

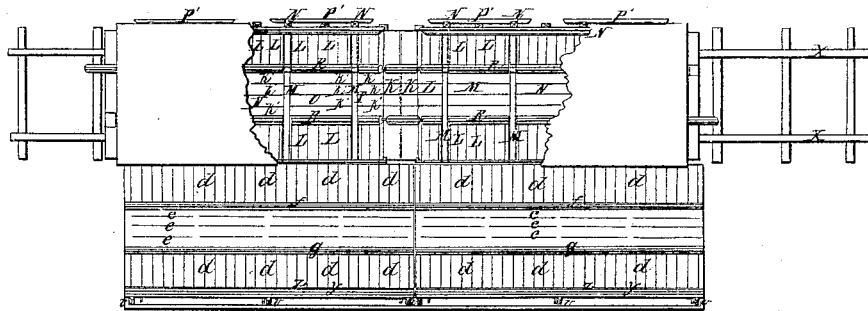
*N. J. Wyeth,*

*Ice Elevator,*

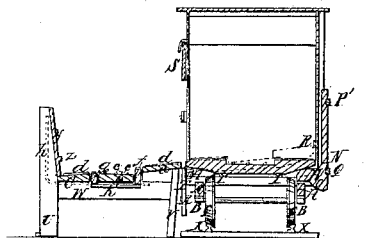
*N<sup>o</sup> 2,382,*

*Patented Dec. 10, 1841.*

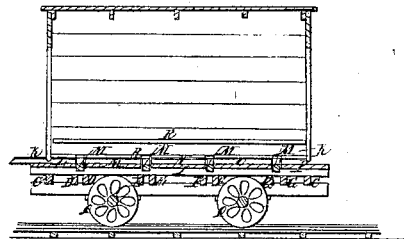
*Fig. 1.*



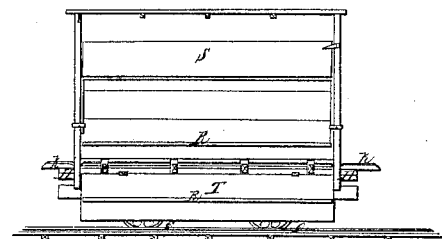
*Fig. 2.*



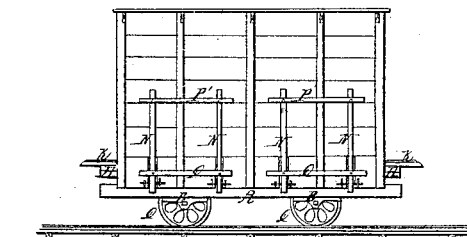
*Fig. 3.*



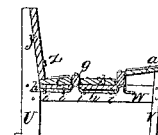
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



# UNITED STATES PATENT OFFICE.

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## RAILWAY-CAR FOR DISCHARGING BLOCKS OF ICE THEREFROM ONTO PLATFORMS.

Specification of Letters Patent No. 2,382, dated December 10, 1841.

*To all whom it may concern:*

Be it known that I, NATHANIEL J. WYETH, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Railway-Cars and Machinery Connected with the same, by which improvements blocks of ice may be discharged upon a platform from railway-cars and thence into storehouses or the holds of vessels for transportation to distant countries, and that the following is a full and exact description of the same, reference being therein had to the accompanying drawings, which, combined herewith, form my specification, and in the same I have set forth the nature of my invention, by which they may be distinguished from others of a like character, together with such parts or combinations of the same as I claim and for which I solicit Letters Patent.

Figure 1, of the above mentioned drawings represents a top view of the railway cars and tables to be hereinafter described, and in order, more clearly, to exhibit the bottoms of the cars, the greater part of the body, or top covering is therein removed. Fig. 2, is a transverse vertical section of the above. Fig. 3, is a vertical and longitudinal central section of one of the cars. Fig. 4, is an elevation of one side—and Fig. 5, is an elevation of the side opposite the same.

A, A, Figs. 2, 3, are two longitudinal string pieces, one being on each side of the center of the car, and to the lower sides of which the wheel boxes B, B, are fixed.

