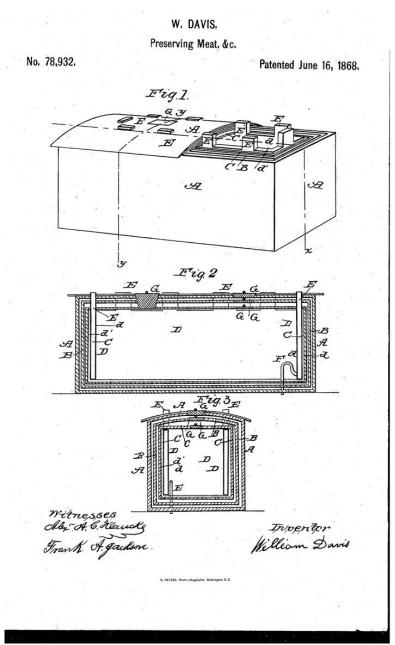
William Davis. "Improvement in Preserving Meat & c." U.S. Patent 78,932, 16 June 1868.

Refrigerated Rail Car Inquiry Unit

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"Be it known that I, WILLIAM DAVIS, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Apparatus for Preserving Fresh Meats, Fish, Fruits, &c.; and I do hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, which make part of this specification, and in which –

Figure 1 is a perspective view of my apparatus. Fig. 2 is a longitudinal section of the same in line x x, Fig. 1: and Fig. 3 is a cross-section of the same in line y y, Fig.1.

The nature of my invention consists in the peculiar construction of a railroad-car, box, chest or room, in which to preserve animal and vegetable substances from decay for a certain reasonable time, to allow them to be transported from place to place or kept in store in a sweet and fresh condition...

This is constructed of three separate compartments, A B C, one within the other, and arranged in such a manner that an open space is all around the innermost compartment C, as well as the compartment B. These spaces I fill with poor conductors of heat such as animal hair, dry shavings, & c. Inside the compartment C is the ice-receptacle D, which consists of a double wall, d d', extending from the bottom to the top of compartment C, and closed air-tight, except where chimneys or funnels E extend upward from the receptacle D through the roofs of the compartments A B C, and which serve to contain the freezing mixture, which is filled in through the chimneys or funnels E...

The water or fluid which melts from the freezing mixture is collected at the lower part of the receptacle D, which is provided with a goose-neck trap, F, or other equivalent device, through which the water can escape without any air being admitted into the receptacle, sufficient air always being contained in the same to allow the water to flow.

Access to the inside of the car is had through hatchways or doors in the roofs of the compartments A B C, which are closed practically air-tight by hatches G, each separate compartment being provided with one, or one door serving to close all three hatchways as shown in Fig. 2...

To discharge freight at way-stations the hatchways must be used, for if the side doors were opened, the cold and consequently heavier atmosphere would pass out, while the warm outside atmosphere would at once fill the car and affect its contents; but when the hatchways in the roof are opened the cold and heavy air cannot rise out of the car, nor can the outer warmer atmosphere descend into the car to displace the heavy cold air, and thus part of the freight may be discharged from the car through the roof-doors,... effectually confining the cold air in the car."

WILLIAM DAVIS.