July 5, 1927. 1,634,779

L. D. GREGG

CANE CAR AND THE LIKE

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Fig. 1.

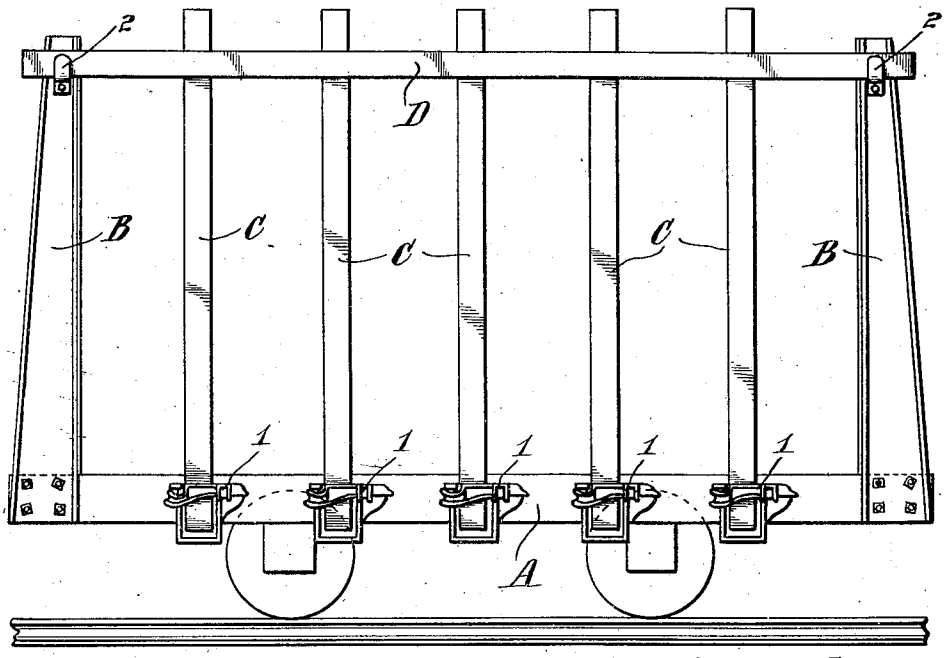


Fig. 2.

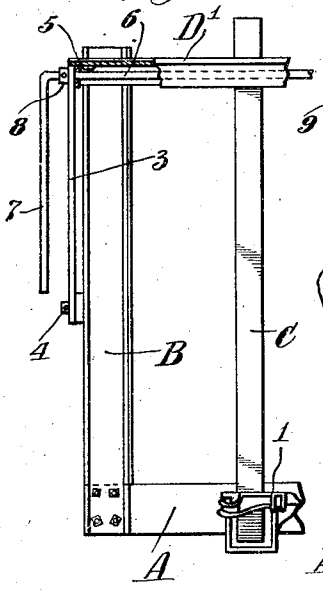


Fig. 3.

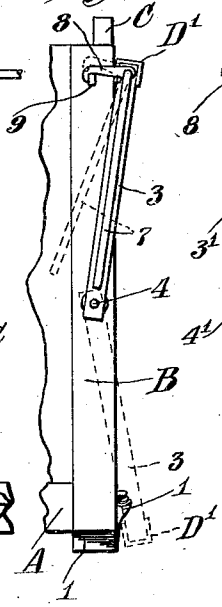


Fig. 4.

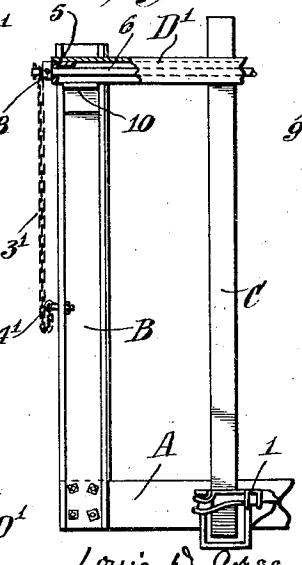
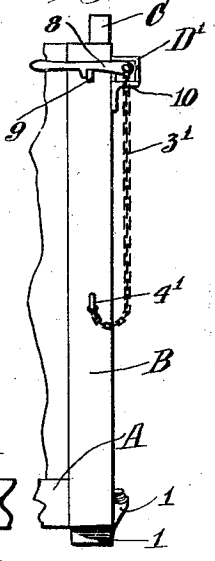


Fig. 5.



