J. McGLADE.

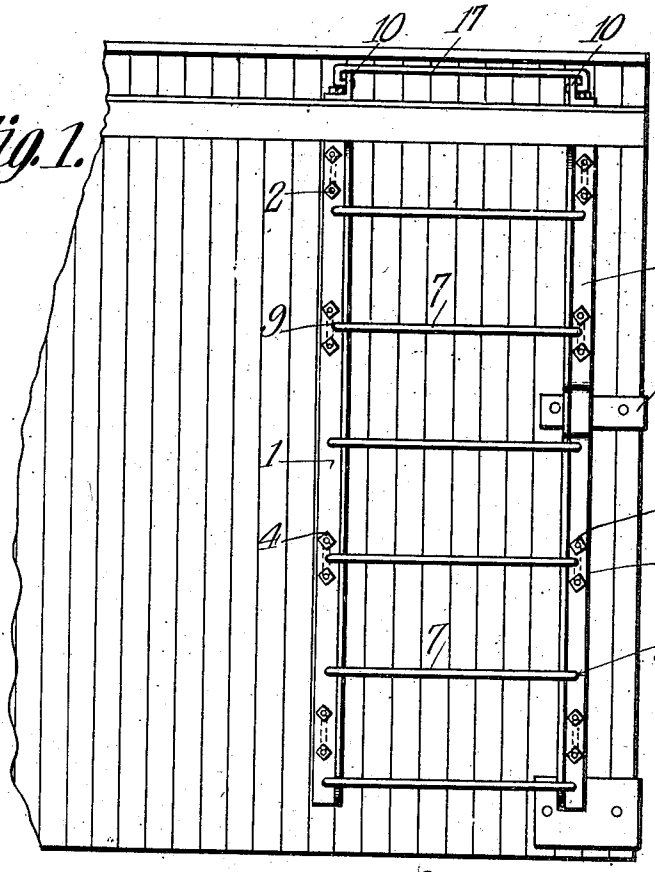
LADDER.

APPLICATION FILED JULY 19, 1909.

952,463.

Patented Mar. 22, 1910.

Fig. 1.



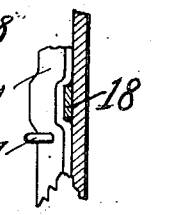


Fig. 5.

Fig. 2.

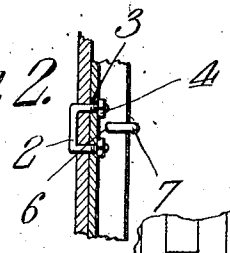


Fig. 4.

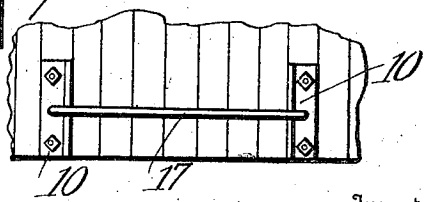
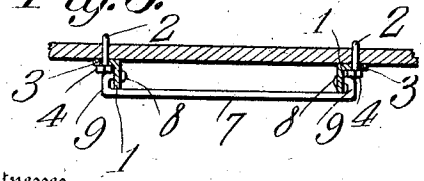


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN McGLADE, OF NEWTON, MISSISSIPPI.

LADDER.

952,463. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed July 19, 1909. Serial No. 508,383.

To all whom it may concern:

Be it known that I, JOHN McGLADE, a citizen of the United States, residing at Newton, in the county of Newton and State of Mississippi, have invented a new and useful Ladder, of which the following is a specification.

This invention has reference to ladders and is designed to supply a ladder which is adapted to be carried on box cars, and further to supply a hand hold for box, flat and gondola cars.

It contemplates the construction of a ladder and hold of this type and character which will eliminate the great loss of life now caused by ladders breaking loose, and by the inefficiency of such structures, and at the same time contemplates increasing the strength and durability of car ladders.

With the above and other ends in view the invention consists in the construction, combination and arrangement of parts all as hereinafter fully described, specifically claimed and illustrated in the accompanying drawings, wherein;—

Figure 1 is an elevation of one of my improved ladders secured to a box car. Fig. 2 is a longitudinal section taken through the angle iron and showing the method of securing the same to the car. Fig. 3 is a transverse section showing the method of securing the rounds or holds to the angle iron. Fig. 4 is a plan of the hand hold and the top of the car. Fig. 5 is a fragmental side elevation of one of the angle irons; a portion of the car, and the corner plate thereof, being shown in section.

