E. POSSON.

RAILWAY CAR.

APPLICATION FILED OCT. 21, 1907.

1,013,310.

Patented Jan. 2, 1912.

4 SHEETS—SHEET 1.

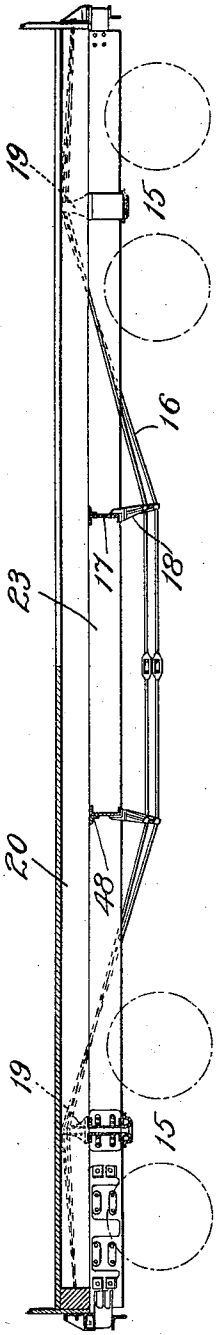

Fig. 1.

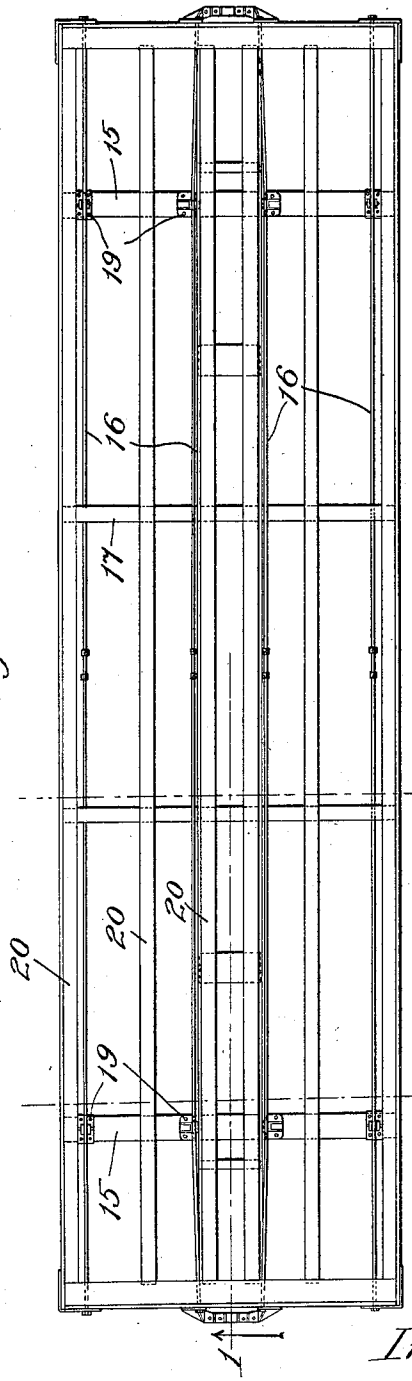

Fig. 2.

Witnesses:

Chas. E. Gaylord.

Chas. H. Buell.

Inventor:

Edward Posson.

