

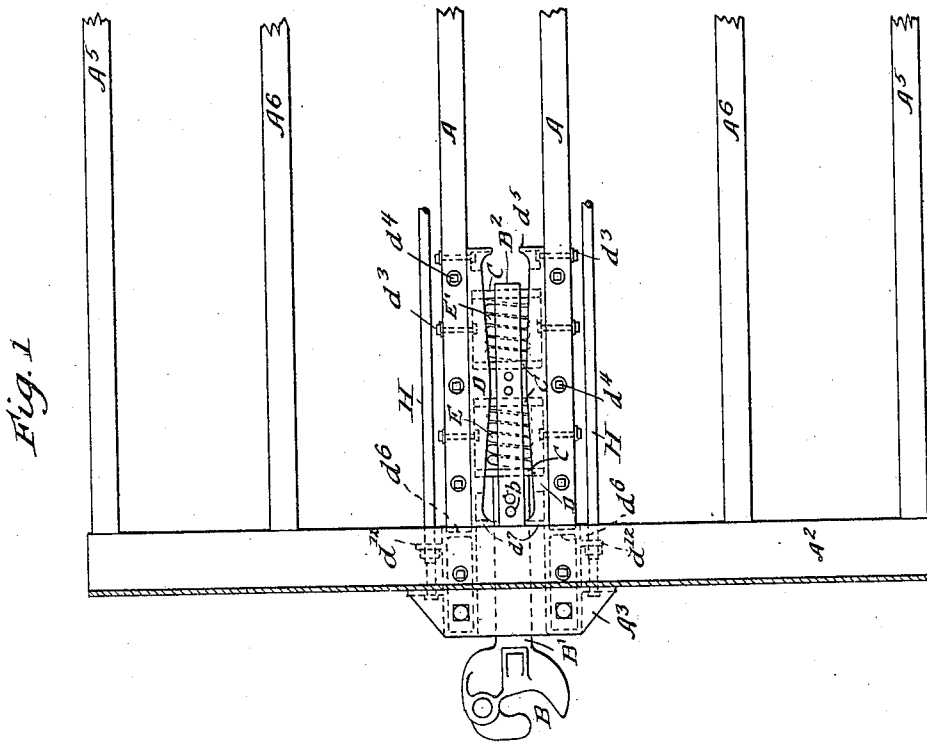
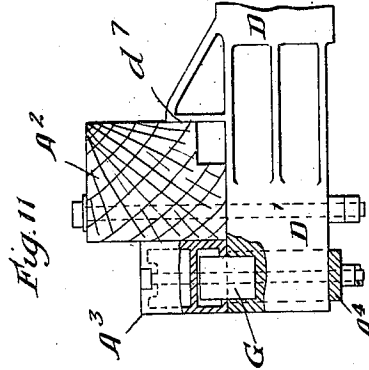
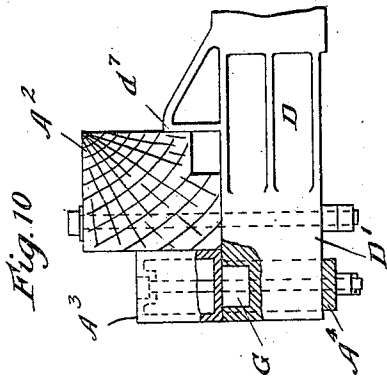
No. 838,563.

PATENTED DEC. 18, 1906.

J. R. MITCHELL.
DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED APR. 28, 1905.

5 SHEETS—SHEET 1.



Witnesses:

Wm. Geiger
P. Abrams.