C, C, are two transverse beams placed on the top of the string pieces A, A, and bolted to them near their ends, each being long enough for the width of the car and projecting for this purpose a suitable distance over the exterior side of each string piece, in a similar manner to the succeeding four pair of transverse beams, D, D, E, E, F, F, and G, G, which are arranged transversely upon the string pieces and bolted thereto—those of each pair being placed quite near together, as seen in the drawings. Each pair is so placed as to be situated with respect to the nearest other pair (measuring from the central line of each pair), a distance equal to half the length of the blocks of ice to be laden upon the cars. The upper sides of all these cross pieces should be in the same plane.

H, H, I, I, are four sills arranged upon

the transverse sills, and extending parallel to each other and lengthwise of the car as seen in the drawings. Each should project about eight inches, at each end, beyond the end of the car so as to serve the purpose of a rest or support for the end doors K, K, of the car which are hinged to the floor of the same and when let down fall upon the top surface of the ends of the sills. These sills are not continuous, or in one piece, for their whole length, but are cut out, for about three inches where they pass over the space between the cross bars D and D, E and E &c., in order to admit the levers, as will be hereinafter described.

L, M, N, O, P Figs. 1, 3, are the flooring planks, extending transversely of and fastened upon the sills at distances apart sufficient to permit the action of the levers to be hereinafter mentioned.

Q, Q, are the wheels of the car and R, R, are two slide rails, placed upon the plank flooring over the central sills I, I, and are similarly arranged to those described in my specification of my improved machinery for "raising blocks of ice from the lake where frozen or formed and depositing the same on railways and in railway cars." These slide rails are also cut away in the same manner as the sills so as to permit the action of the levers. They should be plated on their upper surfaces with bars of smooth iron.

K', K', K', &c., are iron bars or wooden bars plated with iron—arranged parallel to each other and equidistant upon the flooring between the slide rails and also parallel with the slide rails. Their upper surfaces should be about two inches lower than the upper surfaces of the slide rails. These bars extend over the spaces in each side of the lever bars which rise through the flooring. Similar iron bars L, L, L, are disposed over the flooring on each side of the slide rails—but parallel with the lever bars, or perpendicularly to the slide rails as seen in the drawings. The plane of their tops or upper surfaces should be somewhat below that of the slide rails. They may be about six inches apart, and are useful for facilitating the reception and discharge of small blocks of ice.

The lever bars M, M, M, M, Figs. 1, 2, 3, are placed edge up in the spaces between the slide rails, cross bars and planking. They are arranged perpendicular to the slide

rails, as seen in the drawings and having their upper edges plated with iron—the top surface of which, when the bars are in their lowest position—should be somewhat below the top surfaces of the slide rails. In the center, or for the space between the slide rails, they are cut down to the level of the flooring of the car. Each of these lever bars should be arranged so as to move on a fulcrum or pin at one end. The other ends of the lever bars, extend over the short arms of bent levers N, N, N, N, which turn on fulcras, at their angles or at the point O Fig. 2. The two levers N, N, next adjacent to each end of the car are united together by cross straps or bars P', Q' so that when the hand is applied to the upper bar P' the two lever bars M, M, may be thrown upward with the portion represented by the dotted lines in Fig. 2, or vice versa as represented by the black lines.

From the above it will be easily seen that by means of the lever bars M, M, the blocks of ice resting over the same may be elevated above the slide rails, and when so elevated, if the side of the car is opened, the ice will slide by its gravity out of the car and be received upon the tables or platforms to be hereinafter described. Guide rails R, R, should be fastened to each of the sides of the interior of the car, and that side which is next to the levers P', Q', should be permanently boarded up—while the opposite side—should have long side doors S, T, the former of which can be turned upward on hinges, and the latter downward in the same manner. When these are opened or closed they are secured in position by suitable buttons or bolts applied in any convenient manner to the side posts of the car. The car should be roofed over, and its ends closed by cloth curtains or by any other convenient substitute therefor.

