

J. H. McMANAMAN & E. GREINER.

CAR BOLT APPLIANCE.

APPLICATION FILED DEC. 4, 1911.

1,030,476.

Patented June 25, 1912.

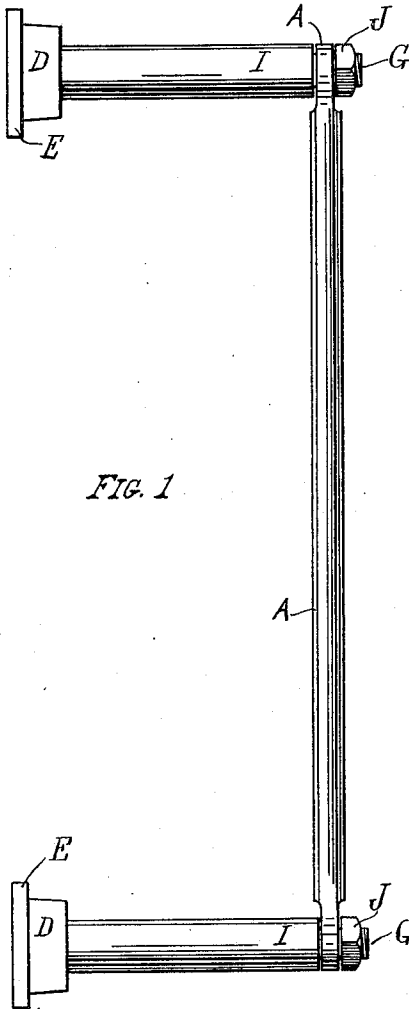


FIG. 1

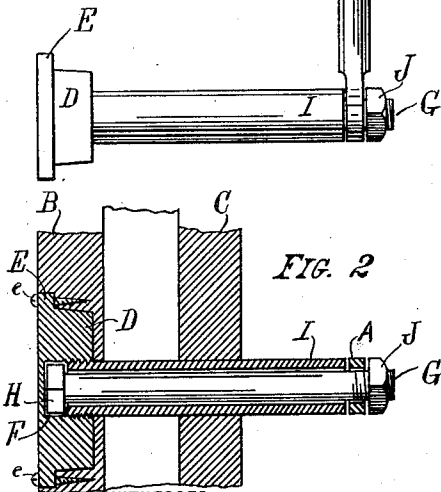


FIG. 2

WITNESSES:

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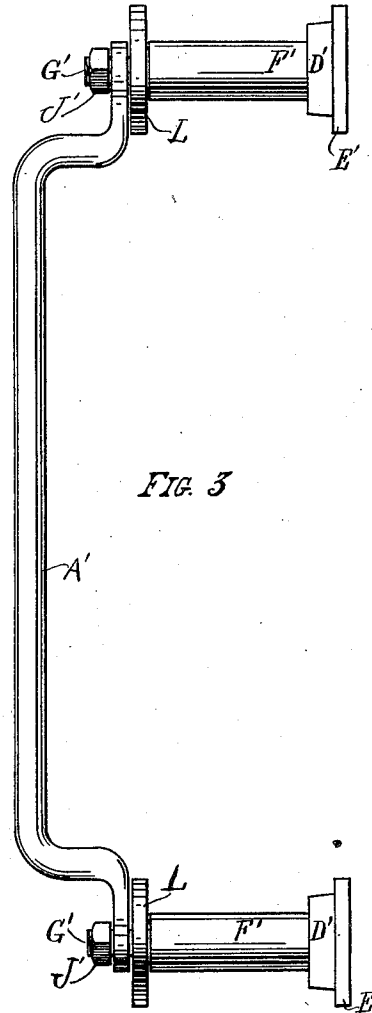


FIG. 3

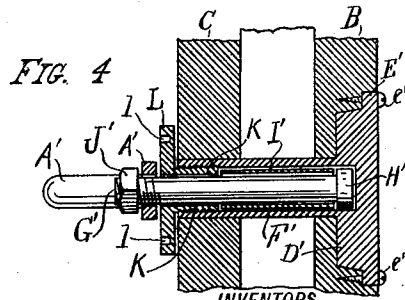


FIG. 4

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CAR-BOLT APPLIANCE.

1,030,476.

Specification of Letters Patent.

Patented June 25, 1912.

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To all whom it may concern:

Be it known that we, JAMES H. McMANAMAN and EMIL GREINER, citizens of the United States, residing, respectively, at Correctionville and Sioux City, in the county of Woodbury and State of Iowa, have invented certain new and useful Improvements in Car-Bolt Appliances, of which the following is a specification.