Inventor:
John R. Mitchell

By Munday, Evans & Adcock.
Attorneys

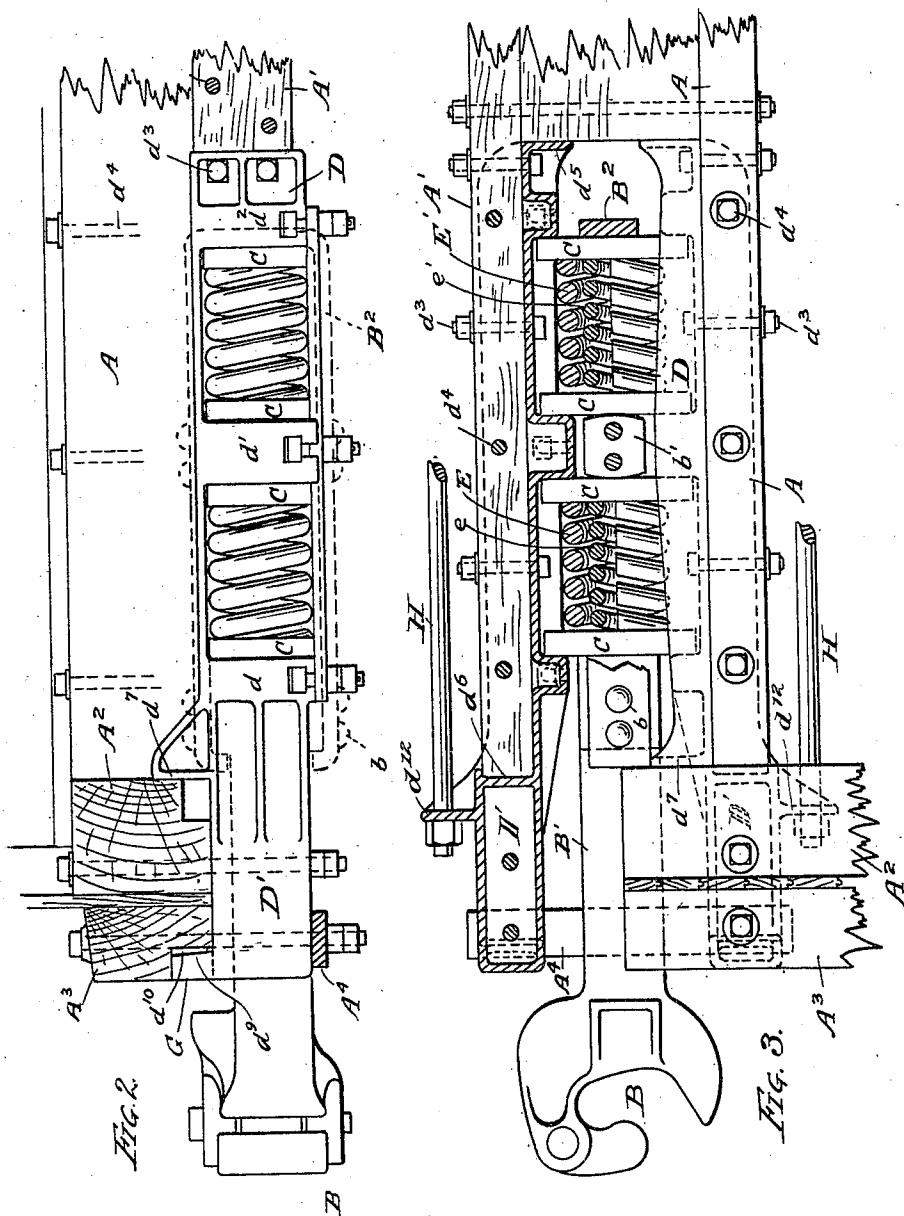
No. 838,563.

PATENTED DEC. 18, 1906.