By Sheridan & Wilkinson,

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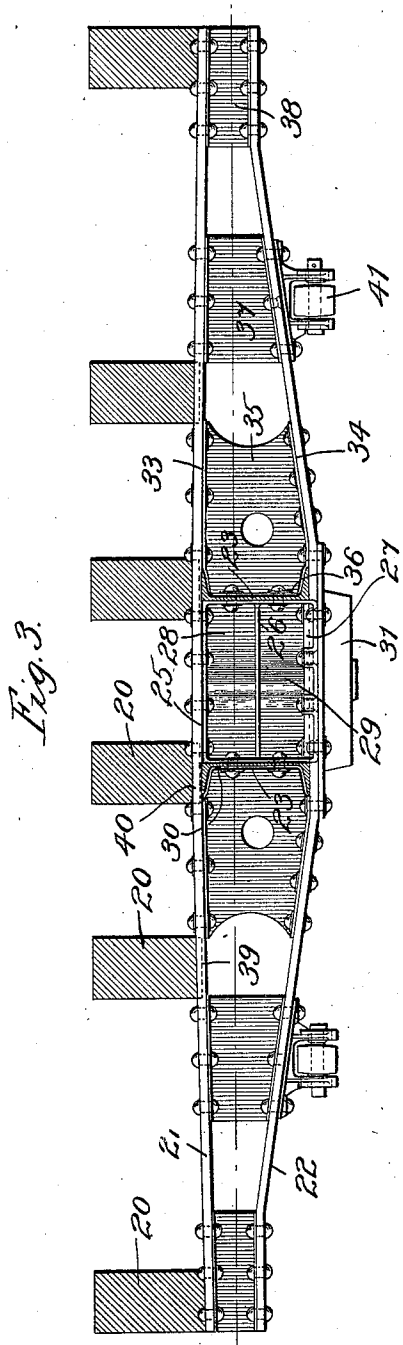

Fig. 3.

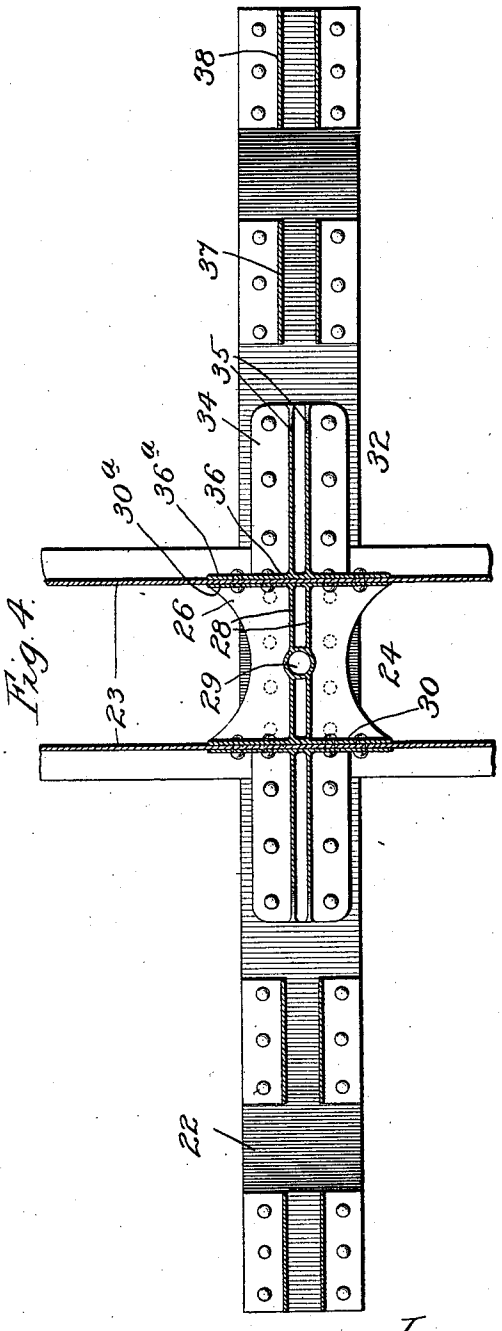

Fig. 4.