Our invention relates to improvements in car bolts and particularly to means for fastening the grab irons or ladders to freight cars. It is well known that the present means of fastening are unsatisfactory and dangerous in operation owing to the fact that the bolts securing the irons are of the usual kind inserted from the inside of the car, and when broken cannot be replaced without entering the car, and, if the car is loaded, removing or displacing a part of the contents. As this is practicable only at certain stopping points, it follows that cars are often continued in service with broken bolts and unsafe grab irons.

Our invention renders it unnecessary to enter the car to replace the bolts, as a permanent iron or steel head is embedded in the frame of the car on the inside in which the bolt is adjustably secured from the outside through an opening in the car frame. If a bolt is broken it may be quickly withdrawn and replaced from the outside.

The invention consists in the adjustment, combination and arrangement of parts, as will be hereinafter more specifically described and pointed out in the claims.

We have illustrated our invention in the accompanying drawing in which—

Figure 1 is a plan view of the same showing a straight grab iron or holder bar secured thereto. Fig. 2 is a cross-sectional view of the same showing our device secured to the car, with a cross-section of the car frame, the bolt proper and nut being in full lines. Fig. 3 is a view similar to Fig. 1 illustrating our invention as modified for use in connection with a curved grab iron. Fig. 4 is a view similar to Fig. 2, being a cross-section of the modified form shown in Fig. 3, adapted for curved grab hooks, and a cross-section of car frame, the bolt and nut being in full lines.

Referring to the drawing, A is a straight grab iron of ordinary design used to form the scaling ladders of freight cars.

B is the inside frame or lining of the car and C the outside frame or siding. Rectangular heads D having outer flanges E are counter sunk in the car lining at convenient distances for the adjustment of the grab irons, the outer surface being flush with the lining, and are firmly secured therein by screws *e* inserted in openings in the flanges and driven into the wood of the lining. A circular chamber or opening F is formed in each head, internally threaded and opening outwardly into a channel of the same diameter in the car frame. A bolt G somewhat smaller than the opening F and having a square head H is inserted freely in each opening and a sleeve I, externally threaded at the inner end, is placed over the bolt and secured in the head D by screwing it into the threaded opening in the head. The bolts and sleeves project out from the car, the bolts being somewhat longer than the sleeves, and after they are secured in the heads D the grab irons are adjusted to the bolts in the ordinary way abutting against the sleeves and secured on the bolts by nuts J on the threaded ends of the bolts. The heads of the bolts being larger than the bolts themselves, are firmly held within the heads D until the sleeves are removed. As the bolts and sleeves project some distance from the car, a space is left between the car and the grab irons for the hands and feet, thus forming a convenient ladder. If the bolts are broken it is necessary only to remove the sleeve by unscrewing it, when the bolt may be removed and a new one adjusted in the same manner.

In Figs. 3 and 4 is shown another form of bolt adapted for curved grab irons the ends of which may be secured flatly against the car. The heads D' are similar to those described, are counter sunk in the car lining and have flanges E' secured to the car by screws *e'*. A permanent stationary sleeve or flange F' is formed integrally with each of the heads D' and extends outward through the channel in the car wall to the outside of the car and is internally threaded at the outer end. The bolts G' which are somewhat smaller than the sleeves F' and have rounded heads H', are inserted in the sleeves F', and loose sleeves I', shorter than the bolts and smaller than the heads, are adjusted over the bolts. Sleeves K, externally threaded and having caps L integral there-

with, are adjusted over the bolts and screwed into the sleeves F', and with the sleeves I' fill the space between the heads of the bolts and the grab irons. Inset openings 1 are provided in the caps L for turning them by the insertion of a suitable tool. The bolts are thus firmly secured in the car wall and can be removed only when broken or by taking off the caps. The curved ends 10 of the grab irons A' are then adjusted to the bolts and secured by the nuts J'.

Our device may be adapted for other purposes than securing grab irons. In fact, it may be used in any of the places where the 15 bolts need frequent replacement and the nuts must be applied to the bolts from the outside of the car.

Having described our invention, what we claim as new and desire to secure by Letters 20 Patent, is,—

1. A car bolt appliance consisting of a solid head adapted to be secured to the inside of a car frame, said head having a round central chamber opening outward 25 into a channel in the car wall, a sleeve se-

cured to said head, a bolt in the sleeve with head secured in said chamber and a nut adjustable to the projecting end of said bolt.

2. A car bolt appliance consisting of a solid head adapted to be secured to the inside of a car frame, a sleeve integral with the head adapted to extend outward through a channel in the car wall and being internally threaded at the outer end, a bolt with head adapted for adjustment in said sleeve, 30 a loose sleeve on the headed end of said bolt, a sleeve externally threaded adapted to be secured in the threaded end of the external sleeve and having a cap integral therewith, signed our names in the presence of two wit- 35 bolt. 40

In testimony whereof we have hereunto signed our names in the presence of two witnesses.

JAMES H. McMANAMAN.
EMIL GREINER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."