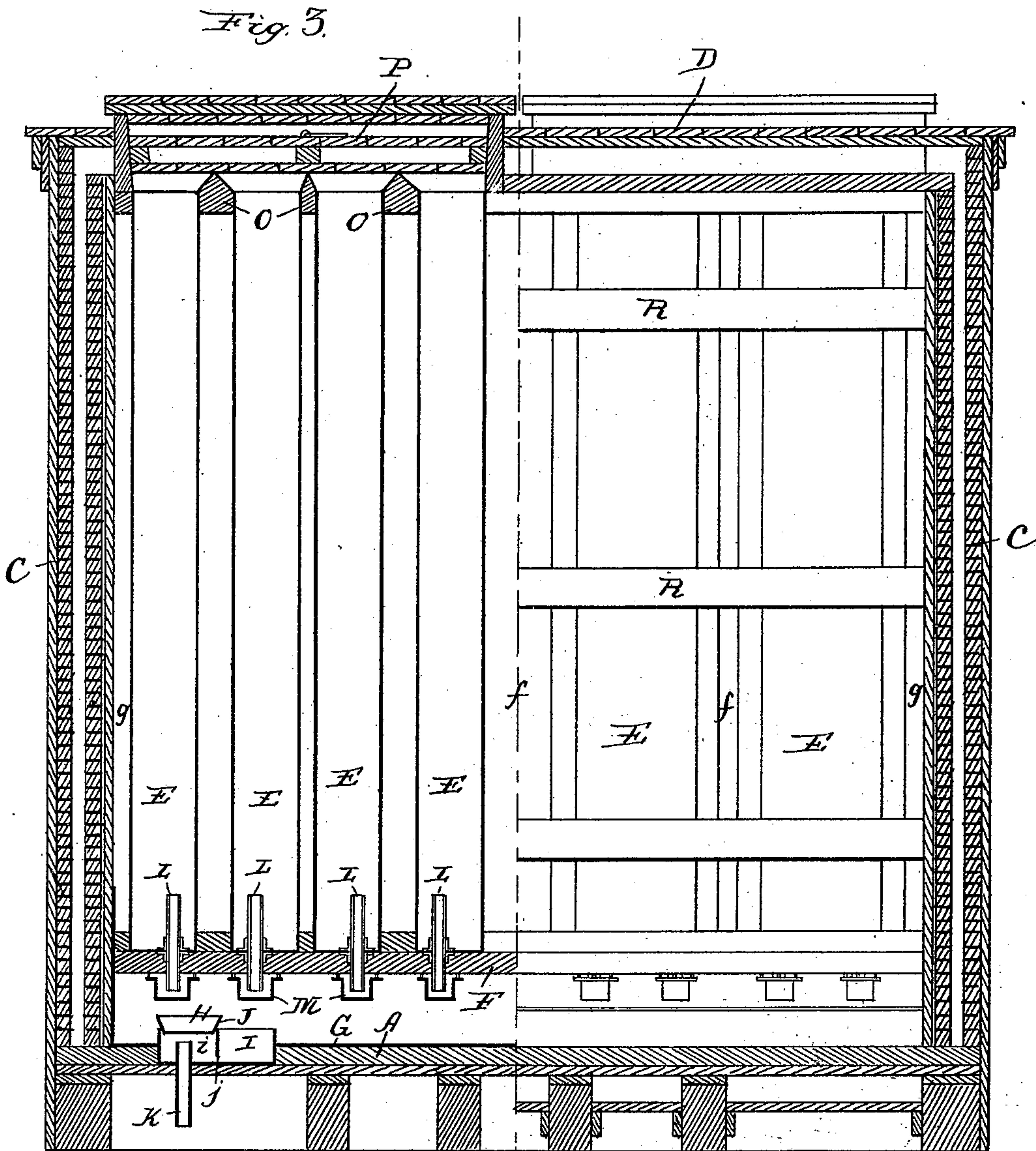
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UNITED STATES PATENT OFFICE.

EUGENE R. HUTCHINS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE HUTCHINS REFRIGERATOR CAR COMPANY, OF SAME PLACE.

ICE-TANK FOR REFRIGERATOR-CARS.

SPECIFICATION forming part of Letters Patent No. 497,376, dated May 16, 1893.

Application filed February 23, 1892. Serial No. 422,395. (No model.)