Witnesses:

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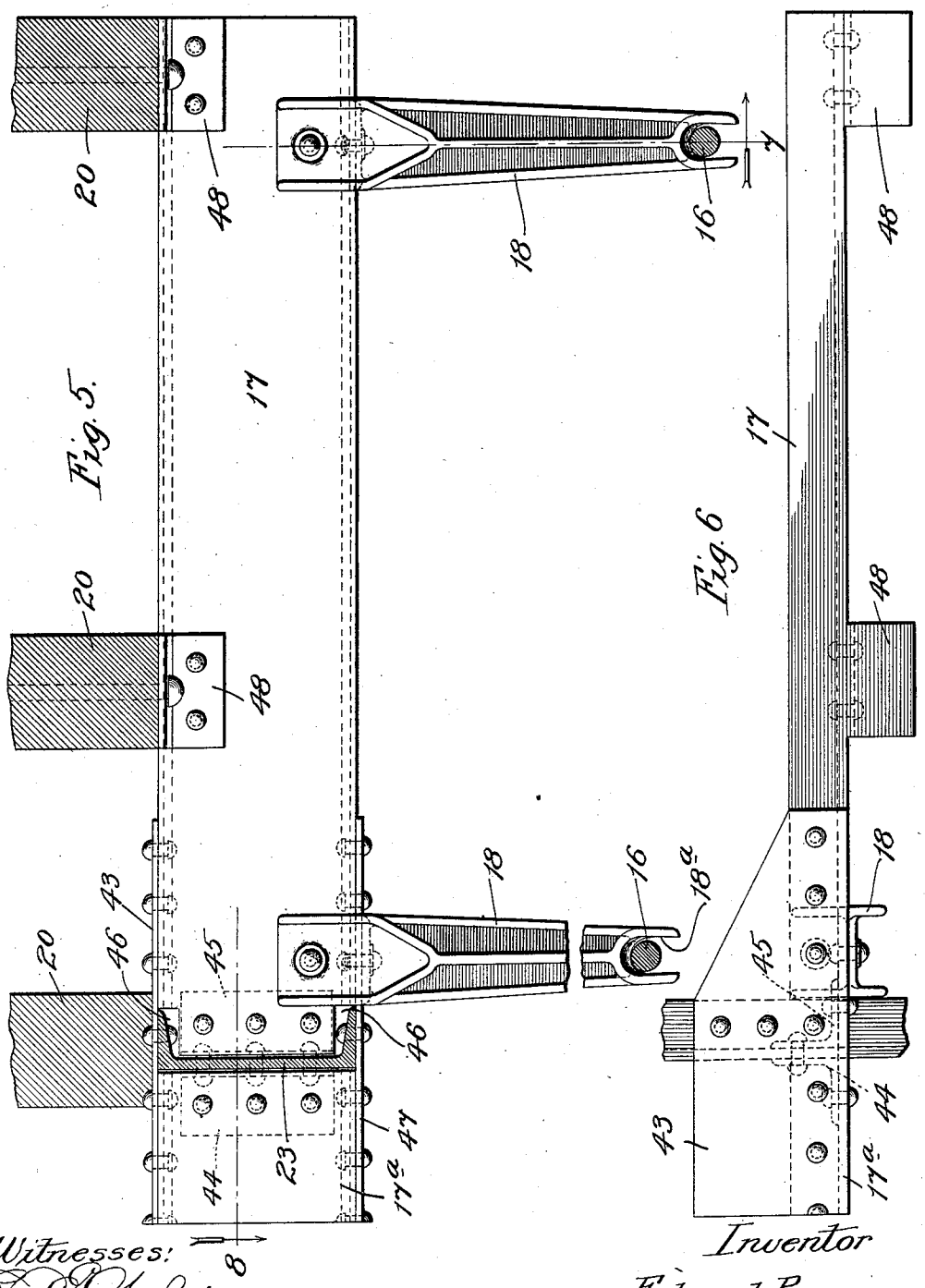

Witnesses:

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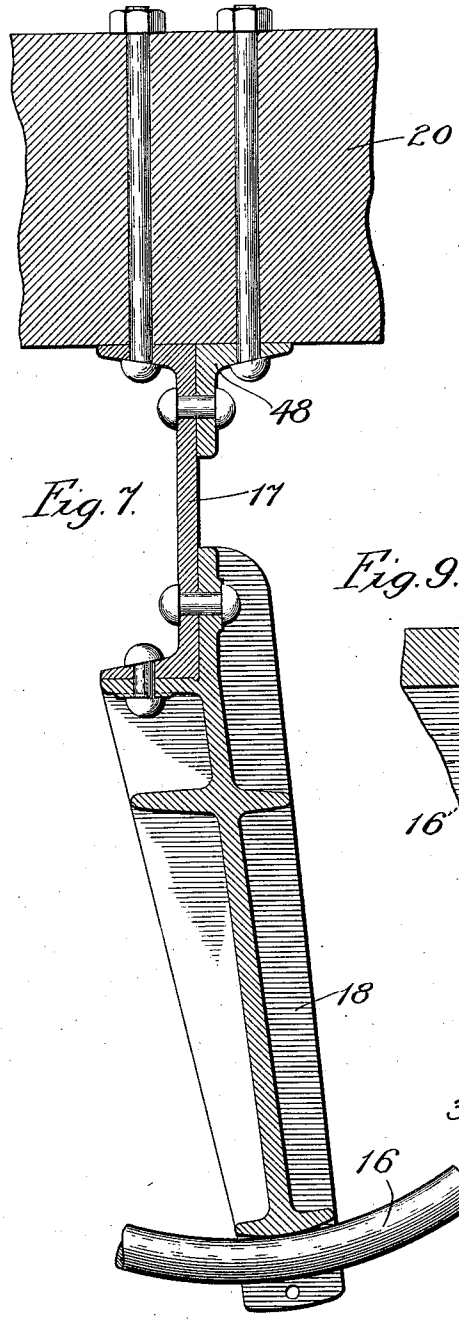


Fig. 7.

Fig. 8.

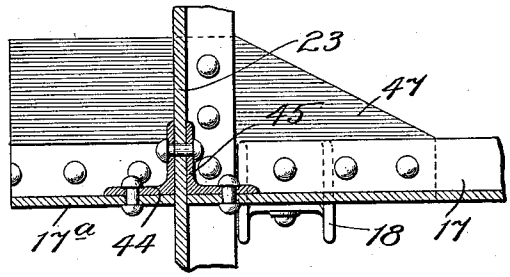
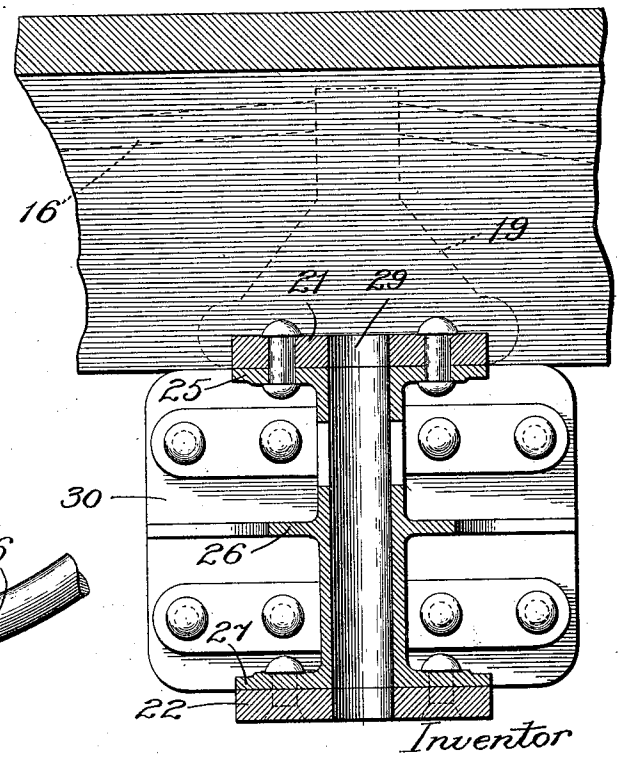


Fig. 9.