Louis D. Gregg Inventor

By W. B. Whitney Attorney

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L. D. GREGG

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Fig. 6.

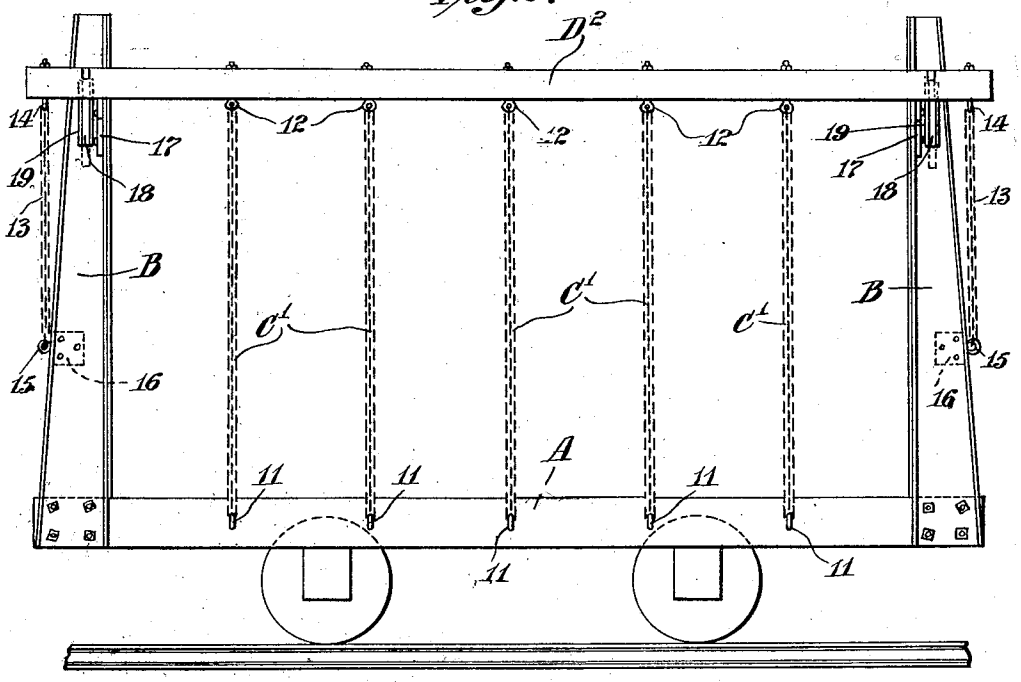
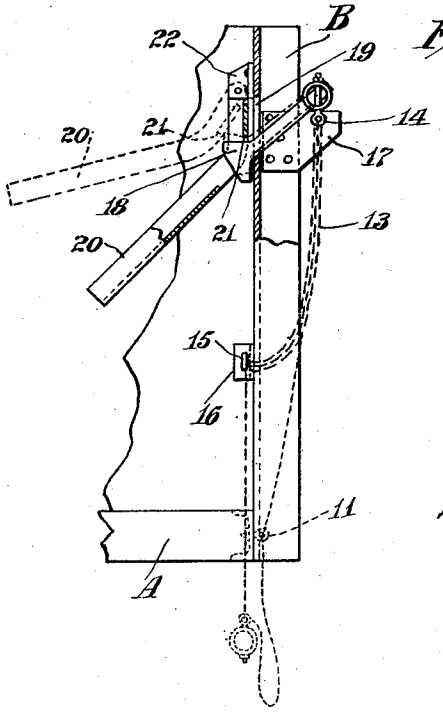


Fig. 7.



Louis D. Gregg

INVENTOR

BY J. B. Whitney

ATTORNEY

Patented July 5, 1927. 1,634,779

UNITED STATES PATENT OFFICE.

LOUIS D. GREGG, OF HACKENSACK, NEW JERSEY, ASSIGNOR TO THE GREGG COMPANY, LIMITED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

CANE CAR AND THE LIKE.

Application filed January 10, 1925. Serial No. 1,647.

This invention relates primarily to railway or other cars of the type employed for the transportation of sugar cane, although not necessarily limited to this specific use, and, more particularly, to the closure on the discharge side or end of such cars.

