N. J. WYETH.

Ice Elevator.

No. 3,323. Patented Oct. 28, 1843.

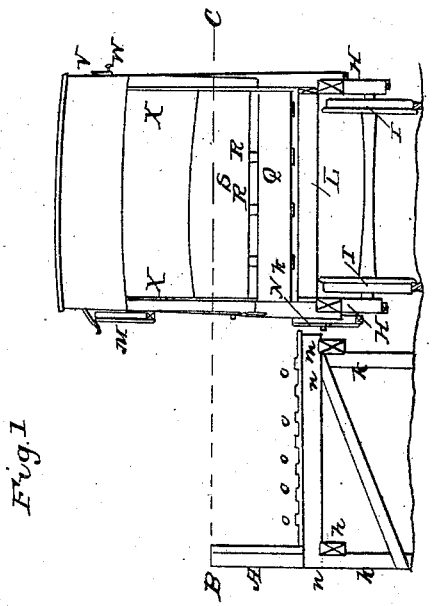

Fig. 1

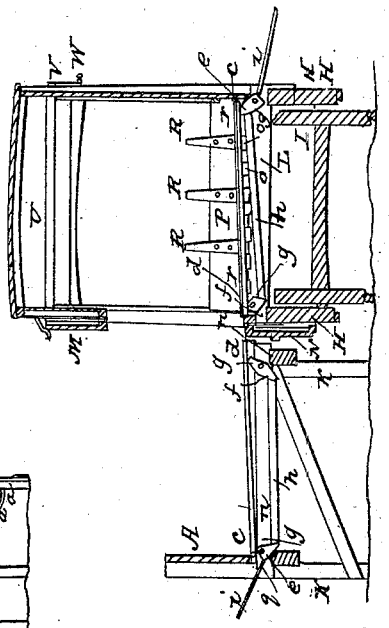

Fig. 4

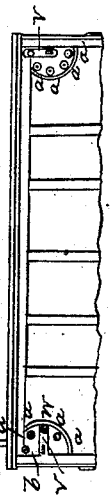

Fig. 5

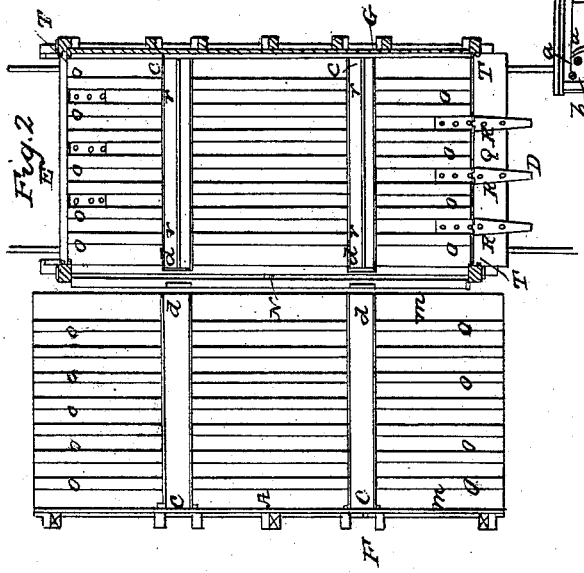

Fig. 2

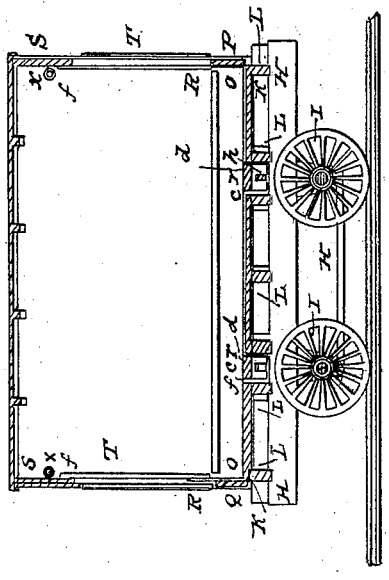

Fig. 3

UNITED STATES PATENT OFFICE.

NATHL. J. WYETH, OF CAMBRIDGE, MASSACHUSETTS.

CAR AND RECEIVING-PLATFORM FOR REMOVING BLOCKS OF ICE.

Specification of Letters Patent No. 3,323, dated October 28, 1843.

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 Receiving-Platforms for the Purpose of Receiving and Confining Blocks of Ice in the Former, and also for Discharging Them Therefrom Upon the Latter, and that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same (wherein I have set forth the nature and principles of my said improvements, by which they may be distinguished from other machinery for a similar purpose together with such parts or combinations as I claim and wish to have secured to me by Letters Patent.

