(No Model.)

B. N. BUGBEY.

REFRIGERATOR CAR.

No. 270,383. Patented Jan. 9, 1883.

Fig 1

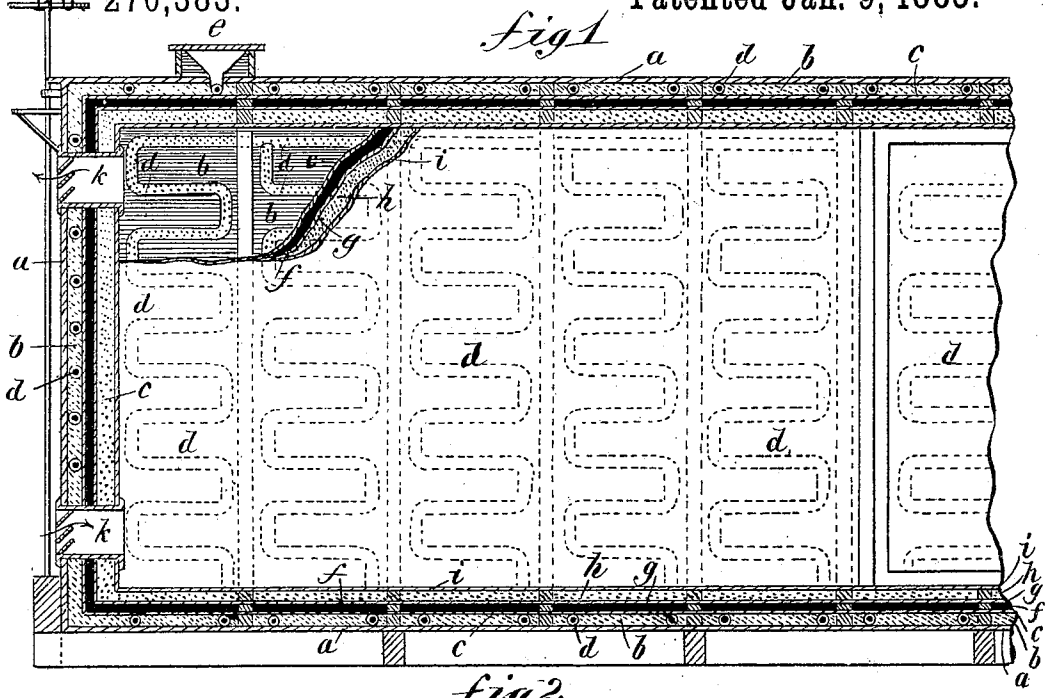
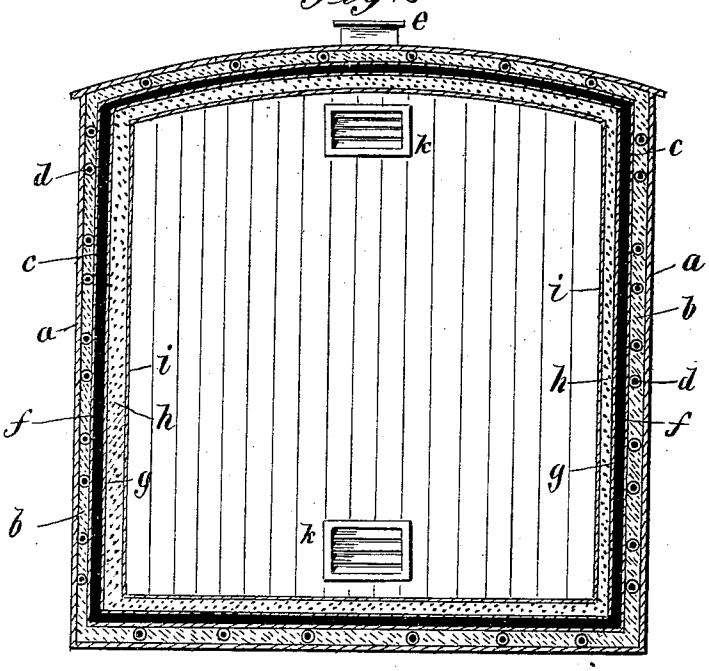


Fig 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN N. BUGBEY, OF SACRAMENTO, CALIFORNIA, ASSIGNOR OF ONE HALF TO GEORGE C. PERKINS AND H. G. SMITH.

