No. 839,952. PATENTED JAN. 1, 1907.

H. M. PFLAGER.

NEEDLE BEAM FOR RAILROAD CARS.

APPLICATION FILED AUG. 30, 1906.

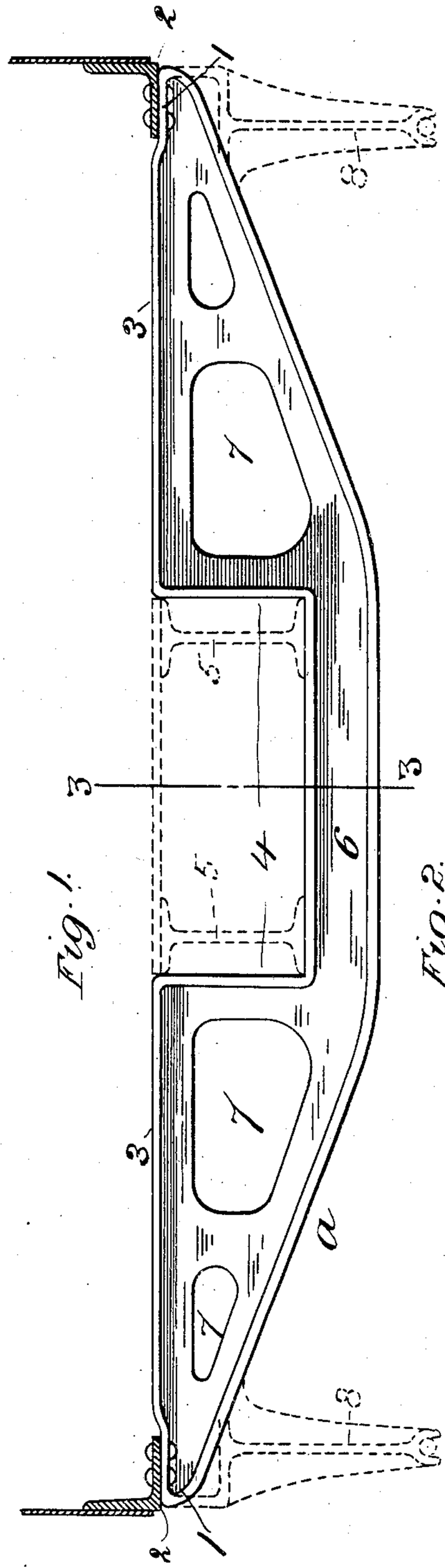

Fig. 1.

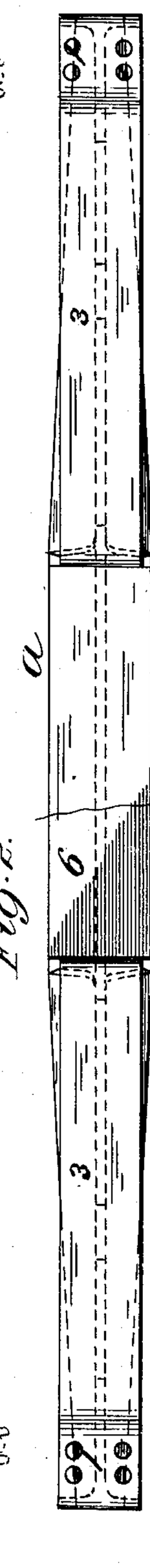

Fig. 2.