The improvements above mentioned are upon that portion of my ice machinery which is described in the schedule annexed to Letters Patent numbered twenty three hundred and eighty two (2382) granted to me on the tenth day of December A. D. 1841; said improvements being represented in the accompanying plate of drawings of which—

Figure 1, is an end elevation of an ice car and platform. Fig. 2 is a horizontal section through the car taken just above the top of the side A of the platform or in the plane of the line B C Fig. 1. Fig. 3 is a longitudinal vertical section taken in the plane of the line D E Fig. 2. Fig. 4 is a transverse vertical section taken in the plane of the line F G Fig. 2; and Fig. 5 is a detached side elevation of the upper part of the car which will be more particularly explained hereinafter.

My improvements have for their objects, the more effectual closing of the front and rear ends of the car; the changing the positions of the transverse "lever bars" of the car and platform, which bars serve to discharge the blocks of ice from the former to the latter in a manner which will be particularly explained hereinafter; also the preventing the blocks of ice from moving forward or backward in the cars when they are suddenly started or stopped.

The carriage frame H H, H H and wheels I, I, connected to the same are arranged in the usual way as shown in Figs. 1, 3, 4. The bottom K K of the body of the car is elevated above the top of the carriage frame H H (and rests upon the cross bearers or joists L L L L &c. Figs. 1, 3, 4. So as to give sufficient room for the operation of the machinery which moves the lever bars aforesaid.

One side of the car is made so as to be opened or closed at pleasure by means of the folding doors M, N, which turn up and down respectively as represented in Figs. 1, 2, 4, for the purpose of discharging or loading the blocks side ways, the other side of the car is permanently closed in the ordinary way. The bottom of the car has fastened to it any proper number of slides rails or bars *o o*, *o o*, *o o* Figs. 2, 3, 4, extending the whole length of the car with the exception of the spaces occupied by the transverse lever bars *c d*, *c d*, said slides *o o*, *o o* being placed near enough to each other to give proper support to and prevent the breakage of the blocks. To the front and rear ends of the bottom of the car the hinged planks P, Q, which open outward, are respectively connected, said planks having suitable projecting slides or bars R R R R, &c., as shown in Figs. 1, 2, 3, 4, which serve to connect with the next preceding and succeeding car, so that ice may be made to slide along through a whole train of cars, and they also serve with other parts for another purpose which will be specified in the sequel. A′ sliding plank S, S, is arranged at each end of the car directly over the hinged planks P Q said sliding planks moving up and down in grooves T, T, shown in Figs. 2, 3, and when the car is closed at the ends, the lower edges of the sliding planks S S shut down on the outside of the bars R, R, R, &c., the hinged planks P, Q, being turned up vertically. The sliding planks S are suspended each from one end of a strip of any suitable kind of cloth M, of proper width, the cloth being tacked to any convenient part of the planks so as to raise them entirely up. The upper edges of the strips of cloth are tacked to and wound and unwound on revolving shafts U, U, Figs. 3, 4, 5, which shafts have suitable bearings in which they revolve or turn in the upper part of the car. These shafts are turned by the winches V V, the handles W, W, of which pass through the winches and serve as confining pins by engaging with the circular holes A, A, A formed in the cleats *b*, *b*, attached to the upper corners of the exterior of one side of the car as

shown particularly in the detached elevation, Fig. 5.

By the above described arrangement at the front and rear of the car it will be seen that the same may be opened or closed with great facility and that the parts may be confined in any desired position, and the combination for effecting this constitutes one of the novelties to which I shall make claim.

The changing the positions of the transverse lever bars, before suggested as one object of my improvements is effected by the following arrangement of machinery: The said bars are represented at *c d*, *c d* in Figs. 2, 3, 4, and their under-sides are made to rest upon the faces of the eccentrics or cams *e*, *f*. These eccentrics are shaped as shown in section in Fig. 4, that denoted by *e* being somewhat of the form of a single wedge and the one at *f* being of the double wedge shape. The cams or eccentrics turn on suitable pins *g*, *g*, which have bearings in the cross bearers or joists L L before mentioned and are connected so as to move together, or so that the motion of one controls that of the other by means of the arms *h*, *h*, which also turn easily on pins passed through proper grooves or channels in the blocks cut out for the insertion of the arms *h*, *h*, as shown in Fig. 3. The whole is to be worked by means of a lever *i*, Fig. 4, or by any other suitable contrivance.

