

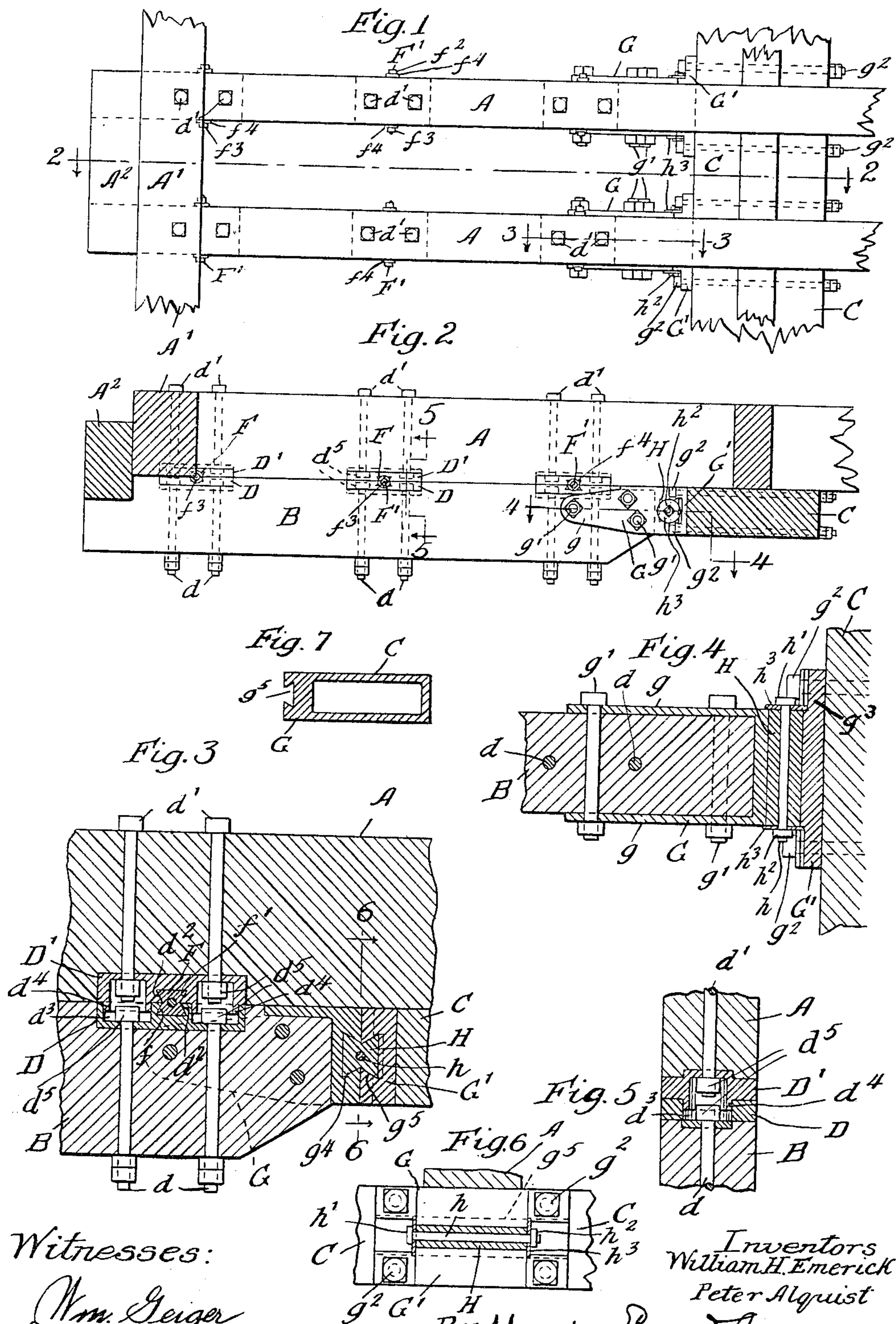
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CAR FRAME.

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CAR-FRAME.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM H. EMERICK, residing in Osawatomie, in the county of Miami, in the State of Kansas, and PETER ALQUIST, residing in Memphis, in the county of Shelby, in the State of Tennessee, citizens of the United States, have invented a new and useful Improvement in Car-Frames, of which the following is a specification.

Our invention relates to improvements in car-frames, and more particularly to means for removably connecting draft-timbers or other parts to the center sills and other members of the car-framework.

The object of our invention is to provide a simple, strong, efficient, and durable means for removably connecting the draft-timbers to center sills and body-bolster or other parts of the car-framework.

