

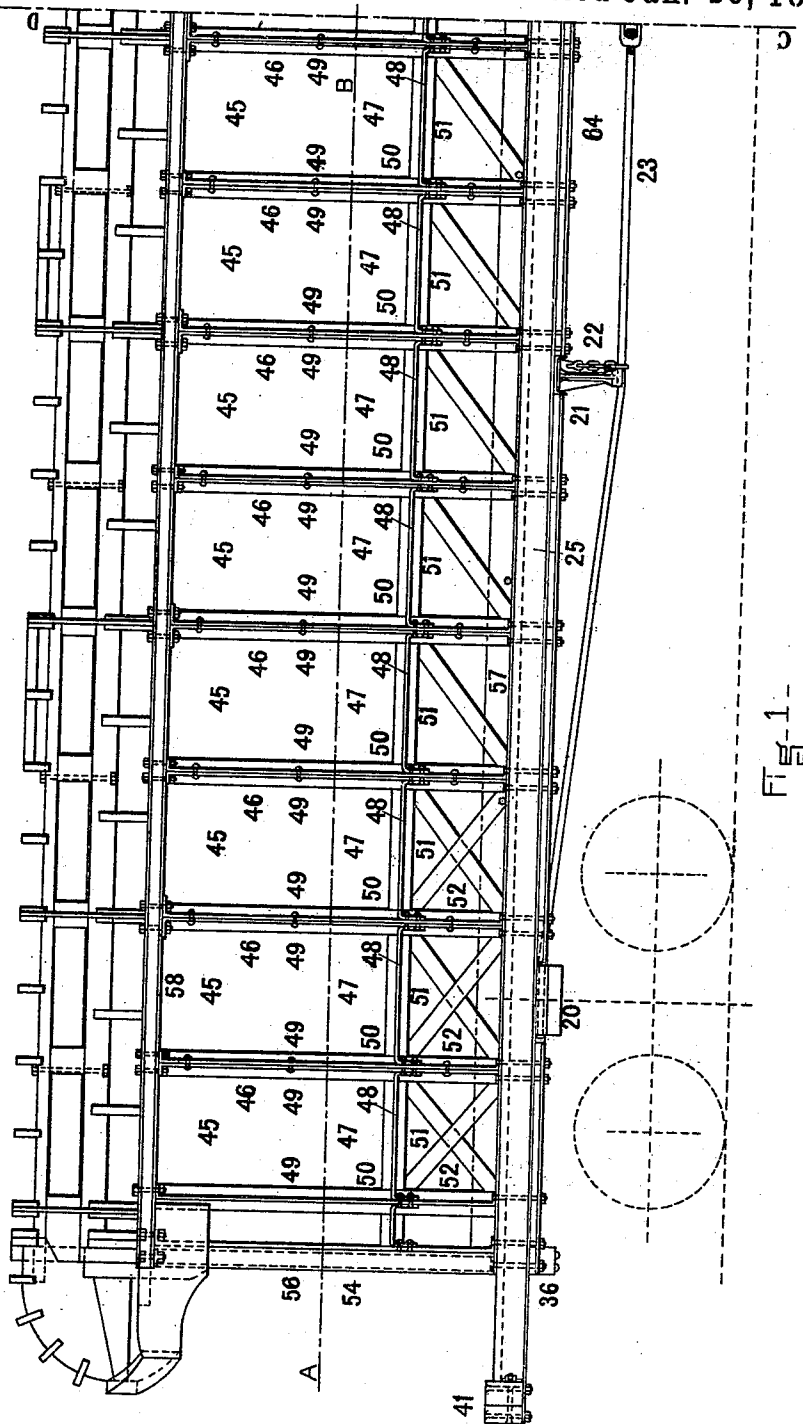
(No Model.)

L. K. JEWETT.
CAR CONSTRUCTION.

4 Sheets—Sheet 1.

No. 512,969.

Patented Jan. 16, 1894.