The receiving platforms before mentioned have the same or a similar arrangement of transverse lever bars for receiving the blocks of ice as they slide from those of the cars, the similar parts in the arrangement being designated by the same letters. These platforms are constructed in a similar manner to those described in the schedule annexed to the Letters Patent before mentioned in the first part of this specification, having a standard frame *k k*, a vertical side A and inclined bottom *m m*. The inclined bottom *m m* is elevated above the top of the standard frame *k k* and rests on the transverse bearers or joists *n*, *n*, &c., and has secured to its top surface the longitudinal rails, bars or slides *o o*, *o o* said slides being interrupted by the transverse lever bars *c d*, *c d* before mentioned, the whole of the above arrangement being shown in Figs. 1, 2, 4.

The transverse lever bars *c d*, both in the platform and car are, in the sectional view Fig. 3, represented to be nearly in their most inclined positions, or in those positions in which it is requisite that they should be, in order to discharge the blocks from the car to the platform, and it will be seen by a careful inspection of Fig. 4 that if the eccentric —*e*— of the car be turned by the lever *i*, or otherwise, so that its side *p* shall be horizontal or nearly so, that the end *c* of the lever bar will be lowered and its end *d* raised, so that the bar will then be horizontal, its top surface being a little above the plane of the top surfaces of the longitudinal bars or rails *o o*, *o o*. This particular position of the lever bars *c d*—*c d* which may be called the "elevated horizontal position," allows the blocks of ice to be moved laterally across the bottom of the car (in order to be loaded into it in this way if desired), and also serves another purpose which will be referred to and explained hereinafter.

The lever bars *c d*, (in the cars) may be depressed or lowered to their lowest position by turning the cam —*e*— as under each as before specified still further, or so that the face *q* of said cam shall be uppermost and horizontal, the other block *f* taking or being turned to its proper relative position by means of the connecting arm *h*, and when the lever bars are in this their lowest position, the blocks of ice may be made to slide easily forward and back in a car or through a train of cars. The top surfaces of the lever bars, when in this position are on a level with the top surface of the bottom *k k* of the car.

The transverse lever bars *c d*, *c d*, in the platforms need only be changed from their inclined position represented in Fig. 3, to their lowest position and vice versa, so that the ice may be moved transversewise and lengthwise of the platforms, their lowest position being attained by turning the eccentric —*e*— so that its side *q* may be horizontal and support the end *c* of the lever bar *c d*.

It will be evident that cams having different sectional shapes from those herein above described may be used, it being only necessary that the respective bearing points or supporting sides of the same for the various positions of the lever bars should have the proper relative position for producing the required changes. I therefore consider my improvement to consist in the arrangement of turning cams or eccentrics connected together as above described for the support of the transverse lever bars.

The device for holding the blocks of ice stationary when the cars are suddenly stopped or started is very simple but exceedingly effective, and consists in arranging an iron rail or thin metallic bar edgewise in or upon the transverse lever bars *c d*, *c d* as shown at *r r*, *r r* in Figs. 2 and 3, and when the lever bars *c d*—*c d* of the cars are raised to the "elevated horizontal position" before specified, the upper edges of the rails *r r*—*r r* engage with or cut into the underside of the blocks of ice sufficiently to hold the same as before specified.

Having thus described my improvements in railway cars and receiving platforms I shall now specify the parts and combina-

tions which I consider new and claim as my invention.

I claim—

1. The combination (at the front and rear end of a car), of a sliding plank, suspended from a strip of cloth of suitable width, and connected to a turning shaft in the upper part of the car so as to be wound or unwound upon or from the same, with a hinged plank or door at the bottom of the car opening outwards and having projection slides or bars fastened to the upper or inside of the same, said combination being arranged and operating as herein above described to open or close the ends of the car at pleasure.

2. I also claim the supporting the transverse lever bars of the cars and receiving platforms upon two turning cams or eccentrics connected together by an arm as set forth, so that by turning one of said cams by means of a lever or otherwise, the positions of the lever bars may be varied in the manner and for the purposes hereinbefore set forth, the arrangement and operation of the whole being substantially as hereinabove specified.

3. I claim the arrangement of a metallic bar or rail vertically or edgewise in or on the transverse lever bars, so that when the lever bars are raised to the elevated horizontal position mentioned in the foregoing description the said rails shall hold the blocks of ice, or prevent any essential movement of them when the cars are suddenly started or stopped, the arrangement and operation being substantially as herein above described and set forth.

In testimony that the foregoing is a true description of my said invention and improvements I have hereto set my signature this ninth day of October in the year of our Lord eighteen hundred and forty-three.

NATHL. J. WYETH.

Witnesses:

CHARLES F. SMITH,

EZRA LINCOLN, Jr.