J. R. MITCHELL.
DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED APR. 28, 1905.

6 SHEETS—SHEET 2.



WITNESSES:
F. B. Townsend
Wm. Geiger

INVENTOR.
John R. Mitchell.
BY
Munday, Everts & Adenck
ATTORNEYS

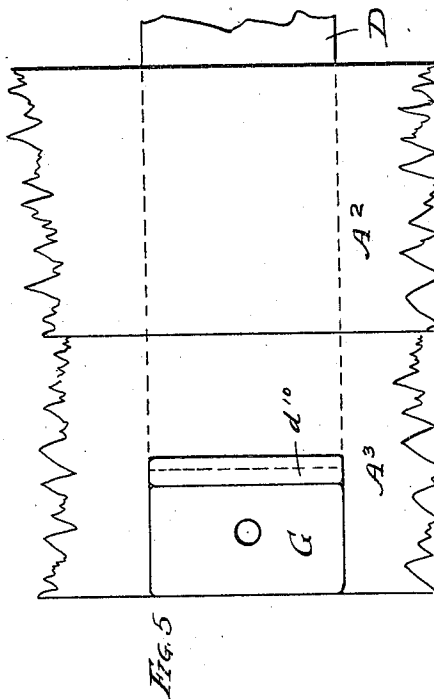
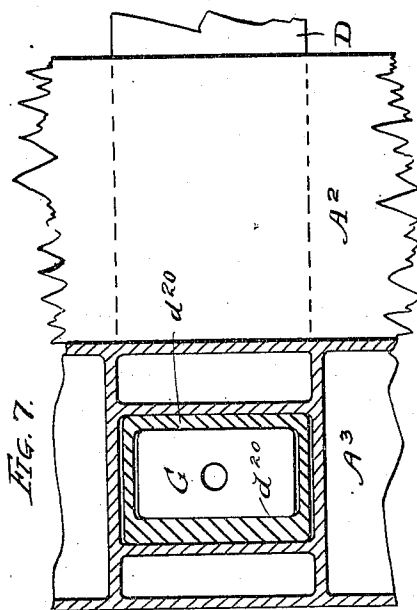
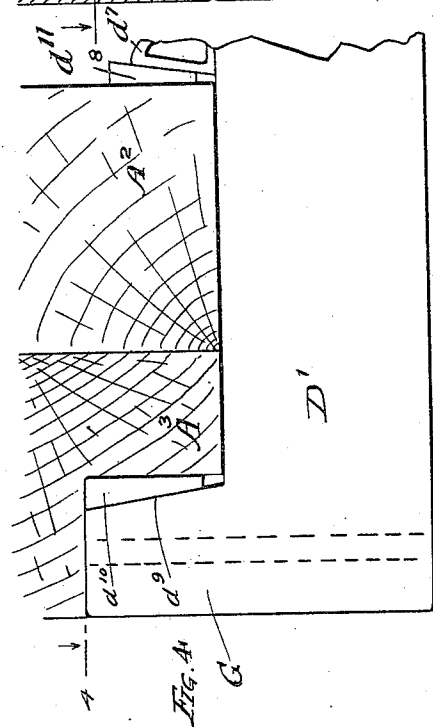
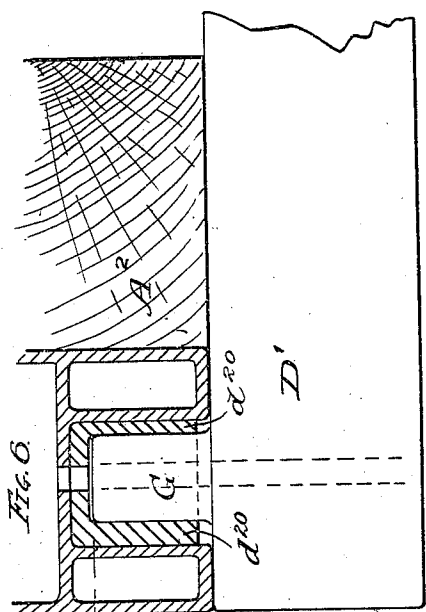
No. 838,563.

PATENTED DEC. 18, 1906.

J. R. MITCHELL.
DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED APR. 28, 1905.

5 SHEETS—SHEET 3.



WITNESSES:
F. B. Townsend
Wm. Geiger

INVENTOR.
John R. Mitchell
BY
Munday, Evans & Adcock
His ATTORNEYS

No. 838,563.