WITNESSES

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Harold S. Bangs

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BY

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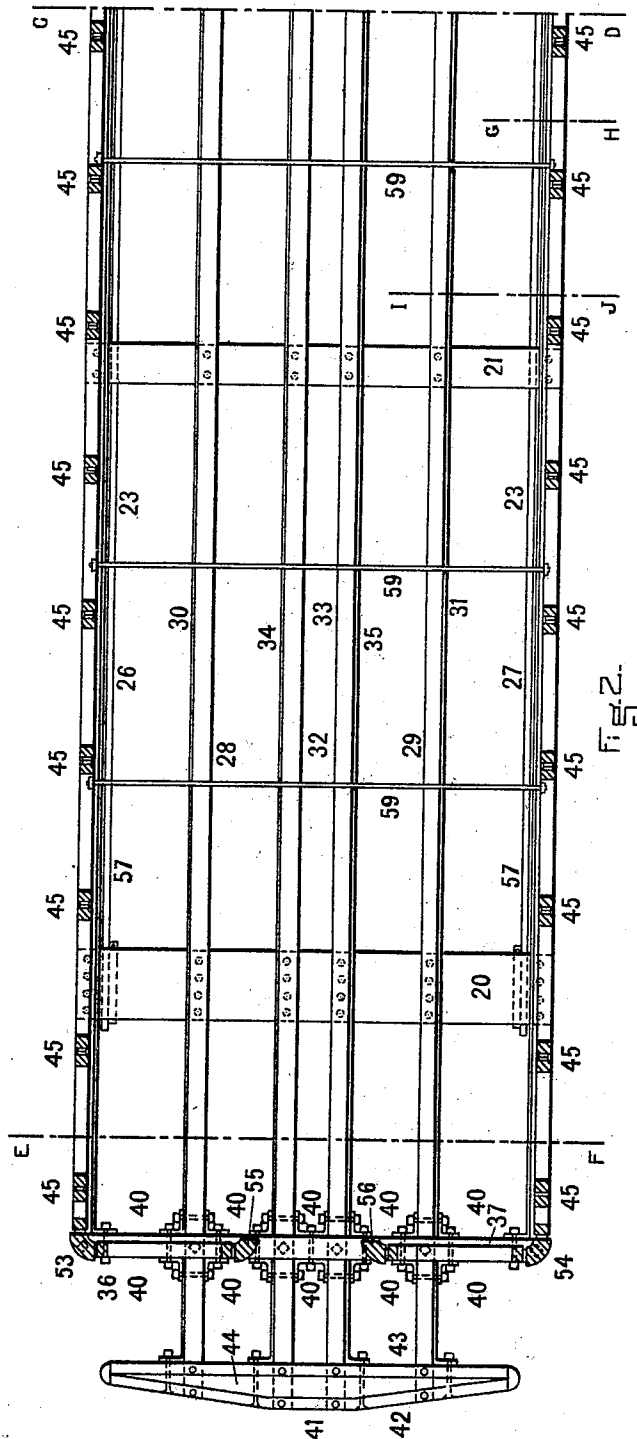
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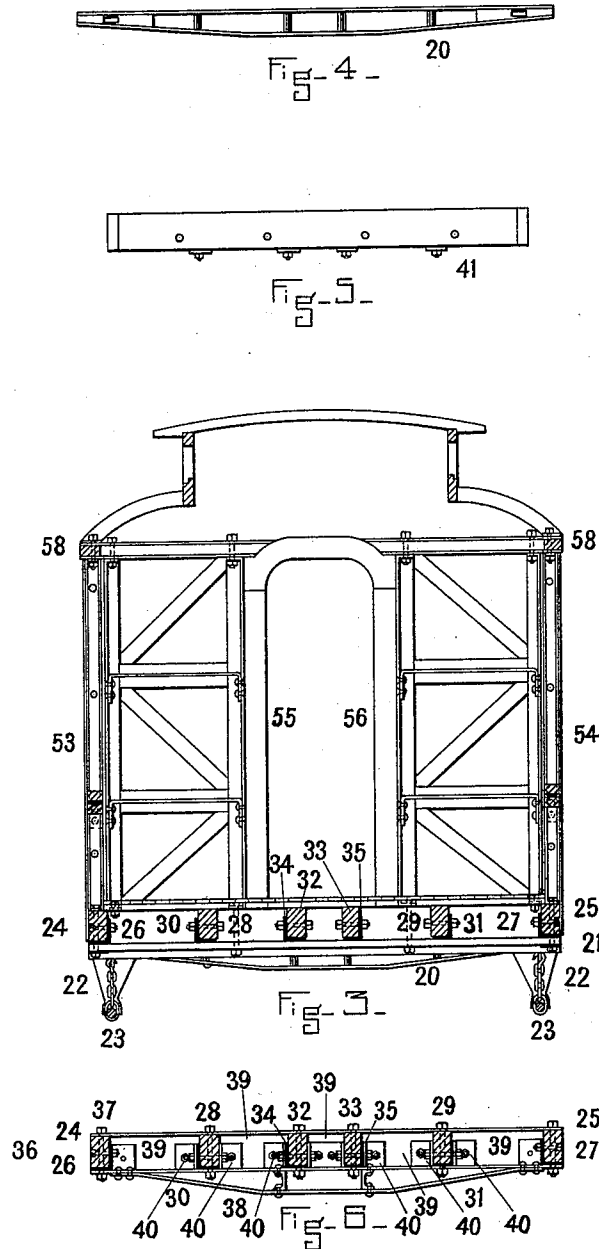
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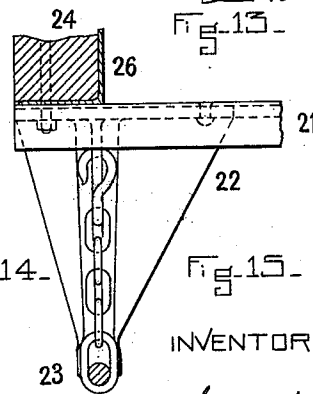