Witnesses:

Carl C. Gaylord.

Chas. A. Buell.

Inventor

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UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF CHICAGO, ILLINOIS.

RAILWAY-CAR.

1,013,310. Specification of Letters Patent. Patented Jan. 2, 1912.

Application filed October 21, 1907. Serial No. 398,461.

To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Cars, of which the following is a specification.

One of the objects of my invention is to provide a new and improved body bolster, built of iron or other metal and having great strength and durability for the amount of material employed.

My invention also resides in the combination of the body bolster with the center sill and with the other longitudinal sills.

Other objects of my invention are to provide new and improved needle beams in place of the usual cross-tie timbers, together with hangers, whereby the needle beams may be supported from the truss rods.

In the drawings—Figure 1 is a central vertical longitudinal section of the framework of my improved freight car. Fig. 2 is a plan view of the framework, the floor of the car being removed. Fig. 3 is a transverse section showing the body bolster in elevation. Fig. 4 is a horizontal section of the body bolster, taken on the line 4 of Fig. 3. Fig. 5 is a transverse section of the car showing one of the needle beams in elevation, together with the parts immediately associated therewith. Fig. 6 is a top plan view of the needle beam shown in Fig. 5. Fig. 7 is a cross section of one of the needle beams and a hanger taken on the line 7 in Fig. 5, looking in the direction of the arrow. Fig. 8 is a horizontal section through a needle beam, showing its attachment to the center sill. This view is taken looking in the same direction as that of Fig. 6. Fig. 9 is a vertical central section of the body bolster taken transversely thereto.

The body bolsters 15 carry standards 19 on their upper sides across which the truss rods 16 pass. The needle beams 17 are supported from these truss rods by the hangers or truss rod bearings 18. Longitudinal floor beams 20 extend continuously from end to end of the car and are supported by the needle beams 17 and the body bolsters 15. Underneath these floor beams 20 and between the same horizontal planes as the body bolsters 15 and the needle beams 17 is the longitudinal center sill 23. This is composed of two parallel channel beams having their flanges turned away from each other, as shown in Fig. 3. The body bolster 15 consists of an upper transverse member 21 which lies on top of the said channel beams 23 and a lower transverse member 22 which passes beneath them.

At the center of the body bolster lying between the channel beams 23 and between the transverse members 21 and 22 is a filler block 24 composed preferably of cast metal. This comprises an upper horizontal plate 25, a central horizontal web 26 and a lower horizontal plate 27, all united by a pair of vertical webs 28. These webs 28 merge in the walls of a vertical tubular opening 29, which is adapted to receive the king-bolt. The horizontal plates 25 and 27, the horizontal web 26, and the vertical webs 28 all terminate on either side in vertical plates 30, that lie against the respective channel beams. A circular member 31 lies underneath this filler block and affords a bearing between the body bolster and the truck frame. Between the top and bottom members 21 and 22 lying adjacent the respective channel beams 23 on the outside thereof are the side filler members 32. Each of these has top and bottom plates 33 and 34 corresponding, respectively, to the top and bottom plates 25 and 27 and also a pair of vertical webs 35 corresponding to the vertical webs 28. This filler member also has a vertical wall 36 in which the above-mentioned parts terminate, that lies adjacent to the channel beam 23 opposite to the wall 30.

As shown in Fig. 3, the top member 21 of the body bolster 15 has its ends bent downward slightly, whereas the bottom member 22 has its ends bent upward. Spacers 37 and 38, which may be of rolled, stamped or cast metal, are placed between them in pairs, each spacer having the shape of a short length of channel beam. The flanges of the spacer 37 converge, as shown in Fig. 3, to correspond to the convergence of the members 21 and 22. But at their extremities the side members are bent so as to be parallel, hence no such convergence is necessary for the spacer 38. The intermediate floor beams 20 are notched—as indicated by the reference numerals 39 and 40—so that their top surfaces shall be in one horizontal plane and yet they shall all rest firmly on the top member 21 of the body bolster. The slope given to the sides of this

top member occasions the need for this notching of the floor beams 20. Moreover, this notching of the two central sills 20 permits them to rest upon the center sill channel beams 23, which are directly beneath them. Side bearing rollers 41 are attached on the under side of the bottom member 22, opposite the spacers 37.

