

No. 808,325.

PATENTED DEC. 26, 1905.

G. L. WARREN.
RAILWAY CAR BRAKE BEAM.

APPLICATION FILED FEB. 3, 1905.

Fig. 1.

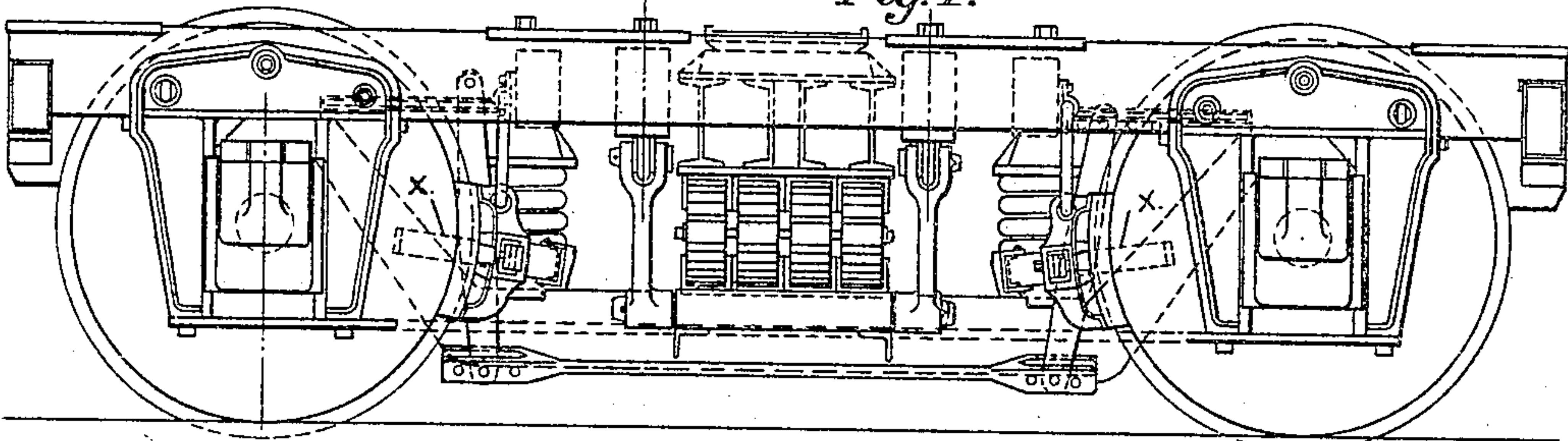


Fig. 2.

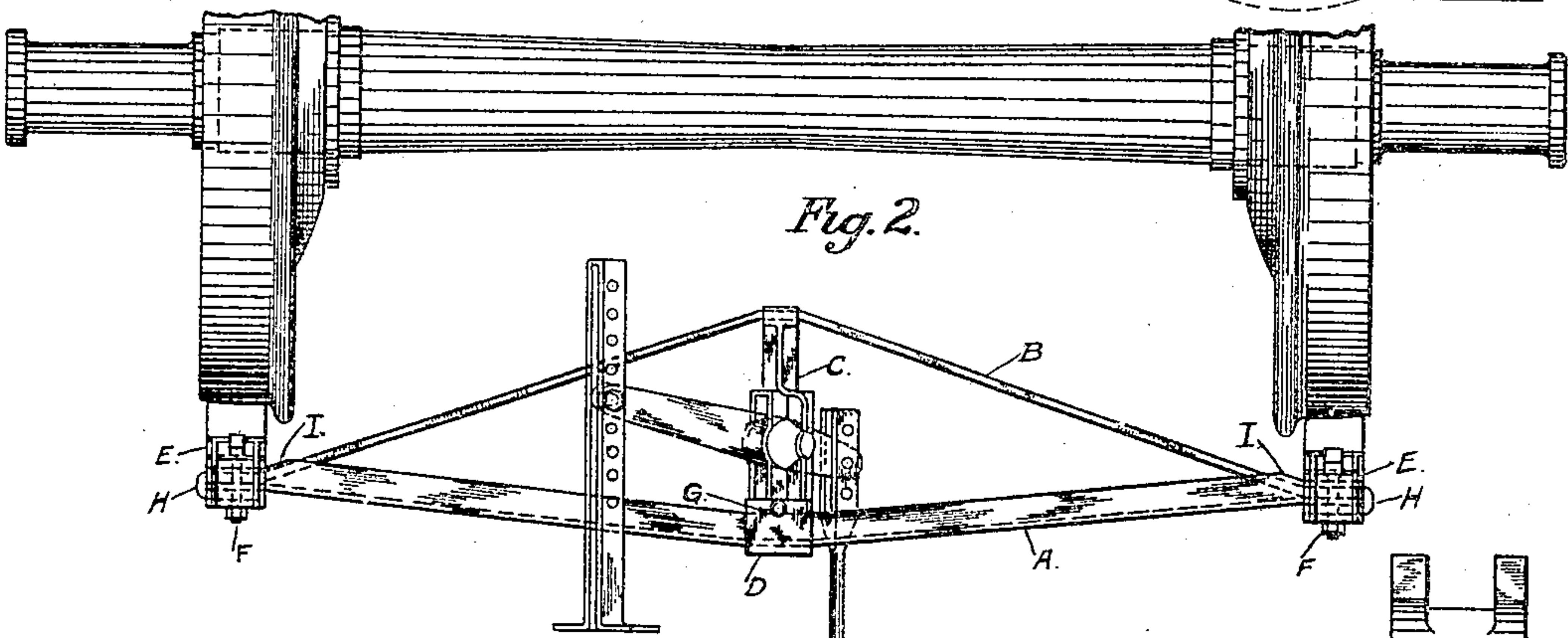


Fig. 3.

