

J. A. WERNER.
CAR ICING SYSTEM.

APPLICATION FILED NOV. 28, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 2.

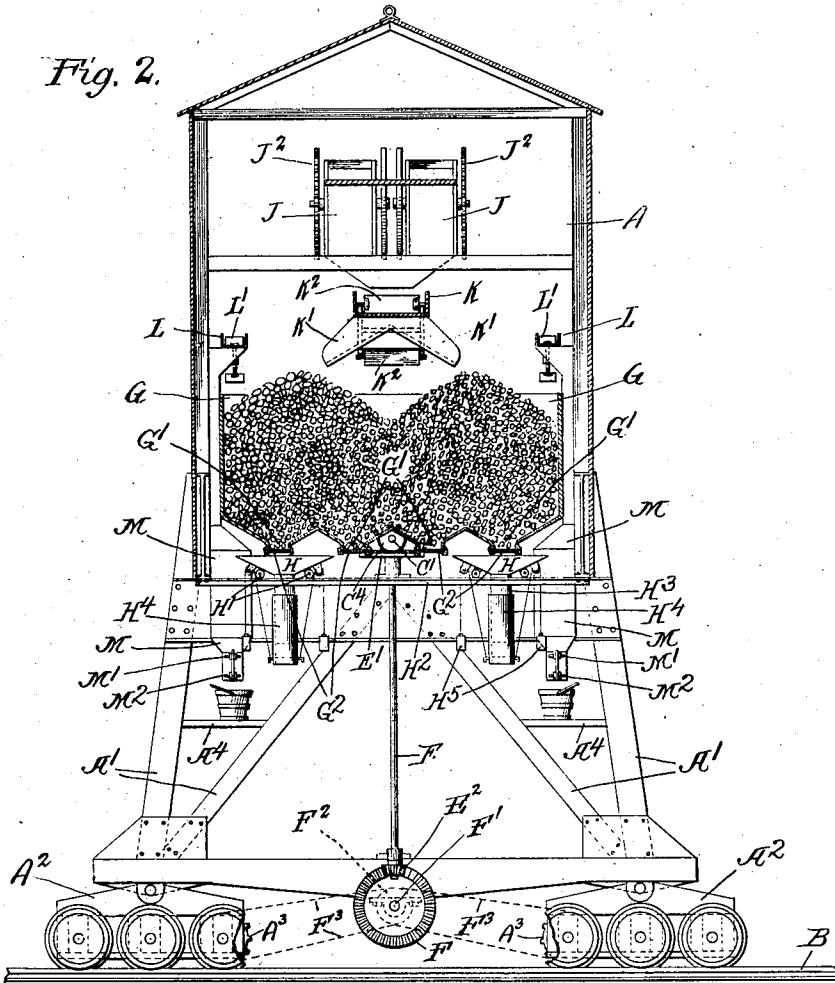
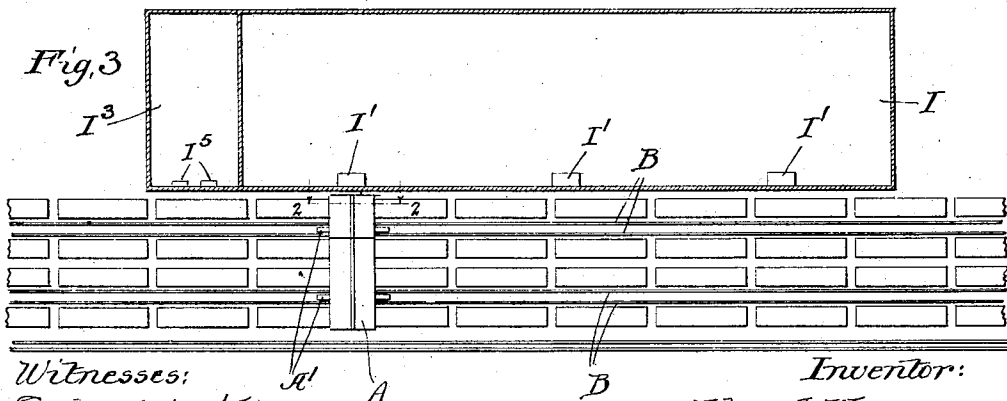


Fig. 3



Witnesses:
Edward T. Wray.
Nathan Hurlburt.