These cars, now more or less standardized both in wood and in steel, comprise an underframe which is covered with a solid or slat flooring and commonly carries, the cane being usually loaded lengthwise of the car, rigidly mounted thereon solid or open-frame end walls and, in the case of the longer cars, intermediate thereof one or more similar transverse walls dividing the car into a plurality of compartments; and, for the side closure, are equipped with stakes removably set into stake-pockets attached usually to both sides of the underframe or, on one or both sides, with some form of side-discharge door pivotally mounted at the top or bottom to swing outwardly about a horizontal longitudinal axis.

As heretofore constructed, however, the cars have all proven unsatisfactory in some respect at least. In order to carry the amount of cane required for their economical use, the older cars, with the three-foot (more or less) ends and sides ordinarily provided have been loaded high above the top of the superstructure, which could only be done by expensive hand labor. When the loading is done by mechanical derricks or other labor-saving devices, the ends and sides of the cars must be made about twice the usual height, or say six feet. This in itself renders unavailable the discharge door hinged on its lower side, since the height (or width) of the door does not permit it to swing down perpendicularly or far enough to be out of the way of the falling cane. Moreover, the increased pressure of the load, the cane instead of being hand-laid being in a more or less jumbled condition when dropped into the cars by the mechanical loaders, is too great for the side stakes supported only at their lower ends in stake-pockets, and hence it has been the practice to further support these taller stakes, at or near their upper ends, by a rigidly mounted horizontal rail. But, while cars equipped with stakes thus supported and cars equipped with discharge doors pivoted at the top can be unloaded by lifting the cane out from the top or by tipping the cars about thirty degrees to the side, the fixed rail for bracing the stakes or to which the swinging door is hinged renders impossible the use of either of the two forms of convenient mechanical rakes which have been developed for the purpose of raking the cane from the cars.

As one means for remedying this defect I have provided for the closure of the discharge side or end of the car doors which are hinged to the fixed walls to swing thereon about a vertical axis and which when released will open up the entire side or end without leaving any obstruction whatever above the flooring.

According to my present invention, I attain the same end by providing as an element of the closure on the discharge side of the car, either to support the usual stakes, or chains, or to lock in closed position the new vertically pivoted doors described and claimed in application Serial No. 1,646, filed by me of even date herewith, a rigid horizontal bar which at its ends is releaseably mounted upon the fixed walls. In its simplest form, the bar may be removable and merely secured in position, at the height desired, in suitable keepers attached to the corner stakes of the walls. It is usually desirable, however, to have the bar attached to the car. Accordingly, means have been provided for movably mounting it upon the walls so that when released from its operative position the bar will swing or drop downwardly against or below the underframe; and, as an additional feature, locking means are provided for securing the bar in position whereby both of its ends may be released simultaneously.

Several practical embodiments of the invention are shown, by way of illustration and not of limitation, in the accompanying drawings, in which—

Figure 1 is a view, in side elevation, of a car equipped with stakes supported at the top by a removable horizontal bar; Figs. 2 and 3 are views, in side and end elevation respectively, of a corner portion of a car, showing the horizontal bar mounted upon the corner stake and releaseably locked in position thereon; Figs. 4 and 5 are views, similar to Figs. 2 and 3, of a modification; and Figs. 6 and 7 are views, in side and partial end elevation respectively, of a car equipped with side closing chains supported at the top by the horizontal bar, showing

other means for releasably locking the bar in position on the corner stakes.

Referring to the drawings, A is the underframe of the car, B B are the steel channel corner stakes of its end walls, which are usually closed by a sheathing of planks or of steel plate, and C C are the stakes which are set into the releasing stake-pockets 1 1, of the well-known or of any suitable type.

As shown in Fig. 1, the side closure of the car is completed by the horizontal bar D, a rigid bar of wood or metal, which is held in position near the top of the wall by the keeper-plates 2 2 on the corner stakes. For discharging the load from the car, the lower ends of the stakes are first released from the pockets, the stakes being thrown out and dropping, and then the bar is removed, after which the cane can be raked off.