The cars having been duly and properly laden with ice at the lake where it is procured, are moved over the transportation railway to the depots for storage or shipment, and in order to prevent any unnecessary detention of the cars at the latter places—tables or platforms are there provided and arranged by the side of the railway upon which the ice may be immediately discharged from the cars. There should be the same number of them as cars. They should be of the same length as the car, and are constructed as follows—

U, V, Fig. 2, and U, U, U Fig. 1, are three pairs of legs or posts, one pair being at each end of the table and one in the center thereof. Each pair is connected together by a cross plank W Fig. 2, and are arranged by the side of and perpendicular to the line of the transportation railway, as exhibited in the drawings, where X, X, represent the rails of the railway. Those

three legs which are nearest the railway should have their front sides, or those adjacent to the railway placed a little in the rear of the edges of the flooring above them, so as not to offer any obstruction to the passage of the cars by them. The other three posts should extend about four feet above those in front, and should have a wide plank Y bolted to their front sides above the flooring of the tables, to which plank a guide rail Z is spiked or otherwise attached, the guide rail extending parallel, and about nine inches above the top surface of the table.

a, b, c, is the flooring, the two portions a, and c of which are arranged in a continuation of the slope or inclination of the tops of the lever bars M, M, when these latter are elevated. They extend over and are secured to the bearing planks W, and have iron bars d, d, d &c., applied transversely to their upper surfaces. The central portion b of the flooring is depressed somewhat below the others—and has its upper surface in a horizontal plane, and has smooth iron bars e, e, e, &c., attached thereto extending longitudinally as seen in Fig. 1. Two slide rails f, g, are arranged in the spaces between the portions a, b, c, of the flooring and rest upon the bearers W, W. These slide rails are plated on their upper edge with smooth bars of iron—the upper surface of which, when the rails are in their position, should be somewhat, or a very short distance, below the plane of the floor planks a, and c.

These slide rails merely rest upon the bearers. The lower edges of the timbers composing the slide rails may be connected together if necessary by any suitable number of cross planks or bars h' extending from one to the other under the flooring plank b, one of which is shown in Fig. 2. Fig. 6, is a detailed representation of one of the levers which raise the slide rails, together with some of the parts adjacent thereto. By their position in contact with the bearers they prevent movement endwise of the slide rails. These levers denoted by h, h, h, h are made of strong iron bars, bent where they come in contact with the under side of the slide rails into a bell crank form as seen in Fig. 6, and turned upward at right angles as seen in Fig. 2. They are attached by suitable bearings or boxes i, i, i, i, to the under sides of the flooring planks, and when the vent arm of each of these levers, which stands vertically by the side of the posts U, U, U is turned down into a horizontal position, the bell cranks press against the slide rails and elevate them so high that their upper surfaces are raised above the plane of the tops of the flooring planks a, b, and consequently they raise the ice from the same. Now when the train of cars, laden with ice, arrives at the discharg-

ing depot, the doors of the sides are opened and each car is brought directly in opposition with one of the tables. On raising the lever bars *M, M*, of the cars, the ice will immediately slide out of the car upon the top of the table, and thus in a few minutes, the contents of a whole train may be discharged upon the tables, when the cars will be ready to be returned to the spot where loaded. The slide rails of the tables are next to be elevated, so as to lift the blocks from the flooring; and these slide rails may be connected with horizontal or inclined railways leading into storehouses, or into vessels—and the ice may be moved upon the same and removed therefrom in any convenient manner.

Having thus particularly set forth the nature and principles of my invention, I shall claim—

1. Constructing cars for the transportation of ice, with the elevating lever bars, which discharge the blocks of ice out the sides of the cars, the said lever bars being

elevated by bent levers, (or other suitable means), as described;—and combining said lever bars with the slide rails of the cars and with the tables or platforms arranged by the sides of the cars and upon which the ice is received when discharged from the cars, the said tables being constructed on the principles hereinbefore mentioned.

2. I also claim, the arrangement of the slide rails *f, g* so that they may be elevated above the surface of the table, the whole of the above parts claimed being constructed and operating substantially in the manner as I have hereinbefore set forth.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this twenty seventh day of October in the year eighteen hundred and forty one.

NATHL. J. WYETH.

Witnesses:

CALEB EDDY.

EZRA LINCOLN, Jr.