My invention involves in its organization, a pair of angle irons 1, secured to the side of the car by the U bolts 2, having their extremities secured in the openings 3, piercing at regular intervals, the base portion of the angle irons. The means shown whereby the said bolts are secured to the angle irons comprises nuts 4 threaded upon the bolts, the extremities thereof may however, be swaged or welded to the angle irons or in fact secured by any of the many practical and suitable ways known to railroad mechanics.

The angle iron adjacent the car corner is recessed in its under face for the reception of the corner plate 18, thus permitting the iron to rest flush with the wall of the car.

Occuring at regular intervals along the outstanding flanges of the angle irons, are the orifices 6 in which are carried the rungs or holds 7. These holds comprise transverse bars each one of which is bent inwardly at its extremities forming hooks 9, which are received in said orifices 6, and secured therein by any suitable means, the bars being shown in the drawings as riveted at 8.

In order to provide a hold upon the roof of the car, there is carried thereon adjoining the ladder, a pair of stub angle bars 10, secured to the roof by U bolts similar to those used to secure the ladder, the stub-bars carrying a hold 17, of a construction identical with that of the rungs or holds 7 of the ladder.

From the foregoing it can readily be seen that the U bolts securing this ladder to the side of the car form a firm and reliable fastening means whereby the danger of the ladder being disengaged from the car is eliminated and the strength thereof is increased. It will further be noticed that should any of the rungs become broken or worn they may be replaced without any interference with the angle bars.

I have used the term "angle irons" throughout the foregoing description, and in the following claims, in its commonly accepted sense, to denote the shape of the members 1, and not as a phrase of limitation, to indicate that the members 1 must of necessity be fashioned from iron.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:—

1. A ladder comprising rails fashioned from angle members; means for detachably securing one flange of each angle member to a structure; and rungs connecting the other flanges of the angle members.

2. A ladder comprising rails fashioned from angle members; support-engaging bolts engaging one flange of each angle member; and rungs connecting the other flanges of the angle members.

3. A ladder comprising rails fashioned from angle members; support-engaging bolts engaging one flange of each angle member; and rungs terminally hooked to engage the other flanges of the angle members.

4. In a ladder structure for cars, a pair of angle members vertically secured to the side

of the car; a pair of angle members secured to the top of the car adjacent the ends of the first pair; and rungs connecting the angle members of each pair.

5. A ladder adapted to be mounted upon a car provided with a corner plate, the ladder comprising rails fashioned from angle members, one of which is recessed for the reception of the corner plates; and rungs uniting the rails.

6. A ladder adapted to be mounted upon a car provided with a corner plate, the ladder comprising rails, one of which is recessed for the reception of the corner plate; and rungs uniting the rails.

7. A ladder of the class described, comprising a pair of angularly formed vertically extending rails, means for detachably securing said rails to the side of a car, and rungs carried in the outwardly projecting angle portion of said rails.

8. A ladder of the class described, comprising a pair of vertically extending angle irons, means for detachably securing one arm of said angle irons to the side of a car, and rungs carried at regular intervals by the other of said arms.

9. In a ladder of the class described the combination with a support, of a pair of vertically extending angle irons, U bolts passing through the support and engaging the base arm of said angle irons at regular intervals, and rungs held in spaced parallel relation on the other of said arms.

10. In a device of the class described, a support; a pair of angle irons mounted vertically upon the support; U bolts extending through the support and securing the base arms of the angle irons to the support; and rungs carried by the outstanding arms of the angle irons, the rungs being bent inwardly to form hooks, there being orifices in the outstanding arms of the angle irons to receive the hooks.

11. In a ladder of the class described, the combination with a car, of a pair of vertically extending angle irons, U-bolts passing through one wall of the car and securing the base arms of said angle irons to said wall of the car; and a similar ladder secured to the top of the car in a like manner to form a hold.

12. In a ladder of the class described, a pair of vertically extending angle irons, the under face of one of said angle irons being recessed for the reception of the corner plate of the car, and rungs uniting the angle irons.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JNO. McGLADE.

Witnesses:
J. H. Charlwood,
Bill Pearce.