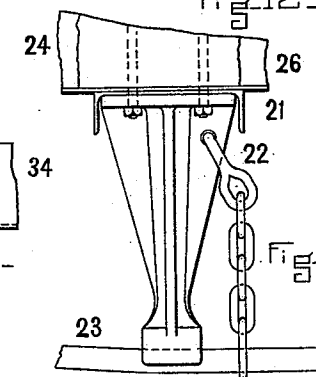
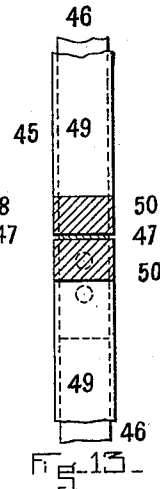
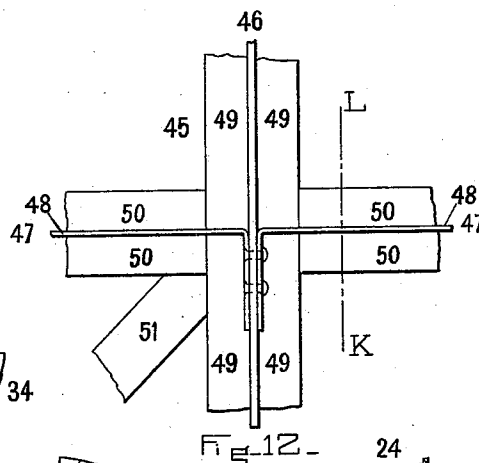
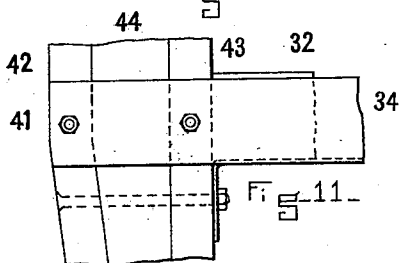
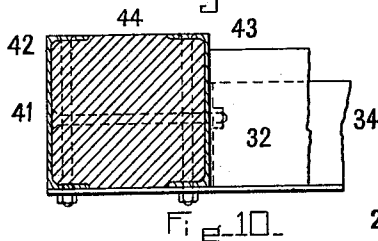
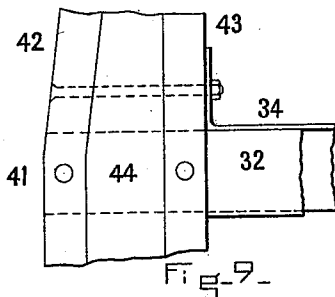
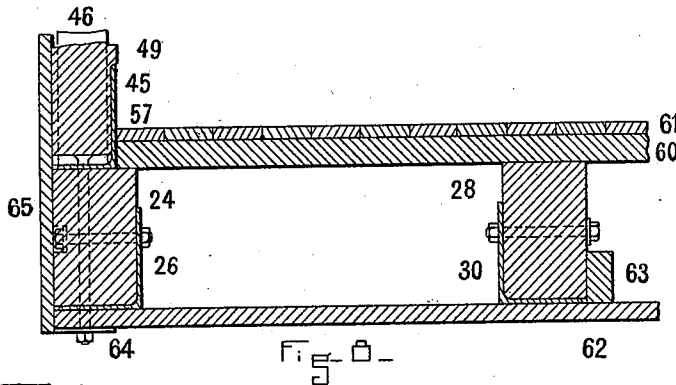
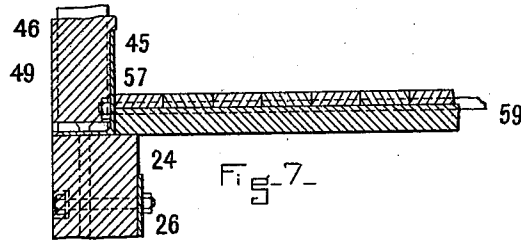
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UNITED STATES PATENT OFFICE.

