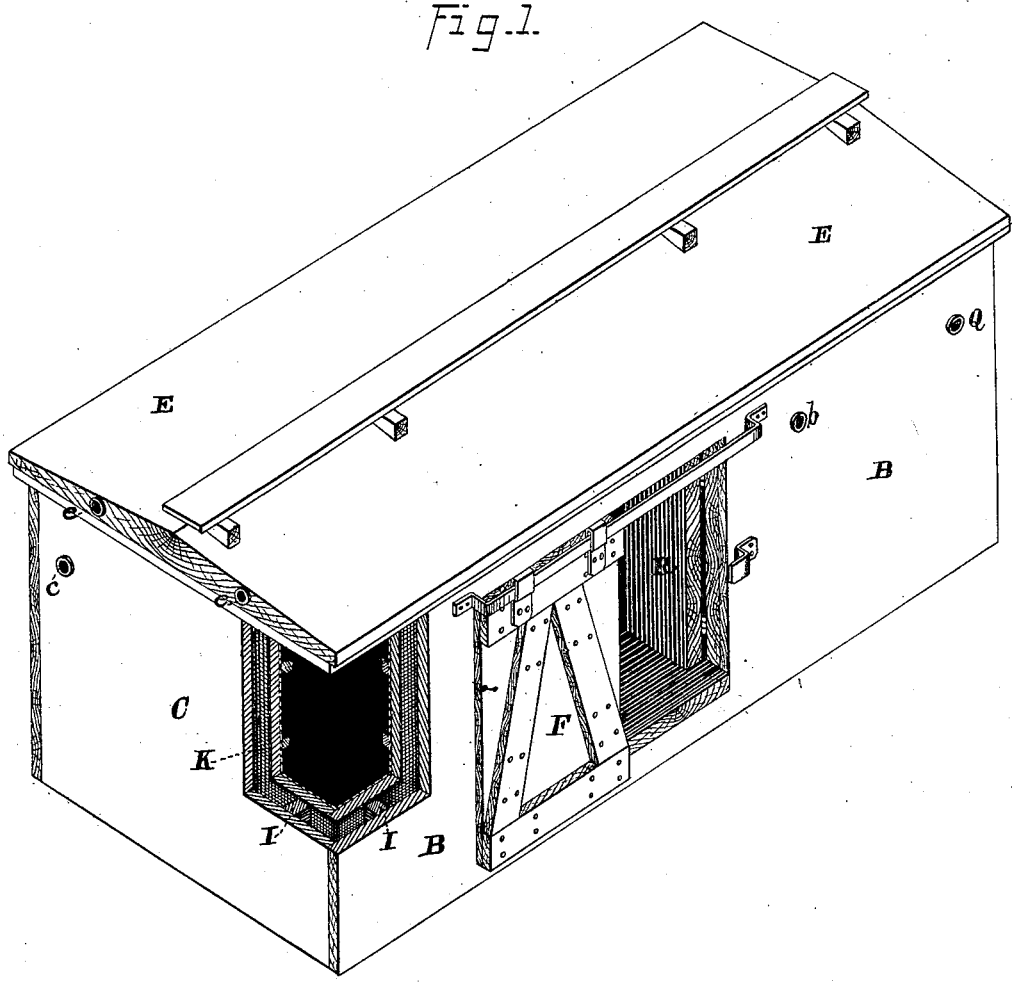
2 Sheets—Sheet 1.

J. SPROAT.

Non-Conducting Casing for Refrigerators, &c.

No. 199,324. Patented Jan. 15, 1878.

Fig. 1.



WITNESSES:
Jas. E. Hutchinson.
Henry C. Hazard

INVENTOR.
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2 Sheets—Sheet 2.

J. SPROAT.

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Fig. 2.

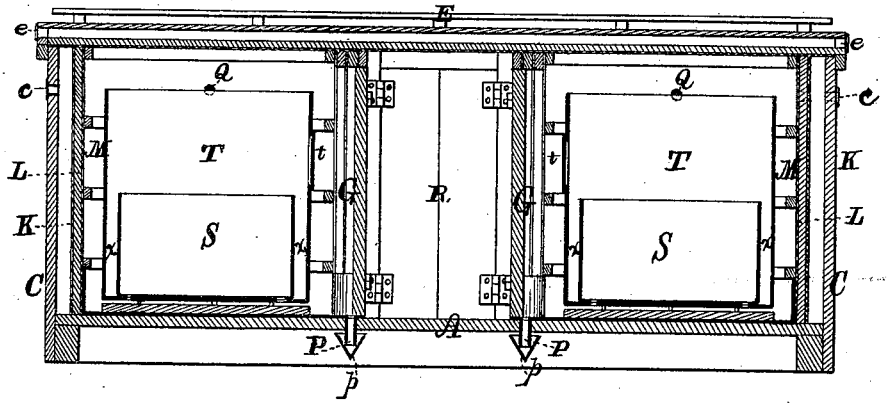
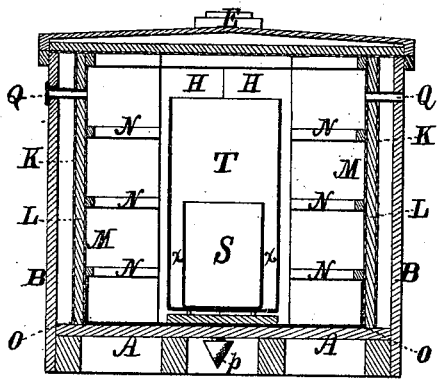