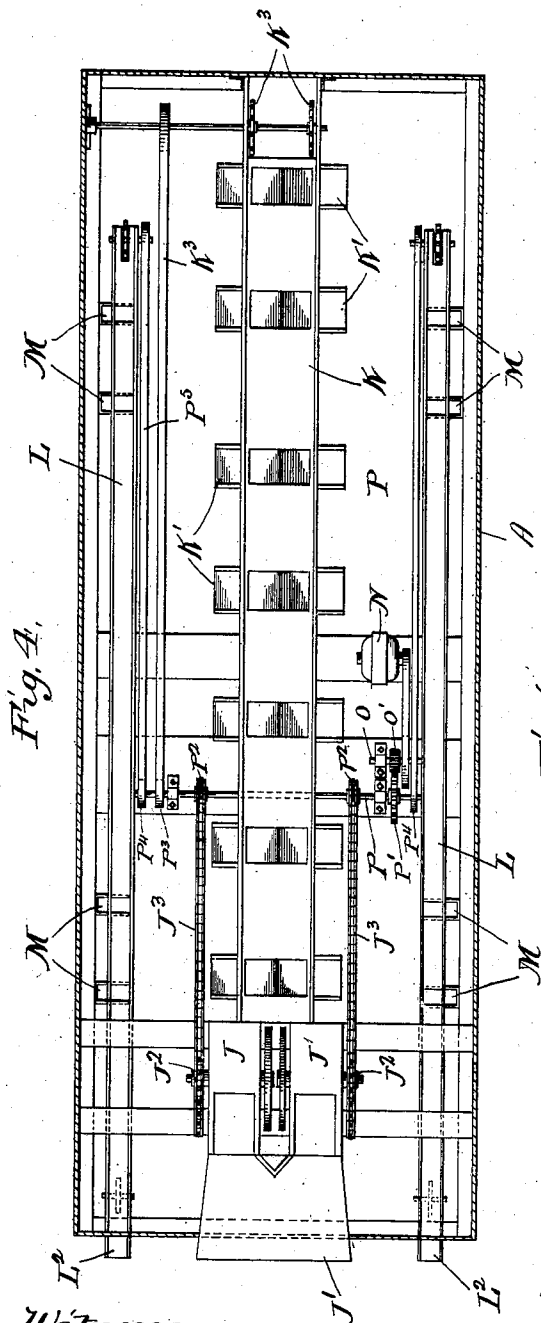
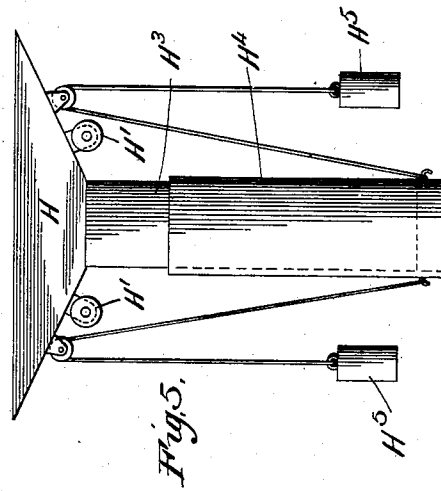
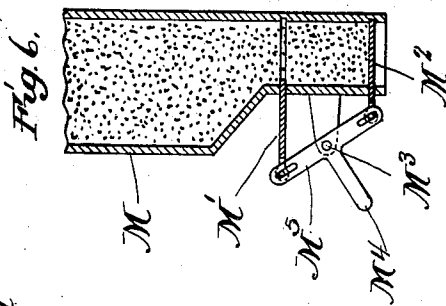
Inventor:
John A. Werner.
By *Parker Carter* Atty.

