E. E. BISHOP.

SIDE FRAME CONSTRUCTION FOR RAILWAY CAR TRUCKS.

APPLICATION FILED OCT. 25, 1910.

997,231. Patented July 4, 1911.

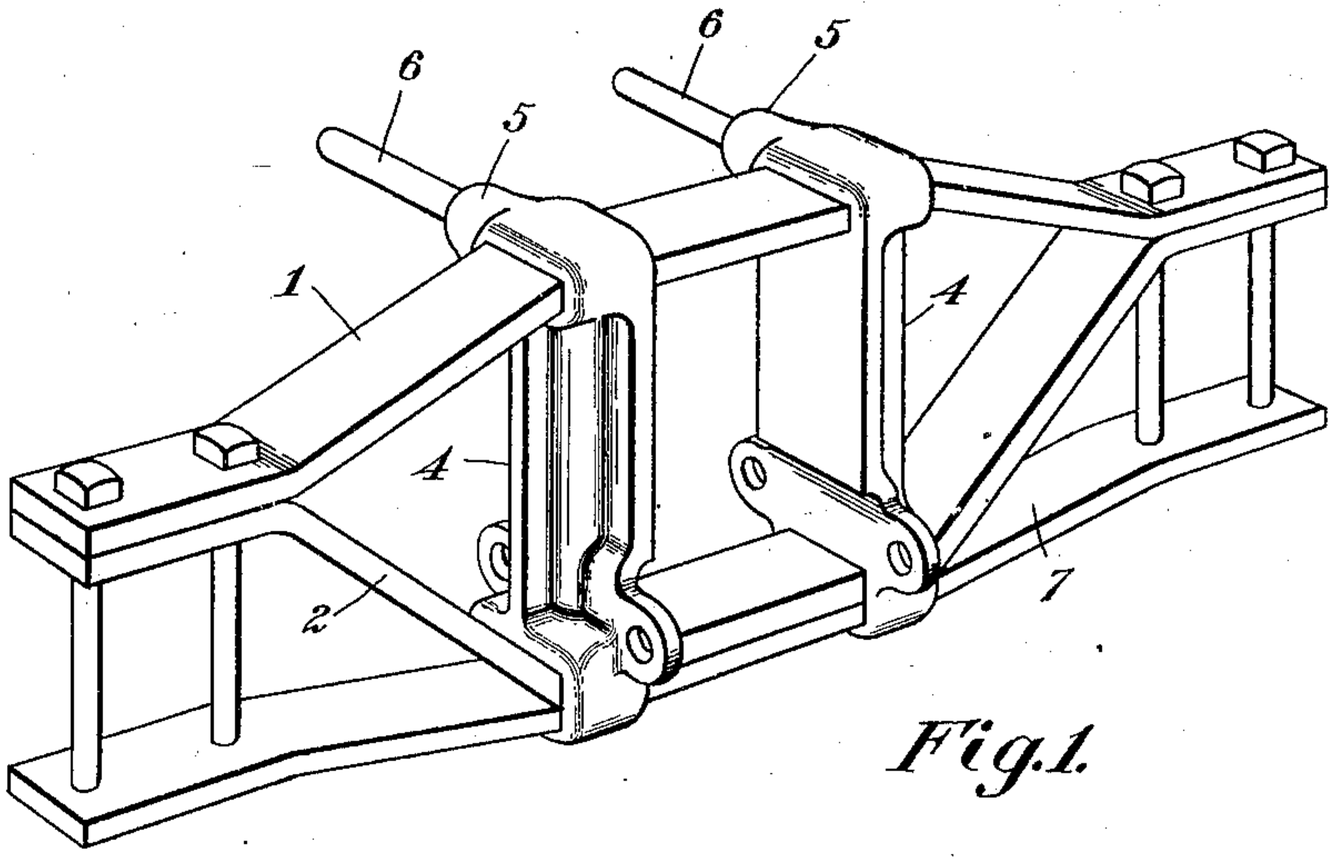

Fig. 1.