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN SPROAT, OF CAIRO, ILLINOIS.

IMPROVEMENT IN NON-CONDUCTING CASINGS FOR REFRIGERATORS, &c.

Specification forming part of Letters Patent No. **199,324**, dated January 15, 1878; application filed June 27, 1877.

To all whom it may concern:

Be it known that I, JOHN SPROAT, of Cairo, in the county of Alexander, and in the State of Illinois, have invented certain new and useful Improvements in Refrigerator-Cars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved car, a portion of one corner being broken away, so as to show the interior construction. Fig. 2 is a central longitudinal section of said car, and Fig. 3 is a cross-section of the same.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to increase the efficiency and usefulness of cars, rooms, boxes, &c., employed for refrigerative purposes; to which end it consists in a non-conducting structure for the top, sides, and partitions of refrigerating apparatus, composed of an ordinary wooden exterior wall and an inner wall, separated therefrom by an air-space, and consisting of paper, matched boards, and paper, arranged in the order named, substantially as hereinafter specified.

As my invention is the same in principle in all of the forms to which it is applied, it will be sufficient to show the same in one of such forms, which, for convenience, will be a railway-car.

In the annexed drawings, A represents the bottom, B the side walls, C the end walls, and E the top, of a freight-car, having usual size and shape exteriorly, and provided at each side, at its longitudinal center, with openings, which are inclosed by means of sliding doors F, of ordinary construction.

The interior of the car is divided into two compartments and a central passage-way, by means of two cross-partitions, G, which extend between the side walls B, and are each provided with a central doorway, which is inclosed by folding doors H, that open outward into said passage-way.

Secured to or upon the studs I, which form the frame of the sides and ends of the car, is a covering of paper, K, and over the same is placed a sheathing of matched boards, L, which are, in turn, covered by paper or canvas M, after which horizontal strips of wood, N, are secured over the edges of said covering.

The floor of each compartment is covered with sheet metal, O, which extends upward for a short distance upon the sides of the same, and at or just without the doorway is provided a waste-pipe, P, that extends downward through the bottom A, and at its lower end has a water-trap, *p*, that prevents the passage of air through said pipe.

The partitions G are constructed in the same manner as the sides of the car, and are incased within each compartment in the manner before described, while the top of the car is inclosed and sheathed in a like manner at its lower side.

In order that the spaces between the inner and outer portions of the walls of the compartments may be thoroughly ventilated, so as to cause the interiors of said compartments to be cool, a number of openings, *b*, *c*, and *e*, respectively, are provided in and through the sides B, ends C, and each end of the top E, which openings are covered exteriorly by means of wire-gauze, that excludes everything except air.

Air-pipes Q pass through the car sides B to the interior of the compartments, near their upper sides, and permit the warmest portion of the air contained within the latter to escape outward.

As a more effectual protection against the passage of heat to the interior of the car, each doorway through the sides of the car is provided with folding doors R, which swing inward, and, when closed, effectually bar the inward passage of heated air.

For the reception of ice, each compartment is provided with a metal box, S, which has any required dimensions, and is secured within a second larger box or casing, T, in such manner as to leave an air-space, *x*, between their sides and ends. Both box and casing are open at their upper sides.

The casing T has, preferably, a considerably greater height than the box S, and at one end is provided with a door, *t*, through which ice may be placed within said box.

The car thus constructed possesses in a

marked degree capacity to resist the passage of heat to its interior, and enables perishable articles to be preserved for any desired length of time by the expenditure of a comparatively small quantity of ice.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

A non-conducting structure for the top, sides, and partitions of refrigerating apparatus, composed of an ordinary wooden exterior wall and an inner wall, separated therefrom by an air-space, and consisting of paper K, matched boards L, and paper M, arranged in the order named, substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of June, 1877.

JOHN SPROAT.

Witnesses:
W. H. MORRIS,
A. L. PITCHER.