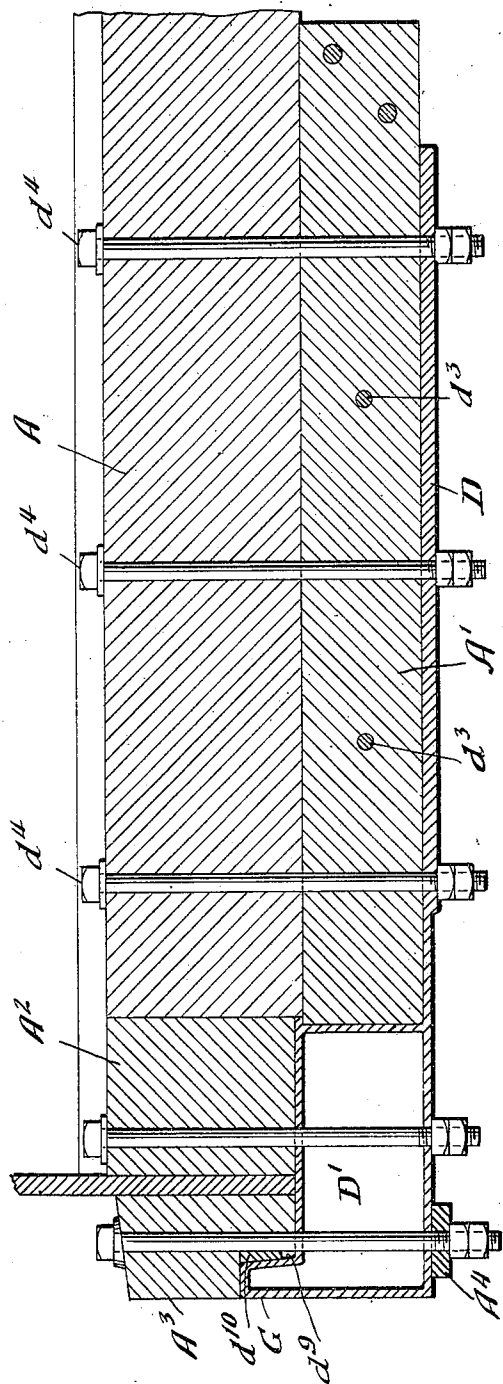
PATENTED DEC. 18, 1906.

J. R. MITCHELL.
DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED APR. 28, 1905.

5 SHEETS—SHEET 5.

Fig. 12



Witnesses

Wm. Geiger
J. W. Mundy

Inventor:
John R. Mitchell

By Munday, Evans & Adcock,
Attorneys

UNITED STATES PATENT OFFICE.

JOHN R. MITCHELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO W. H. MINER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DRAFT-RIGGING FOR RAILWAY-CARS.

No. 838,563.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed April 28, 1905. Serial No. 257,803.

To all whom it may concern:

Be it known that I, JOHN R. MITCHELL, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to improvements in draft-rigging for railway-cars.

10 The object of my invention is to provide a draft-rigging of a simple, strong, and efficient construction in which the side plates or stop-castings may be very securely anchored to the car-framework and in which the buffing strains may be transmitted to the several longitudinal sills of the car through the end sill and buffer-block or front cross frame-pieces of the car, so that the buffing strains may be distributed to the several longitudinal sills and resisted by them all instead of being confined to and coming entirely upon the center sills and draft-timbers in cases where draft-timbers are employed in addition to the center sills.

25 My invention consists in the means I employ to practically accomplish this object or result, as herein shown and described—that is to say, it consists, in connection with the car-framework comprising the ordinary longitudinal sills and end sill and buffer-block, of draft-rigging side plates or stop-castings, preferably having extensions projecting under the end sill and buffer-block or front cross-framework of the car, and connections between the side plates or stop-castings and the end sill and buffer-block or front cross frame-pieces of the car, whereby buffing strains are in part transmitted from the side plates or stop-castings to the front cross frame-pieces and through them in part to the side and intermediate sills of the car-framework, thus relieving the center sills of a portion of the buffing strain. The connection between the side plates or stop-castings of the draft-rigging and the front cross frame-pieces of the car may be of any suitable construction, but preferably consists of an integral horn projecting from the upper face of each of the side plates or stop-castings and adapted to engage and bear against the buffer-block.

My invention also consists in the novel construction of parts and devices and in the

novel combinations of parts and devices herein shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of a draft-rigging embodying my invention. Fig. 2 is a side elevation, partly in vertical section. Fig. 3 is a plan view, partly in horizontal section. Fig. 4 is an enlarged detail view, partly in vertical longitudinal section. Fig. 5 is an enlarged detail plan view looking from line 4 4 of Fig. 4. Fig. 6 is a side elevation, partly in vertical section, illustrating a modification. Fig. 7 is a plan view, partly in horizontal section, on line 8 8 of Fig. 6 of the construction shown in Fig. 6. Fig. 8 is a detail view, partly in vertical longitudinal section, illustrating a modification; and Fig. 9 is a plan view, partly in horizontal section. Fig. 10 illustrates a modified construction of the connection between the side plate and front cross frame-piece of the car, and Fig. 11 shows still another modification of this connection. Fig. 12 is a central longitudinal vertical section through one of the center sills and draft-timbers.