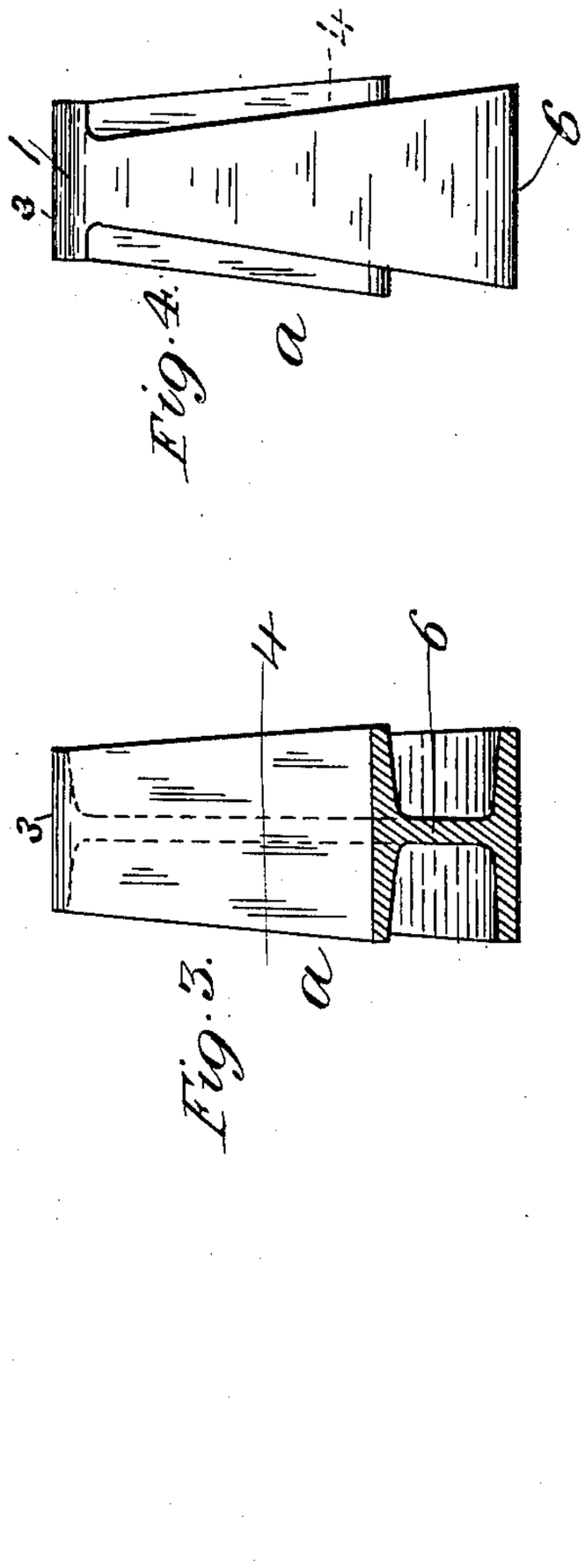

Fig. 4.

Fig. 3.

WITNESSES
O. T. Ledford
C. F. Wenzel

INVENTOR
Harry M. Pflager
By Edward W. Furrell
His Atty

UNITED STATES PATENT OFFICE.

HARRY M. PFLAGER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CAST STEEL NEEDLE BEAM COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

NEEDLE-BEAM FOR RAILROAD-CARS.

No. 839,952. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed August 30, 1906. Serial No. 332,647.

To all whom it may concern:

Be it known that I, HARRY M. PFLAGER, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Needle-Beams for Railroad-Cars, of which the following is a specification.

My invention relates to the needle-beams or cross-frame tie-timbers of a car-body underframe, and has for its object to provide a strong, simple, rigid, and durable needle-beam adapted to pass beneath the lower middle longitudinal sills and to firmly support the same, with the intermediate sills (if any) and flooring of the underframe between the side members of the car-body and having the queen-posts for the truss-rods combined integrally therewith or not according to the particular system of trussing adopted for the side members or trusses of the car-body.

The invention consists in features of novelty, as hereinafter described and claimed, reference being had to the accompanying drawings, forming part of this specification, whereon—

Figure 1 is a side elevation of my improved needle-beam; Fig. 2, a top plan view thereof; Fig. 3, a vertical transverse section through the needle-beam on line 3 3 in Fig. 1, and Fig. 4 an end elevation thereof.

Like letters and numerals of reference denote like parts in all the figures.

a represents my improved needle-beam, which is composed, preferably, of cast-steel integral throughout and either **I**-shaped in cross-section, as shown, or otherwise, as desired. The beam *a* in the present case extends between and is fixed at its ends 1 to the angle-irons 2, forming parts of metallic trussed side members (not shown) of the car-body, the adjacent end portions 3 of the beam *a* being straight at the top and adapted to bear against and support the corresponding under surface of the intermediate longitudinal sills (if any) or flooring of the car, as the case may be.

The needle-beam *a* is formed in the middle with a depression or pocket 4, open at the top and adapted to bear at the bottom against and support the lower middle longitudinal metallic (or wood) sills 5, which are arranged beneath the normal bottom level of the car-body, as indicated by dotted lines in Fig. 1, the depressed middle portion 6 of the beam *a* being preferably **I**-shaped in cross-section, of suitable depth and strength, and uniting with the end and adjacent portions 1 and 3, which preferably taper therefrom at the bottom toward their minimum depth at the ends of the beam *a*, the compression member of the depressed middle portion 6 bearing at the top against the under side of the middle sills 5, as shown.

Suitable lightening-holes 7 are formed transversely through the upright web or body of the end and adjacent portions 1 and 3 of the beam *a*, as shown.

By making the beam *a* integral throughout and adapting the depressed middle portion 6 thereof beneath the sills 5 to bear both the compression and tension strains without the use of a compression member arranged above and of a separately-constructed tension member with its fastenings to the body of the beam below the sills 5 a rigid structure is insured whereby the underframe and flooring of the car between the side trusses or members are supported firmly and braced together transversely and the car-body correspondingly stiffened.

In cases where the side members of the underframe are trussed below the sills in the usual well-known manner I preferably form the queen-posts 8 for the truss-rods integral with the needle-beams *a*, as indicated by dotted lines in Fig. 1.

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

A needle-beam for a car underframe, consisting of an integral casting fixed at its ends to the side trusses of the car, and having its adjacent portions adapted to support the underframe thereat, the said beam having a depressed middle portion extending beneath and adapted to support the lower middle longitudinal sills of the said frame, and queen-posts for the truss-rods dependent from and integral with the said beam, substantially as described.

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

HARRY M. PFLAGER.

Witnesses:

CHARLES W. BLOCK,

EDWARD W. FURRELL.