J. A. WERNER.
CAR ICING SYSTEM.

APPLICATION FILED NOV. 28, 1902.

NO MODEL.

3 SHEETS—SHEET 3.



Witnesses:

Edward T. Wray.
Halsey Hurlburt.

Inventor:

John A. Werner.

By Parker Carter
Atty's.

UNITED STATES PATENT OFFICE.

JOHN A. WERNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE LINK BELT MACHINERY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CAR-ICING SYSTEM.

SPECIFICATION forming part of Letters Patent No. 739,962, dated September 29, 1903.

Application filed November 28, 1902. Serial No. 133,021. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. WERNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Car-Icing Systems, of which the following is a specification.

My invention relates to devices for supplying refrigerator-cars with ice, and is illustrated in an arrangement having an ice-supply car mounted on trucks at a sufficient height to pass above a train or a series of trains of cars ranged alongside one another and adapted to charge the abutting ends of the cars at the same time. The device shown in the drawings is designed to extend transversely over four trains; but of course I do not wish to be limited to any particular number, as it is evident that the supply-car could be so varied in length as to extend over any desired number of trains.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of the ice-supply car, showing four trains of refrigerator-cars underneath, the side of the car being partly broken away to disclose the operating mechanism. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a diagrammatic plan view. Fig. 4 is a sectional plan view of the ice-supply car with parts omitted. Fig. 5 is a view of one of the movable hoppers. Fig. 6 is a sectional view of the lower end of one of the salt-bins.

Like letters refer to like parts throughout the several figures.

A is the ice-supply car, supported on the framework A' A' from the trucks A² A², which travel on the tracks B B. The supply-car is driven from the motor C and is controlled by a motorman in a cab D, depending from the center of the car. The motor drives the horizontal shaft C' through the gears C² C³, which in turn drives the two upright shafts E E through the bevel-gears C⁴ and E'. At the lower end of the shafts E E are the bevel-pinions E² E², meshing with the bevel-gears F F on the shafts F' F'. Secured to the shafts F' F' are the sprockets F² F², which drive the sprockets A³ on the trucks by means of the chains F³ F³. The electric power is carried

to the supply-car by means of the trolley-wire R, strung alongside the tracks, and the trolley-pole S at one end of the supply-car.

In the lower part of the supply-car and extending its full length is a large bin G to carry the supply of ice. The bottom of the bin is divided into a series of hoppers having the outlets G' controlled by the valves G². Below the outlets are a series of movable hoppers H, provided with the supporting-wheels H', which run on the tracks H², said tracks extending across the width of the car. The hoppers H are arranged in groups of four and have the spouts H³, with telescoping sections H⁴, which are held in any position by the counterbalance-weights H⁵.

The manner of filling the bin G is as follows: The supply-car is run alongside an ice-storage house I, as shown in Figs. 1 and 3, which is equipped with ice-elevators I' to elevate the ice cakes to the ice-crushing machines J, located at one end of the supply-car and above the bin G. The ice is received on a platform J', associated with the ice-crusher and projecting through an opening A⁵ in the end of the car at the same height as the openings I² in the ice-house. The ice is fed into the crushers and discharged at the bottom into a trough K, running the entire length of the car below the crushers and above the bin. This trough is located in the center of the car and has the chutes K' K' projecting from both sides at intervals throughout its length. The trough has a chain conveyer K² passing around the sprockets K³ K³, which carries the crushed ice to each of the chutes K' K' successively. Running along both sides of the car are the troughs L L, having suitable conveyers L' L' to carry salt to the salt-bins M. The salt would first be received in the chutes L² at the end of the car from the salt-elevators I⁵ in the salt-house I³, which in the present instance is shown adjoining the ice-house. The lower ends of the salt-bins are provided with two cooperating valves M' and M². The outer ends of the valves are pivoted to opposite ends of the lever M⁵, which is pivoted to the bin at M³ and is provided with a handle M⁴. The object of this arrangement of valves is to give a measured quantity of salt at each operation of the valves. When it is desired