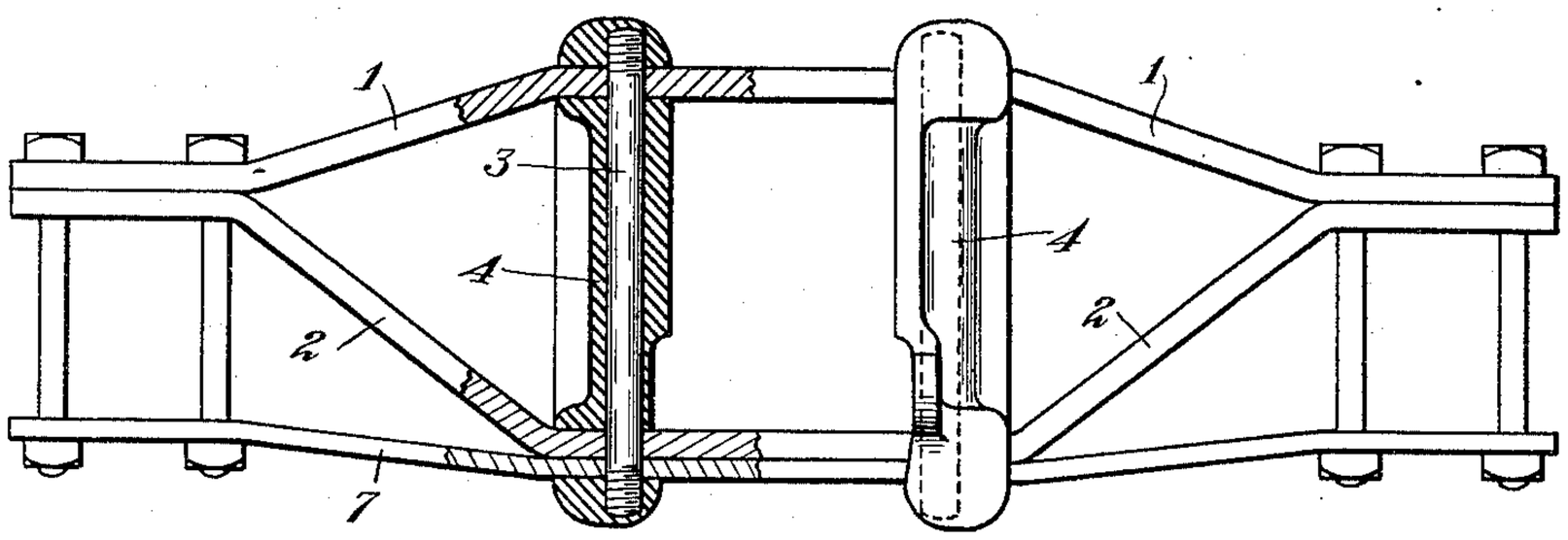

Fig. 2.

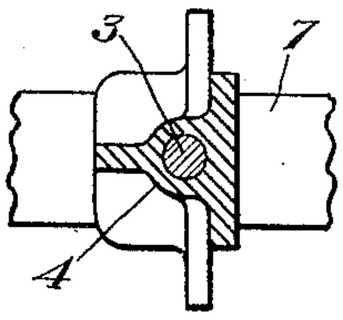

Fig. 3.

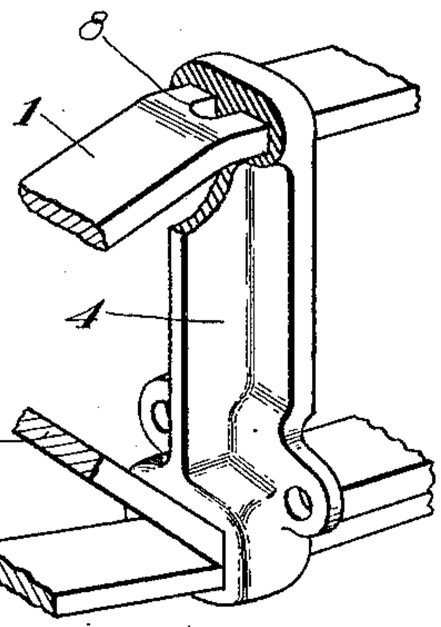

Fig. 4.