To all whom it may concern:

Be it known that I, EUGENE R. HUTCHINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Ice-Tanks for Refrigerator-Cars, of which the following is a specification.

This invention relates to the construction of the ice tanks used in refrigerator cars and is specially intended for use in that class of refrigerator cars employed for the transportation of fresh meats.

The nature of the invention will be fully understood from the following description and the accompanying drawings in which latter—

Figure 1 is a longitudinal vertical section of one end of the car, giving also a vertical section of my improved ice tank. Fig. 2 is a partial plan and partial horizontal section of the parts shown at Fig. 1, the cover of the tank being omitted in the plan portion of the figure. Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

In the drawings A represents the floor, B the end wall, C the side walls and D the roof of an ordinary refrigerator car.

In the construction of my improved ice tank, I have endeavored to obtain a large amount of radiating surface together with proper channels whereby the air may obtain access to and be cooled by such surface. To this end I construct the tanks of groups of vertical tubes E triangular in horizontal section and placed together so as to form squares, with air passages upon all sides of each tube. A group of four of these tubes when properly positioned with their apices at the center and their bases outside as shown, form a square, and I make them of such size as will permit four such squares to be conveniently arranged across the end of the car. The manner of positioning these tubes is clearly illustrated in the drawings, *e* being the diagonal air passages between the tubes of each group, *f* the air passages between adjacent groups, and *g* the passages at the sides and in the rear of the series. The air in the car has, it will thus be seen, full access to all sides of every ice tube, which unitedly afford a much larger surface exposure than is obtained in the tanks as heretofore used. The tanks are supported

upon a false floor F extending across the car and having a width equal to that of the tank, and below such false floor is a drip pan G into which all the series of tubes discharge the water produced by the melting. This pan has a trapped discharge consisting of a dished receptacle H, the upper edge whereof is preferably located above the plane of the bottom of the drip pan, and which is divided into two compartments I *i* by a cross partition. An opening *j* is left under this cross partition so that the water entering at the top of compartment I may find its way into compartment *i*. The top of compartment *i* is closed by a cover J and a vertical pipe K is passed through the bottom of said compartment and the floor of the car to the outside atmosphere. The top of pipe K is located above the plane of the bottom of compartment *i* so that a water seal is maintained in said compartment *i*, adapted to prevent the ingress of air to the interior of the car, while at the same time the accumulations of the water are free to pass out.

Each of the triangular tubes is provided with a sealed water discharge, whereby access by the air to the interior of the tubes is prevented. These seals consist of discharge pipes L passing through the bottoms of the tubes and the false floor into cups M suspended beneath the pipes. The pipes extend upwardly in the ice tubes as shown, so that a considerable accumulation of salt and water may be constantly carried in the tubes. When this body of water has accumulated sufficiently to reach the top of the discharge pipes it overflows into the cups and drips over the tops of the latter into the drip pan G, the water seal being effected in the cups by extending the discharge pipes below the tops of the cups.

At the top of the series of triangular tank tubes I employ bridges or ice guards O. These guards cover the tops of the air passages between the tubes and between each adjacent square of the tubes so that when the ice is put in none of it can fall into said air passages, and the car remains sealed during the icing operation. These guards preferably slope toward the tubes upon each side so as to deflect the ice into its proper tube. Above the guards and above the tops of the tubes, are covers P adapted to shut off access to all

the tubes upon one side of the car, or in other words to close the tubes forming two squares. The tubes extend up into air tight junction with the roof, and when the guards O are in position there is no movement of air in or out of the car at the top even while the covers P are removed, and when these covers P are in place the outside air is also effectually excluded from the tubes. The covers may be made so as to be flush with the top surface of the car. If desired, those sides of the triangular tubes which face the interior of the car may be protected by bars R.

I claim—

1. In a refrigerator car the combination of

a series of vertical triangular ice tanks arranged in two or more rectangular groups with air passages between the tanks and groups, with guards O at the top of the tanks and covers P, said guards O closing communication between the interior of the tanks and the interior of the car, substantially as specified.

2. In a refrigerator car the series of vertical triangular ice tanks arranged in squares with air passages between the tanks, substantially as specified.

EUGENE R. HUTCHINS.

Witnesses:

H. M. MUNDAY,
EMMA HACK.