In the drawings I have illustrated my invention as applied to a car-framework construction having wood longitudinal sills and cross-sill and wood draft-timbers; but it will be understood by those skilled in the art that my invention may be applied to any other construction of car-framework. For convenience also I have in the drawings illustrated my invention as applied to an ordinary form of tandem-spring draft-rigging, although of course it may be used with any other construction of draft-rigging and whether the cushioning devices are springs or friction acting.

In said drawings, A A represent the center sills; A' A', the draft-timbers; A², the front or cross sill; A³, the buffer-block; A⁴, the carry-iron; A⁵, the side sills, and A⁶ the intermediate sills.

B is the coupler; B', the draw-bar; B², the draw-bar extension or yoke secured to the draw-bar by rivets *b* and having the abutment-block *b'* at its middle portion.

C C C C are the followers, and E E' *e e'* tandem-arranged springs, and D D the side plates or stop-casting secured to the center sills or draft-timbers and each furnished with

stops d d' d^2 for the followers to abut against. Each of the side plates or stop-castings D is rigidly secured to the draft-timbers and center sills by horizontal and upright bolts d^3 d^4 .

5 Each of these side plates or stop-castings preferably has a rear flange d^5 . Each of the side plates or stop-castings D or its integral extension D' is further provided at its front end with a shoulder d^6 , which abuts against
10 the front end of the draft-timbers, and with an upwardly-projecting shoulder d^7 , which abuts against the rear face of the front or cross sill A². Each of the side plates D is also provided with an integral laterally-projecting shoulder d^{12} for connection with the
15 tie-rod H of the car-framework and which extends to the middle portion of the car. This affords an additional anchorage for the side plates or stop-castings against pulling strains, the lateral tie-rod shoulders d^{12} cooperating
20 with the shoulders d^7 , that engage the end sill, to very securely anchor the side plates of the draft-rigging to the car-framework against pulling strains.

25 G is the connection between each of the side plates or stop-castings D and the front frame-pieces of the car. This connection G preferably consists of an integral horn projecting upwardly from the upper face of the stop-casting D, and it preferably engages the
30 extreme front cross-piece of the car-frame—that is to say, the buffer-block A³, which fits against the end sill A² of the car and transmits the buffing strain to it and through it in
35 part to all the longitudinal sills of the car.

In the modification illustrated in Fig. 10 the connection or horn G is cast integral with the metal buffer-block A³, and the stop-casting D is provided with a cavity or recess to
40 receive said connection or horn, this construction being just the reverse of that illustrated in Fig. 5.

In the modification illustrated in Fig. 11 the horn G is made in a separate piece, and
45 both the buffer-block and the stop-casting are provided with a cavity or recess to receive the separate piece connection or horn G. In the modification illustrated in Fig. 4 a wedge or filler-piece d^{11} is inserted between
50 the lug d^7 and the end sill A². To secure a snug engagement between this connection or horn G and the buffer piece or block A³, especially if said block A³ is of wood and liable to shrinkage, I provide the horn or connection
55 G with a wedging or inclined rear face d^9 and insert between it and the buffer-block a wedge or filler-piece d^{10} , which may feed downward as the wood shrinks, and thus always maintain a snug engagement between
60 the horn or connection G on the stop-casting D and the car-frame member A³.

In the modification illustrated in Figs. 8 and 9 the buffer block or piece A³ is illustrated as being of metal, in which construction
65 said member A³ is preferably provided

with a cavity or recess a' to surround and receive the connection or horn G, and thus afford an engagement therewith at bottom, sides, and rear.

In the modification illustrated in Figs. 6
70 and 7 the filler-piece or wedge d^{20} to take up wear surrounds the construction or horn G. As illustrated in these Figs. 6 and 7, the filler-piece or wedge d^{20} is made in the form of a cap or thimble and entirely surrounds the
75 connection or horn G.

