

UNITED STATES PATENT OFFICE.

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CAR-BODY.

No. 819,047.

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-Bodies, of which the following is a specification.

Our invention relates to improvements in car-bodies, and more particularly to the framework of the car-body and the means for connecting posts and sills or other frame-timbers.

The object of our invention is to provide a car-body frame of a strong, simple, efficient, and durable construction in which the posts and sills or other frame members may be very strongly, rigidly, and effectually connected together and whereby at the same time the posts or superstructure may be easily and conveniently connected and disconnected from the horizontal frame or sill work of the car-body when desired or required for repair or replacement or other purposes.

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 horizontal framework or sills of the car-body and the posts or uprights members, of connecting-plates secured, respectively, to the horizontal framework or sills and to the upright frame members or posts and furnished with dovetail grooves on their meeting faces and a removable dovetail key fitting in the dovetail grooves of the connecting-plates and serving to rigidly and firmly connect together these connecting-plates and the frame members to which they are respectively secured.

It further consists in providing the connecting-plates and dovetail key with registering slots to receive and cooperate with the tie-rod which is combined with these parts.

It further consists in the novel construction of parts and devices and in the novel combination of parts and devices herein shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation showing a portion of a car-body embodying our invention. Fig. 2 is a horizontal section on line 2 2 of Fig. 1. Fig. 3 is a

detail vertical section on line 3 3 of Fig. 2, and Fig. 4 is a detail vertical section on line 4 4 of Fig. 2. Fig. 5 illustrates a modification.

In the drawings, A A represent the center sills, B the end sill, and C C the posts or upright frame members, of a car-body frame embodying our invention.

D D are connecting-plates secured to the sills or horizontal framework of the car, and F F are connecting-plates secured to the posts or upright members of the car-frame. The connecting-plates D are secured to the car-sills by bolts d , the heads d' of which fit in countersunk recesses d^2 in the connecting-plates D. The connecting-plates D are also preferably furnished with integral bosses or projections d^3 , which fit in corresponding recesses b' of the sill or horizontal framework of the car to more securely fix the connecting-plates D firmly and rigidly in place thereon. The connecting-plates F are each furnished with upwardly-projecting flanges f , forming sockets f' to receive the lower ends of the posts C, and thus firmly and rigidly confine the posts from horizontal movement in any direction in respect to the connecting-plates F. The connecting-plates F and D are provided on their meeting faces with dovetail recesses or grooves $d^5 f^2$, in which fit a removable dovetail key G, the key being of a double-dovetail form, its dovetail g fitting in the dovetail d^5 of the connecting-plate D and its dovetail g' fitting in the dovetail f^2 of the connecting-plate F. The double-dovetail key G when forced into place in the dovetails of the connecting-plates thus serves to rigidly and firmly and at the same time removably secure together the connecting-plates D and F and the car-frame members connected thereby.

E is the upright tie-rod, which extends through the sill or horizontal frame member of the car-body alongside the posts C to the top or roof of the car. To receive the tie-rods E, the connecting-plates D and F and key G are furnished with registering slots or grooves $d^6 f^3 g^2$ and which thus cause the tie-rod to cooperate with the two connecting-plates and the dovetail key in rigidly and firmly connecting the parts together. To hold the key G in place and prevent its slipping out, it is provided with a screw or bolt g^3 , which extends through a hole in the key and is se-

cured to the horizontal sill or framework of the car. By this means the posts and superstructure of the framework of the car are thus very strongly, firmly, and rigidly connected with the sills or horizontal framework and at the same time adapted to be easily and quickly removed and replaced whenever desired or required. The registering slots or grooves of the connecting-plates and key and the tie-rods are on opposite sides of the posts C C, so that the tie-rods, while not interfering with the removal of the keys, will coact together in preventing horizontal movement of the posts in respect to the horizontal sills or framework of the car-body.

While our connecting-plates for removably securing together the frame members of a car-body are specially designed and adapted for use for removably connecting the upright posts with the sills, the same may be used for removably connecting other parts.

In cases where a frame member—as, for example, the upright post—is made of metal, as illustrated in Fig. 5, the connecting-plate F may be cast integral therewith, if desired, the lower end of the post being suitably grooved to receive the removable locking-key.

We claim—

1. In a car-frame, the combination with the sills or horizontal framework, of the posts or upright framework, connecting-plates secured to the horizontal sills or framework, connecting-plates having sockets for receiving the posts or upright frame members, said connecting-plates being provided on their meeting faces with dovetail grooves, a double-dovetail key fitting in the dovetail grooves of the connecting-plates for removably securing the same together, said connecting-plates and key being provided with registering upright grooves or slots and tie-rods fitting in said grooves or slots of the connecting-plates and key, substantially as specified.

2. In a car-frame, the combination with the horizontal and upright frame members, of connecting-plates furnished with dovetails on their meeting faces and a removable locking-key for removably securing the connecting-plates together, substantially as specified.

3. In a car-frame, the combination with the horizontal and upright frame members, of connecting-plates furnished with dovetails on their meeting faces and a removable dovetail key for removably securing the connecting-plates together, and a tie-rod, the

connecting-plates having registering slots to receive the tie-rod, substantially as specified.

4. In a car-frame, the combination with the horizontal and upright frame members, of connecting-plates furnished with dovetails on their meeting faces and a removable dovetail key for removably securing the connecting-plates together, and a tie-rod, the connecting-plates having registering slots to receive the tie-rod, and the key being also provided with a registering slot to receive the tie-rod, substantially as specified.

5. In a car-frame, the combination with the horizontal and upright frame members, of connecting-plates furnished with dovetails on their meeting faces and a removable dovetail key for removably securing the connecting-plates together, and a tie-rod, the connecting-plates having registering slots to receive the tie-rod, and a bolt or screw for holding the key in place, substantially as specified.

6. The combination with two frame members, of a pair of connecting-plates, one furnished with a socket to receive one of the frame members, and both provided with dovetails on their meeting faces, and a removable double-dovetail key, substantially as specified.

7. The combination with two frame members, of a pair of connecting-plates, one furnished with a socket to receive one of the frame members, and both provided with dovetails on their meeting faces, a removable double-dovetail key, and a tie-rod, said connecting-plates and key having registering slots to receive the tie-rod, substantially as specified.

8. The combination with two frame members, of a pair of connecting-plates, one furnished with a socket to receive one of the frame members, and both provided with dovetails on their meeting faces, of a removable double-dovetail key, and a tie-rod, said connecting-plates and key having registering slots to receive the tie-rod, and means for holding the key in place, substantially as specified.

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