It is to be noted that the center sill channel beams 23 extend continuously from one end of the car to the other and that the body bolster members 21 and 22 extend continuously above and below the center sill from one side of the car to the other. At points intermediate of the length of the car between the body bolsters the needle beams 17 are provided. Each needle beam comprises three consecutive sections of a channel beam, namely, the two sections 17 lying on either side of the center sill and the section 17ª lying between the two channel beam members 23. A top plate 43 is laid over the intersection of the center sill with the needle beam and is riveted to all three sections of the needle beam and to both of the channel beam members of the center sill. Moreover small angle iron braces 44 and 45 are riveted to the center sill and to the needle beam sections to assist in holding them in the proper relative position. The inner ends of each of the outer sections 17 are notched, as indicated by the reference numerals 46, in order to permit the end of the web of the section 17 to abut the web of the channel beam 23. In addition to the top plate 43, there is a corresponding bottom plate 47 which is riveted to all three sections of the needle beam and to both the channel beams 23. An angle iron 48 is riveted to the top edge of each section of the needle beam 17 as indicated in Fig. 7. This affords an extended surface to which the floor beams 20 may be bolted. The hangers 18 are riveted to the needle beams 17 and depend therefrom. They each have a jaw 18ª at the lower end adapted to receive the truss rod 16.

The body bolster disclosed herein is so constructed as to afford great strength in proportion to the amount of material therein. Moreover, the structure involves no weakening of either the bolster itself or the center sill, at their intersection. The needle beam construction disclosed herein is very strong and effective with respect to the quantity of material employed. The overlapping plates 43 and 47 and the angle iron braces 44 and 45 make the needle beam practically as strong as if it extended continuously from one side of the car to the other, and there is no interruption of the continuity of the center sill.

What I claim is—

1. In a car, a center sill comprising channel beams extending continuously throughout the length of the car, a body bolster comprising top and bottom members extending continuously from one side of the car to the other, and passing respectively above and below the center sill, cast metal spacing blocks adjacent to the center sill channel beams between the bolster members, and double channel beam sections acting as spacing blocks between the extreme ends of the bolster members.

2. In a car, the combination of a body bolster and longitudinal floor beams, the top of the body bolster sloping downward toward each end and the intermediate floor beams being notched on their under sides to conform to the varying height of the top surface of the bolster.

3. In a car, a center sill comprising two parallel channel beams, a body bolster comprising members extending transversely above and below the channel beams, a cast iron filler lying between and adjacent to both the said bolster members and both the said channel beams and riveted to all of them, short filler blocks of channel shape but having the flanges convergent toward the outer end, said blocks lying intermediate the center sill and bolster ends, short channel beam sections acting as spacers between the extreme ends of the said bolster members, said filler having a king bolt socket, and the bolster members having holes registering with said socket.

4. In a car, a channel needle beam having an angle iron riveted to its upper edge with one flange thereof opposite a flange of the needle beam, and a floor beam resting on the opposed flanges.

5. In a car, a channel needle beam, a strut depending therefrom and adapted to be riveted to the web and one of the flanges of the needle beam, and a truss rod passing under the strut.

6. In a car, the combination of a body bolster and longitudinal floor beams of equal thickness resting upon said bolster, the top of the body bolster sloping downward toward each end, and the intermediate floor beams being notched on their under sides so that their top surfaces shall all be in the same horizontal plane.

EDWARD POSSON.

Witnesses:
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