REFRIGERATOR-CAR.

SPECIFICATION forming part of Letters Patent No. 270,383, dated January 9, 1883.

Application filed September 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN N. BUGBEY, of Sacramento, in the county of Sacramento and State of California, have invented a new and Improved Refrigerator-Car, of which the following is a full, clear, and exact description.

My invention consists of a layer of clay, plaster-of-paris, or other porous absorbent material, located between the outer shell of boards and an inner partition, the said clay or plaster layer being provided with a system of water-courses of perforated metallic pipes, clay pipes, or otherwise-formed water channels or courses arranged for the circulation of water throughout the clay or plaster for saturating it to produce a cooling effect by evaporation; and the invention consists of the combination, with the said evaporating-layer, of an inner course or layer of charcoal, pulverized and closely packed between partitions of the sides of the car, for the destruction of unpleasant odors from the goods in transit, and in the combination, with said system of water-courses in a clay or plaster layer and the said charcoal layer, of a layer of sawdust to take up the dampness and protect the interior of the car from moisture, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a longitudinal sectional elevation of a refrigerator-car constructed according to my invention; and Fig. 2 is a transverse section of the car.

Next to the exterior wood case or covering of the car-body *a*, I propose to apply a clay, plaster-of-paris, or other porous and absorbent layer or shell, *b*, about one inch thick, more or less, with a wood partition, *c*, to confine it inside, in which clay or plaster shell I arrange any preferred form of water-passages *d* in coils for equal distribution of the water throughout the whole extent of the clay shell for causing evaporation, and thereby producing the cooling effect thereof as a means of cooling the car for the protection of perishable goods without the use of ice. The water may be poured into the circulating channels or courses through a funnel, *e*, at the top of the car. Inside of partition *c*, and between it and a partition, *g*, I apply a layer, *f*, of charcoal, preferably pulverized and snugly packed, of one-half inch (more or less) in thickness, which serves to destroy any unpleasant odors from outside sources and from the goods in transit, and thus avoid impregnation of one class of merchandise with the distinctive odors of another kind of goods and preserve perishable freight on long journeys. To protect the car from moisture that might result from the use of water in pipes *d* and the nature of the goods carried, I arrange an inside layer of sawdust, *h*, one inch (more or less) in thickness, between partition *g* and an inner one, *i*, as shown, and thereby effectually protect the car, the sawdust taking up the moisture and keeping the interior of the car dry.

I propose to employ any approved system of ventilators *k* for the circulation of air throughout the car, and to supply the air for the evaporating process. I prefer to use redwood for the partitions and for the sawdust filling; but other woods will serve well.

The body will be alike protected on all sides, ends, top, and bottom, or not, as preferred.

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

1. The combination, with the shell or body of a refrigerating-car, of a lining or shell of clay, plaster-of-paris, or other porous material, having a series of pipes or other passages embedded therein for the distribution of water throughout the lining or shell for cooling the car by evaporation of the water therein, substantially as described.

2. The combination, with the shell or body of a refrigerating-car, of a lining or shell of clay, plaster-of-paris, or other porous material, having a series of water-circulating pipes embedded therein for moistening the same, and the lining-layer of charcoal to serve as a deodorizer, substantially as shown and described.

3. The combination, with the shell or body of a refrigerator-car, of a lining or shell of clay, plaster-of-paris, or other porous material, having a series of pipes or other passages embedded therein for moistening the same, of the charcoal layer *f* as a deodorizer, and of an inner layer or filling of sawdust for absorbing the moisture and protecting the car therefrom, substantially as described.

BENJAMIN N. BUGBEY.

Witnesses:
EDWIN K. ALSIP,
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