LUTHER K. JEWETT, OF BOSTON, MASSACHUSETTS.

CAR CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 512,969, dated January 16, 1894.

Application filed September 11, 1893. Serial No. 485,279. (No model.)

To all whom it may concern:

Be it known that I, LUTHER K. JEWETT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Car Construction, of which the following is a specification.

My invention relates to car construction, especially to passenger car construction of a composite class.

The object of my invention is to produce passenger cars that will be very strong and durable, the cost of which shall not be excessive.

Figure 1 represents in side elevation one half (in length) of a passenger car, in frame. Fig. 2 is a plan of Fig. 1 on section line A. B. Fig. 3 is a sectional elevation of Figs. 1 and 2 on line C. D. Fig. 4 represents in elevation the car body bolster. Fig. 5 is a front elevation of the buffer-beam. Fig. 6 is a sectional view of Fig. 2 on line E. F. Figs. 7 to 15 inclusive are enlarged views of some of the details of the car construction. Fig. 7 is a sectional view of Fig. 2 on line G. H. showing the construction and arrangement of the sill tie rod. Fig. 8 is a sectional view of Fig. 2 on line I. J. showing mainly the under and main floors, the deafening ceiling, and their construction. Figs. 9, 10 and 11 are views showing the sectional construction of the buffer beam and the means employed to fasten it to the car sills. Fig. 9 is a plan of a portion of the buffer-beam and one of the car sills. Fig. 10 is a side elevation of Fig. 9, and Fig. 11 is an inverted plan of Fig. 9. Fig. 12 represents in elevation a portion of one of the window posts, and belt rail, with nailing pieces and braces, and Fig. 13 is a sectional view of Fig. 12 on line K. L. Fig. 14 represents in end elevation the needle beam, truss rod safety chain, and a part of the side sill, and the truss rod, and Fig. 15 is a side view of Fig. 14.

The parts composing the roof of the car shown in the drawings are substantially the same as in ordinary use, and consists mainly of carlings, rafters, roof boards, platform roof, platform roof carlings—platform roof end carlings, and roof apron.

The car body bolster 20, which is securely fastened to the angle steel car sills, as repre-

sented in Figs. 1, 2, 3 and 4 is constructed as shown, and it is substantially the same in its construction and arrangement, as described and claimed in my application for Letters Patent for "car body bolsters," filed in the United States Patent Office April 3, 1893, Serial No. 468,894. And the needle beam 21, truss rod support 22, truss rod 23, and the means employed for securing the truss rod support to the needle beam, and the truss rod to the car body bolster 20, as represented in the drawings (Figs. 1, 2 and 3) are of substantially the same construction and arrangement, as described and claimed in my application for Letters Patent for "car body bolsters," filed in the United States Patent Office September 4, 1893, Serial No. 484,765. The wood side sills 24 and 25 are provided with the angle steel sills 26 and 27 respectively and in the same manner the intermediate sills 28 and 29 are provided with the angle steel sills 30 and 31, so also are the center sills 32 and 33 provided with the angle steel sills 34 and 35. Each wood and steel sill are preferably fastened together by means of bolts, as shown in Fig. 3, thereby forming a composite sill. The side sills 24 and 25, end at the end sill 36, the construction of which is particularly represented in Figs. 2 and 6. The end sill 36 is of a composite class and it is composed of the steel plate 37, (placed above the sills,) and the queen post truss 38, (placed underneath the sills,) between which, the wood blocks 39 are placed, the whole being strongly riveted and bolted together as shown. The strengthening angles 40 are placed in the corners formed by the sills and end sill to which they are bolted as represented.