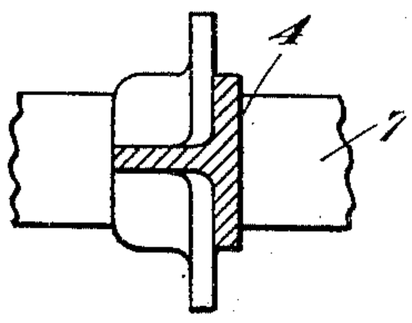

Fig. 5.

Witnesses

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SIDE-FRAME CONSTRUCTION FOR RAILWAY-CAR TRUCKS.

997,231. Specification of Letters Patent. **Patented July 4, 1911.**

Application filed October 25, 1910. Serial No. 589,021.

To all whom it may concern:

Be it known that I, EMERY ELBERT BISHOP, a subject of the King of Great Britain, and resident of the city of Halifax, in the Province of Nova Scotia, in the Dominion of Canada, have invented certain new and useful Improvements in Side-Frame Construction for Railway-Car Trucks; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates to improvements in side frame construction for railway car trucks, as described in the following specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in casting the side frame columns to extend between and embrace the upper and lower truss bars.

The objects of the invention are, to obviate the difficulties and dangers incident to the use of bolts in securing the truss members and columns together, to cheapen the cost of construction, to reduce the weight, and to combine the strength and solidity of a cast frame with the elasticity of a structural steel frame.

In the drawings, Figure 1 is a perspective view of a side frame constructed in accordance with this invention. Fig. 2 is a side elevational view of the side frame, showing one of the column members in vertical section. Fig. 3 is a horizontal sectional view through one of the columns in Figs. 1 and 2. Fig. 4 is a perspective detail, shown partly in section, of a slightly modified form of the invention. Fig. 5 is a horizontal sectional view through the column shown in Fig. 4.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 and 2 are the ordinary upper and lower truss members respectively of the side frame, formed of flat steel bars bent to meet at the ends.

3 are steel rods extending across the central portion of the truss formed by the bars 1 and 2, and projecting through the bolt holes therein, said rods preferably having both ends thereof threaded. An ordinary steel bolt may be used if desired.

4 are the side frame columns formed of cast metal and substantially T-shaped in cross section, having the lugs 5 projecting therefrom adjacent to the upper ends, said lugs having the studs 6 cast therein for supporting the brake beam supports. The metal forming the rods 4 is cast to completely surround the rods 3 and to extend over and embrace the truss rods 1 and 2 and the bar 7.

The metal used for the columns in this construction is preferably cast iron and as it is poured into suitable molds around the truss members and rods 3 a very secure hold is obtained on the threaded ends of the rods. The several parts of the structure are thus rigidly united and the desired tensional strength is given to the cast iron columns by the rods 3, the cast metal forming the compression member.

It will be seen that as the metal is cast around the truss members, said truss members will be as rigidly secured together as if they were one, the flexibility of the structural steel frame is thus retained in conjunction with the strength of a cast frame and the entire structure is much lighter in weight than a cast frame.

In the modified form shown in Fig. 4, the column is preferably formed of steel cast around the wrought steel truss members. When steel is used for the columns, it will not be necessary to cast in the bolts or rods as the cast steel has sufficient tensional strength in itself.

8 are elongated holes formed in the truss members in place of the ordinary bolt holes and the metal flows through these orifices as well as around the top and edge of the bar, thereby binding the bars and columns very securely together.

What I claim as my invention is:—

1. In a side frame construction for railway car trucks, a pair of truss bars and solid metal columns cast with said bars extending therethrough at the top and bottom respectively.

2. In a side frame construction for rail-

way car trucks, a pair of truss bars, a pair of rods extending between said truss bars and projecting through suitable holes therein, and metallic columns cast around said bolts and extending around said upper truss members and uniting said bolts and truss members.

Signed at the city of Montreal, Canada, this 21st day of October, 1910.

EMERY ELBERT BISHOP.

Witnesses:
G. H. TRESIDDER,
P. SKEE.