In the form illustrated in Figs. 2 and 3, the steel channel bar D^1 is pivotally mounted at each end upon a corner stake B by means of a link-bar 3 which at one end is pivoted, at 4, to the outer flange of the stake and at the other end is secured upon the latch-rod 6, between a bearing-block 5 set in the end of the bar, and the latch 8. The latch-rod, which extends the entire length of the bar, is journaled in the two ends, and preferably in one or two intermediate, bearing-blocks and at one or both of its outer ends is extended and bent at a right angle to provide a lever-arm 7. Thus, when the bar is swung upward against the corner stakes, each of the latches 8 will engage a lug 9 carried by the outer flange of each corner stake and so lock the bar in position. A turn of the lever 7 serves to raise both latches simultaneously, thereby releasing the bar and allowing it to swing out and down below the underframe.

In the modification shown in Figs. 4 and 5 the bar D^1 is attached to the car at each end by a chain 3^1 fixed at its ends respectively to the latch-rod 6 carried by the bar and to an eye-bolt 4^1 on a corner stake. It is supported in position by brackets 10 fixed one to each corner stake and, as before, is locked to lugs 9 on the corner stakes by latches 8 fixed to swing together on the ends of the latch-rod.

As illustrated in Figs. 6 and 7 the bar D^2 is a length of pipe and the chains C^1, C^1, which are here used in place of stakes as the vertical elements of the closure, are fixed both to the underframe and to the bar.—for example, as shown, by eye-bolts 11, 11 set in the sill of the underframe and by eye-bolts 12, 12 passed through the walls of the bar. The bar is attached to the car at its two ends by chains 13, 13 each fixed to the bar by an eye-bolt 14 and to a corner stake by an eye-bolt 15 set in an angle-plate 16 carried on the back of the plate; and, supported upon brackets 17, 17 respectively fixed to a flange of each corner stake, is there locked in place by latches 18, 18 each of which is fixed to an end of the bar, as by passing its shank through and welding it to the walls of the bar, to extend rearwardly and at a downward angle through an opening 19 in the web of the corner stake and to engage the web below the opening, and is in turn locked in such engagement by a bent channel 20, with opening 21 in its web to admit the head of the latch, pivoted between the lugs of a hinge-block 22 carried by the stake. To release the bar, for the unloading of the car, the locking channel at one end of the car is swung back from the top of the latch which, due to the outward pressure and the obtuse angle at which its face is set with respect to its shank, will spring up a little and enough to engage the web of the channel and hold it out of locking position, as indicated in dotted lines in Fig. 7. The locking channel is then swung back from the head of the latch at the other end of the car, and both latches, being now unlocked, will release the bar and allow it to fall. The chains by which the bar is attached to the car not only permit it to drop below the level of the underframe but also, due to the point at which they are attached to the ends of the car, cause it to swing back from the side and so out of the way of the falling load.

The invention can be further modified in its several details, within the scope of the appended claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an open-top vehicle of the character described, the combination with an underframe and two spaced walls of a discharge side closure which comprises a bar and means for releasably securing the bar in horizontal position to the walls above the underframe, the said bar being movable when released to clear the side of the vehicle.

2. In a vehicle of the character described, the combination with an underframe and two spaced walls of a discharge closure which comprises a bar extending horizontally from wall to wall and attached thereto at a point and by means permitting it to move up and down thereon, means for releasably securing the bar in position on the walls near the top thereof, and a plurality of vertical elements supported at their lower ends on the underframe and at their upper ends by the bar.

3. In a vehicle of the character described, the combination with an underframe and two spaced walls of a discharge closure which comprises a plurality of stakes, means for releasably securing the lower ends of the stakes to the side of the underframe, and for the support of the upper ends of the stakes a bar extending horizontally from wall to

wall and releasably secured thereto and when released movable downward to the level of the underframe.

4. In a vehicle of the character described, the combination with underframe and two spaced walls of a discharge closure which comprises as an element thereof a bar extending horizontally from wall to wall and attached thereto at a point and by means permitting it to move upward to the top of the walls and downward below the walls and underframe and back thereunder, and means for releasably locking the bar to the walls near the top thereof.

5. In a vehicle of the character described, the combination with underframe and two spaced walls of a discharge closure which comprises a bar extending horizontally from wall to wall and supported near the top thereof on fixed supports, and as means for securing each end of the bar in place upon a support a latch which at its shank is fixed to the bar to extend rearwardly and downwardly therefrom and has a face set at an obtuse angle to its shank, adapted to engage, and be locked to, a fixed catch member carried by the wall.

LOUIS D. GREGG.