to draw a charge of salt, a bucket would be placed on the platform A⁴ directly under the salt-bin and the handle M⁴ be lifted, opening the lower valve M² and closing the upper valve M¹, allowing a charge of salt to fall into the bucket. The handle M⁴ would then be pulled down, closing the lower valve and opening the upper, to allow the salt to settle down in the lower end of the salt-bin ready to be drawn off. The ice crushers and conveyers are driven by the motor N, located in any convenient position above the large ice-bin. An intermediate shaft P has the gear P' meshing with the pinion O' on the shaft O, which is driven from the motor N. The shaft P has the sprocket-wheels P² P³, which drive the sprocket-wheels J² J³ on the shafts of the ice-crushers through the chains J³ J³. The conveyer K² is driven by the belt K³ from the pulley P³ on the shaft P, and on this same shaft P are the pulleys P⁴ P¹, which communicate motion to the salt-conveyers L' L' by means of the belts P⁵ P⁵.

The use and operation of my invention are as follows: The ice-bin and salt-bins of the supply-car would be filled, as above described, and the supply-car would then be run into position above the trains, the width of the supply-car being such that the car overhangs simultaneously the abutting ends of the cars in each train. The operators, of whom there is one for each train, would adjust the movable hoppers H on their tracks H' so that the telescoping spouts H¹ when pulled down would enter the scuttle-holes in the roofs of the refrigerator-cars, whereupon the valves G², controlling the outlets G' in the ice-bin, would be opened and the crushed ice allowed to flow until a sufficient quantity has entered the ice-boxes in the cars. The valves G² are then closed and the telescoping ends of the hoppers H are raised. The operators would then take a charge of salt from the salt-bins, as above described, and dash it over the ice in the ice-box of the refrigerator-car and replace the covers on the scuttle-holes. The operation would be repeated at the abutting ends of all the cars in the trains, the operation being similar except when the extreme ends of the first and last cars of the trains are given their supply of ice and salt, when only two spouts out of each group would be used.

I claim—

1. In a car-icing system the combination of a series of railway-tracks to receive a series of trains of cars, with an ice-supply car mounted above and transversely of said tracks, supports for said car so that it may travel along said tracks, and ice-feeding devices associated with said ice-supply car so as to feed ice into the adjacent ends of two cars of each train simultaneously.

2. In a car-icing system the combination of a series of railway-tracks to receive a series of trains of cars, with an ice-supply car mounted above and transversely of said tracks, supports for said car so that it may travel along said tracks, and ice crushing and feeding devices associated with said ice-supply car so as to feed the ice into the adjacent ends of two cars of each train simultaneously.

3. In a car-icing system, the combination in an ice-supply car of a car-body and an ice-bin, having ice-crushers associated therewith, and means for conveying the ice from the ice-crushers to the bin.

4. In a car-icing system, the combination in an ice-supply car of a car-body and an ice-bin, having a series of hoppers in the lower side, controlled by valves and adapted to discharge into a series of movable hoppers, having telescoping funnels, said funnels adapted to be entered in the ice-box openings in the roofs of refrigerator-cars and discharge the ice therein.

5. In a car-icing system, the combination in an ice-supply car of a car-body, an ice-bin, and a series of salt-bins associated therewith, and means for conveying the salt to the bins, said bins having valve-controlled outlets at their lower ends.

6. In a car-icing system the combination of a series of tracks for supporting trains of cars to be supplied with ice, with a transverse ice-car across and above said tracks, means for supporting and carrying said ice-car along the tracks, and ice-supplying and ice-crushing devices to furnish the ice-supply car with ice, and means for controlling the flow of such ice to the cars to be supplied.

JOHN A. WERNER.

Witnesses:

HOMER L. KRAFT,
FANNY B. FAY.