Our invention consists in the means we employ to practically accomplish this object or result—that is to say, it consists, in connection with the center sills and body-bolster of a car, of draft-timbers removably connected both to the center sills and body-bolster, so that the draft-timbers may be easily and quickly removed and replaced by new ones when broken without the necessity of unloading the car and whereby at the same time the draft-timbers will be very strongly and firmly anchored and secured in place and connected with both the center sills and bolster.

Our invention further consists, in connection with the center sills, body-bolster, and draft-timbers, of dovetail connecting-plates secured to the draft-timbers and center sills and dovetail connecting-plates secured to the draft-timber and body-bolster, the connecting-plates being furnished with removable dovetail keys which when removed enable the draft-timbers to be readily taken out and replaced.

Our invention further 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 portion of a car-frame embodying our invention. Fig. 2 is a vertical section on line 2 2 of Fig. 1. Fig. 3 is an enlarged detail vertical section on line 3 3 of Fig. 1. Fig. 4 is an enlarged detail horizontal section on the

broken line 4 4 of Fig. 2. Fig. 5 is an enlarged vertical section on the broken line 5 5 of Fig. 2. Fig. 6 is a cross-section on line 6 6 of Fig. 3, and Fig. 7 is a detail view illustrating a modification in which a metal bolster is employed.

In the drawings, A A represent the draft or center sills of a railway-car, A' the front or cross sill, and A² the buffer-block.

B B are the removable draft-timbers to which the side plates or stop-castings are secured in the customary manner.

C is the body-bolster of the car body or frame.

To removably connect the draft-timbers B with the center sills A, the draft-timbers are furnished with a series of dovetail connecting-plates D, rigidly secured thereto by bolts *d*, and they cooperate with corresponding dovetail connecting-plates D', rigidly and firmly secured to the center sills A and end sill A' by bolts *d'*. The connecting-plates D and D' are furnished on their meeting faces with registering dovetail grooves *d*² to receive a removable double dovetail key F, by which the connecting-plates D D' are removably secured together. The connecting-plates D and D' are further provided on their meeting faces with registering and interfitting recesses *d*³ and bosses or projections *d*⁴, which serve to additionally lock and secure the connecting-plates against movement in the plane of their meeting faces. The heads *d*⁵ of the bolts *d* *d'* fit in suitable countersinks or recesses formed in the connecting-plates D D', so that the heads of the bolts will not interfere with the proper interengagement of the connecting-plates. Two bolts are preferably employed for each of the connecting-plates D D', one on each side of the dovetail grooves and key F, and one of the connecting-plates is preferably provided with two bosses or projections *d*⁴, one on each side of the dovetail key, the same entering corresponding recesses in the other connecting-plate. The double dovetail removable key F has one dovetail member *f* fitting in the dovetail groove of one connecting-plate and another dovetail member *f'* fitting in the dovetail groove of the other connecting-plate, so that the dovetail key securely locks the connecting-plates together. To lock or secure the dovetail key in place, it is provided with a

bolt F' , having a head f^2 and nut f^3 and furnished with washers $f^4 f^4$, projecting over the marginal faces of the key and fitting against or engaging the upright faces of the connecting-plates $D D'$, so that the bolt and its washers thus lock the key in place, while permitting its ready removal by first taking out the bolt.

To removably connect the draft-timbers B with the body-bolster C , the draft-timbers B are provided at their rear ends with dovetail connecting-plates G , furnished with flanges or straps g and bolts g' for connecting the same to the draft-timbers and which cooperate with corresponding dovetail connecting-plates G' , which are secured to the body-bolster C by bolts g^2 , extending through extension-flanges g^3 of the plates G' . The connecting-plates $G G'$ are furnished on their meeting faces with dovetail grooves $g^4 g^5$, respectively, to receive the removable double dovetail key H , which is held or locked in place by a bolt h , having heads h' , nuts h^2 , and washers h^3 . By this means we not only removably connect the draft-timbers with the center sills, but also with the body-bolster, and at the same time provide an extremely strong, safe, and reliable connection between the draft-timbers and the car-framework and enable the draft-timbers to be quickly removed and replaced when broken or when desired. While our connecting-plates are specially intended and designed for cooperation with draft-timbers and center sills and body-bolster or other frame members of a car-body, the same may be used for removably connecting other parts and removably securing them together.

In the modification illustrated in Fig. 7 a metal bolster is employed and the connecting-plate G' is cast integral therewith.

We claim—

1. In a car-frame, the combination with the center sills and body-bolster, of removable draft-timbers, and dovetail connecting-plates for removably connecting the draft-timbers with the center sills and body-bolster, substantially as specified.