The buffer-beam 41 is of the composite class and it is constructed as follows: It is composed of two steel channels (referring especially to Figs. 9, 10 and 11) 42 and 43 between which is placed the wood piece 44. Each lower member of each angle steel intermediate and center sill extends underneath the buffer beam to which it is bolted as represented, so also is each side member of the same angle steel sills bent at right angles, and bolted to the buffer beam as shown. It will be observed that this method of construction is of the very strongest, the parts composing the

buffer beam being strongly bolted together and to the intermediate and center sills.

The window posts 45 are alike and each composite post is composed of the steel member 46, made, riveted, and bolted as shown, which also serves as a sill and plate rod.

The belt rail 47 is of composite construction and it consists of the steel pieces, as 48, which are riveted to the members 45. On each side of each of the members 45 and 48 are placed the wood nailing pieces as 49 and 50, respectively, (each piece 49 being made in two lengths,) which are securely driven into and nailed in place. These wood pieces are designed to receive the exterior and interior finish. Between the belt rail and sill are placed the wood side body braces and body counterbraces, as 51 and 52, respectively. In a similar manner to the window posts are made the corner posts 53 and 54 and the door posts 55 and 56 which are provided with nailing pieces and braces as represented by Figs. 1, 2 and 3.

The top of each side sill is provided with the angle steel 57, referring especially to Figs. 1, 7, and 8, which is designed to receive the lower legs of the window posts which are bolted to the sill by means of bolts which pass through the sill. The upper legs of the window posts are bolted to the plate 58 in a similar manner.

The sill tie rods 59 tie the side sills together by means of the angle steel 57 to which the tie rods are fastened.

The under floor 60 may be nailed to the sills and the main floor 61 provided as shown in Figs. 7 and 8.

The deafening ceiling 62 is secured to the center and intermediate sills by means of nails using the nailing pieces, as 63, represented in Fig. 8, and the ceiling is fastened to the side sills by means of the steel plate, as 64, which is held in position by means of the bolts which pass through the sill as shown.

It will be observed, referring to Fig. 8, that the outside finish 65 of the car may be readily nailed to the window post and belt rail nailing pieces, the side body braces, and body counterbraces, the side sill, and the deafening ceiling.

It is claimed that my car construction possesses many novel, excellent, and valuable features. It is designed to use in construction, only steel of commercial sizes. The wood sills are of the same cross section. So are the angle steel sills. The capacity of a

car, constructed in accordance with my invention, to resist operating or collision strains would be very great, and its cost would not be excessive. It is apparent, that many minor changes might be made in constructing a car in accordance with this specification without departing from my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. In car construction, the composite car sills, comprising the wood and angle steel sills and the angle steel on top of the side sills, substantially as described.

2. In car construction, the composite end sill, each sill being composed of the steel plate, wood blocks, truss, and strengthening angles, in combination with the car sills, substantially as and for the purposes set forth.

3. In car construction, the composite buffer beams, each beam being composed of the two steel channels with a wood block between them, in combination with the car sills, substantially as set forth.

4. In car construction, the composite car sills, comprising the wood and steel angle sills and the angle steel on top of the side sills, and the composite plate, in combination with the composite window posts, and belt rail, substantially as described.

5. In car construction, the composite sills, comprising the wood and steel angle sills and the angle steel on top of the side sills and the composite plate, in combination with the composite window posts, each post being composed of the steel member, which is provided with the outwardly projecting legs and the window post nailing pieces, and the composite belt rail, substantially as described.

6. In car construction the composite longitudinal and end sills and the composite buffer beam, in combination with the window posts, each post being composed of the steel member each end of which is provided with the outwardly projecting legs, and the window post nailing pieces; the composite rail; and the body braces and counter braces, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LUTHER K. JEWETT.

Witnesses:

E. FRANK. WOODBURY,
CHARLES L. ELLIS.