By my improved construction of draft-rigging side plates or stop-castings extended under the buffer-block and provided with integral upwardly-projecting horns to engage
80 the buffer-block and through it and the end sill transmit buffing strains in part to all the longitudinal sills of the car I am enabled to so reinforce and strengthen the draft connection on the large number of ordinary wood-
85 sill cars with wooden draft-timbers now in use that they may be safely used coupled promiscuously in a train with modern heavy steel-sill cars now being largely built, and this without making any change whatever in
90 the construction of the old wood sill and wooden draft-timber cars excepting to substitute my improved draft-rigging side plates or stop-castings for those heretofore in use and wherein the buffing strains are transmitted
95 from the side plates or stop-castings of the draft-rigging only to the center sills and draft-timbers secured thereto.

I claim—

1. In a draft-rigging for railway-cars, the
100 combination with the longitudinal sills, front end sill and buffer-block, of draft-timbers secured to the central longitudinal sills, and draft-rigging side plates or stop-castings secured to said draft-timbers and extending
105 under said front end sill and buffer-block, and provided at the front ends thereof with upwardly - projecting abutments bearing against the buffer-block to cause buffing strains to be transmitted in part from the
110 side plates or stop-castings through the buffer-block and end sill and the several longitudinal sills of the car, substantially as specified.

2. In a draft-rigging for railway-cars, the
115 combination with the front end sill of the car and the longitudinal sills and draft-timbers secured to the central longitudinal sills, of side plates or stop-castings secured to said draft-timbers and extending under said
120 front end sill, and abutting devices on the front ends of said side plates or stop-castings bearing against the front end sill of the car to distribute buffing strains from and through
125 said side plates or stop-castings and the end sill to the several longitudinal sills, substantially as specified.

3. In a draft-rigging for railway-cars, the combination with the longitudinal center
130 sills, side sills and intermediate sills, and the

front cross frame-piece of the car, of draft-timbers secured to the center sills, side plates or stop-castings secured to said draft-timbers and also secured to the center sills and
 5 extending under the cross frame-piece, said side plates or stop-castings being provided at their front ends with abutting devices bearing against said cross frame-piece for transmission of buffing strains from the side
 10 plates or stop-castings through said cross frame-piece to said side and intermediate sills, substantially as specified.

4. In a draft-rigging for railway-cars, the combination with the longitudinal sills, and
 15 front cross frame-piece of the car, of draft-timbers secured to the central longitudinal sills, side plates or stop-castings secured to said draft-timbers and extending under the front cross frame-piece and having on their
 20 front ends abutting devices bearing against said front cross frame-piece to transmit buffing strains from the side plates or stop-castings through said front cross frame-piece in part to all the longitudinal sills of the car, substantially as specified.
 25

5. In a draft-rigging for railway-cars, the combination with the draw-bar, springs and followers and a front or cross sill and the buffer block or piece, of a pair of side plates or
 30 stop-castings, each furnished with an integral upwardly-projecting shoulder engaging the rear face of the cross-sill, and with an upwardly-projecting horn on its upper face engaging the buffer block or piece, substantially as specified.
 35

6. In a draft-rigging for railway-cars, the combination with the draw-bar, springs and followers and a front or cross sill and the buffer

block or piece, of a pair of side plates or stop-castings, each furnished with an integral upwardly-projecting shoulder engaging
 40 the rear face of the cross-sill, and with an upwardly-projecting horn on its upper face engaging the buffer block or piece, said horn having a wedging or inclined face, and a
 45 wedge or filler-piece interposed between said horn and the buffer block or piece, substantially as specified.

7. In a draft-rigging for railway-cars, the combination with the front end sill and buffer-block of the car, of a side plate or stop-casting extending under the same and furnished on its upper side with an upwardly-projecting horn engaging said buffer-block of
 50 the car to transmit buffing strains from said side plates or stop-castings through the buffer-block and end sill in part to all the longitudinal sills of the car, substantially as specified.

8. In a draft-rigging for railway-cars, the combination with the buffer-block and end sill of the car, of a side plate or stop-casting extending under the same and furnished on its upper side with an upwardly-projecting
 60 horn engaging said buffer-block of the car, said horn having an inclined or wedging face, and a wedge or filler-piece interposed between said horn and said buffer-block of the car to transmit buffing strains from said side plate or stop-casting in part to
 70 all the longitudinal sills of the car, substantially as specified.

JOHN R. MITCHELL.

Witnesses:

H. M. MUNDY,
 WILLIAM A. GEIGER.