2. In a car-frame, the combination with the center sills and body-bolster, of removable draft-timbers, dovetail connecting-plates for removably connecting the draft-timbers with the center sills and body-bolster, and removable keys fitting in the dovetail grooves of the connecting-plates, substantially as specified.

3. In a car-frame, the combination with the center sills and body-bolster, of removable draft-timbers, dovetail connecting-plates for removably connecting the draft-timbers with the center sills and body-bolster, removable keys fitting in the dovetail grooves of the connecting-plates, and bolts and washers for locking the removable keys in place, substantially as specified.

4. In a car, the combination with the center sills and body-bolster, of removable draft-timbers, dovetail connecting-plates secured to the center sills, cooperative dovetail connecting-plates secured to the draft-timbers, removable dovetail keys, dovetail connecting-plates secured to the body-bolster, and cooperative dovetail connecting-plates secured to the draft-timbers at the ends thereof, and removable dovetail keys connecting said dovetail connecting-plates on the body-bolster with those on the ends of the draft-timbers, substantially as specified.

5. In a car, the combination with the center sills and body-bolster, of removable draft-timbers, dovetail connecting-plates secured to the center sills, cooperative dovetail connecting-plates secured to the draft-timbers, removable dovetail keys, dovetail connecting-plates secured to the body-bolster, cooperative dovetail connecting-plates secured to the draft-timbers at the ends thereof, removable dovetail keys connecting said dovetail connecting-plates on the body-bolster with those on the ends of the draft-timbers, said dovetail keys having bolts for locking the same in place, substantially as specified.

6. In a car, the combination with the center sills and body-bolster, of removable draft-timbers, dovetail connecting-plates secured to the center sills, cooperating dovetail connecting-plates secured to the draft-timbers, said connecting-plates secured to the center sills and draft-timbers having interengaging recesses and bosses or projections on their meeting faces, removable dovetail keys, dovetail connecting-plates secured to the body-bolster, and cooperating dovetail connecting-plates secured to the draft-timbers at the ends thereof, and removable dovetail keys connecting said dovetail connecting-plates on the body-bolster with those on the ends of the draft-timbers, substantially as specified.

7. In a car, the combination with frame sills or members, of dovetail connecting-plates secured thereto and having dovetail grooves on their meeting faces, and provided also on their meeting faces with interengaging bosses or projections, and a removable double-dovetail key, substantially as specified.

8. In a car, the combination with frame sills or members, of dovetail connecting-plates secured thereto and having dovetail grooves on their meeting faces, and provided also on their meeting faces with interengaging bosses or projections, a removable dovetail key and a bolt for locking the removable key in place, substantially as specified.

9. In a car, the combination with frame sills or members, of dovetail connecting-plates secured thereto and having dovetail grooves on their meeting faces, and provided also on their meeting faces with interengaging bosses or projections, a removable dove-

tail key and a bolt for locking the removable key in place, said bolt having washers fitting each against the adjacent faces of both connecting-plates, substantially as specified.

5 10. In a car, the combination with a frame member, of a removable frame member, connecting-plates D D' secured, respectively, to said members, and provided with dovetails on their meeting faces, and with an interengaging boss and recess, and a removable key, 10 substantially as specified.

11. In a car, the combination with a frame member, of a removable frame member, connecting-plates D D' secured, respectively, to 15 said members and provided with dovetails on their meeting faces, and with an interengaging boss and recess, a removable key, and a bolt for locking the key in place, substantially as specified.

20 12. The combination with a body-bolster and draft-timbers, of a connecting-plate secured to the body-bolster, a connecting-plate secured to the end of the draft-timber, and said connecting - plates being provided on 25 their meeting faces with dovetail grooves and with a removable double-dovetail key, substantially as specified.

13. In a car, the combination with the body-bolster, of draft-timbers removably

connected to the body-bolster, and dovetail 30 connecting-plates, substantially as specified.

14. In a car, the combination with the body-bolster of draft-timbers removably connected to the body-bolster, and dovetail connecting - plates, said dovetail connecting- 35 plates having dovetail grooves on their meeting faces, and a double dovetail key fitting in said dovetail grooves, substantially as specified.

15. In a car, the combination with the 40 body-bolster of draft-timbers removably connected to the body-bolster, and dovetail connecting - plates, having dovetail grooves on their meeting faces, a double-dovetail key fitting in said dovetail grooves, and a bolt for 45 locking the key in place, substantially as specified.

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