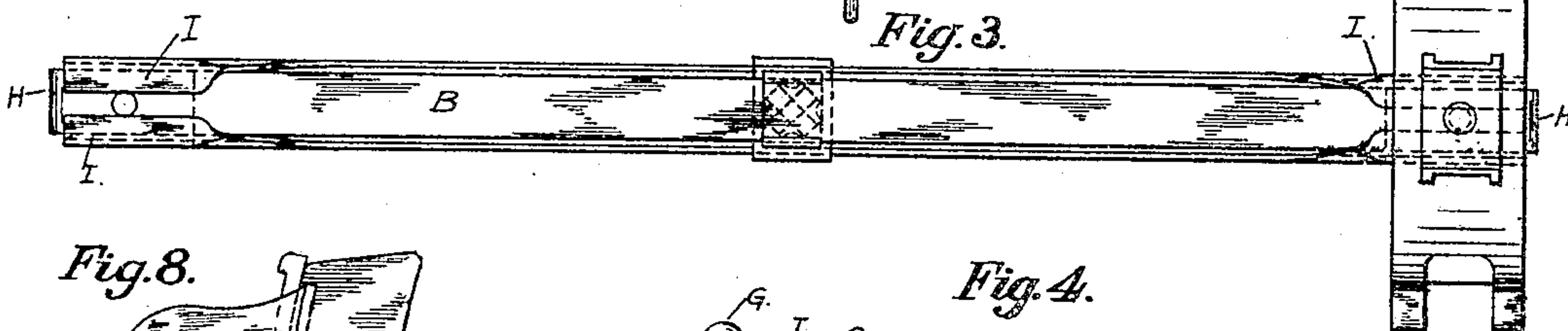


Fig. 8.

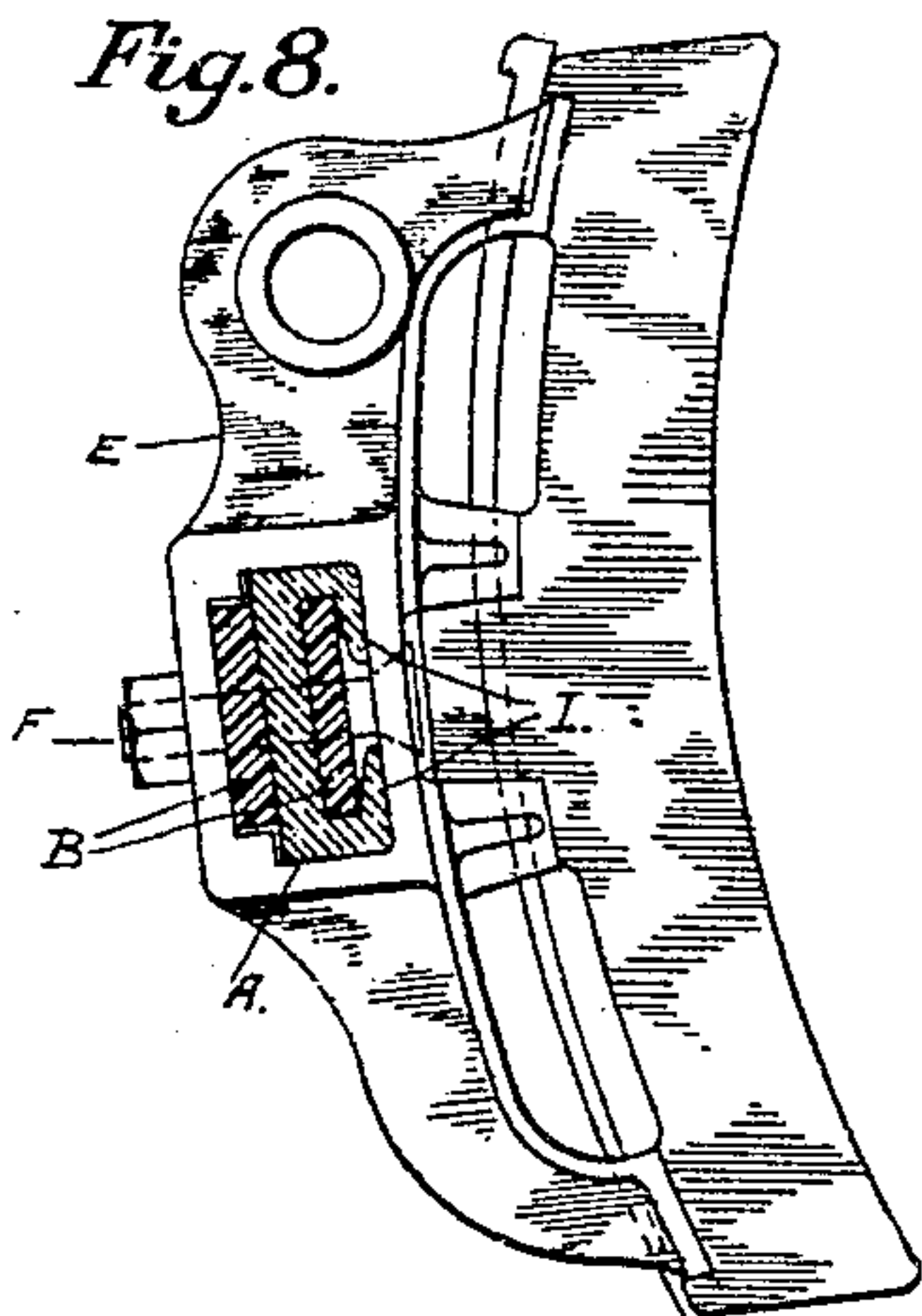


Fig. 4.

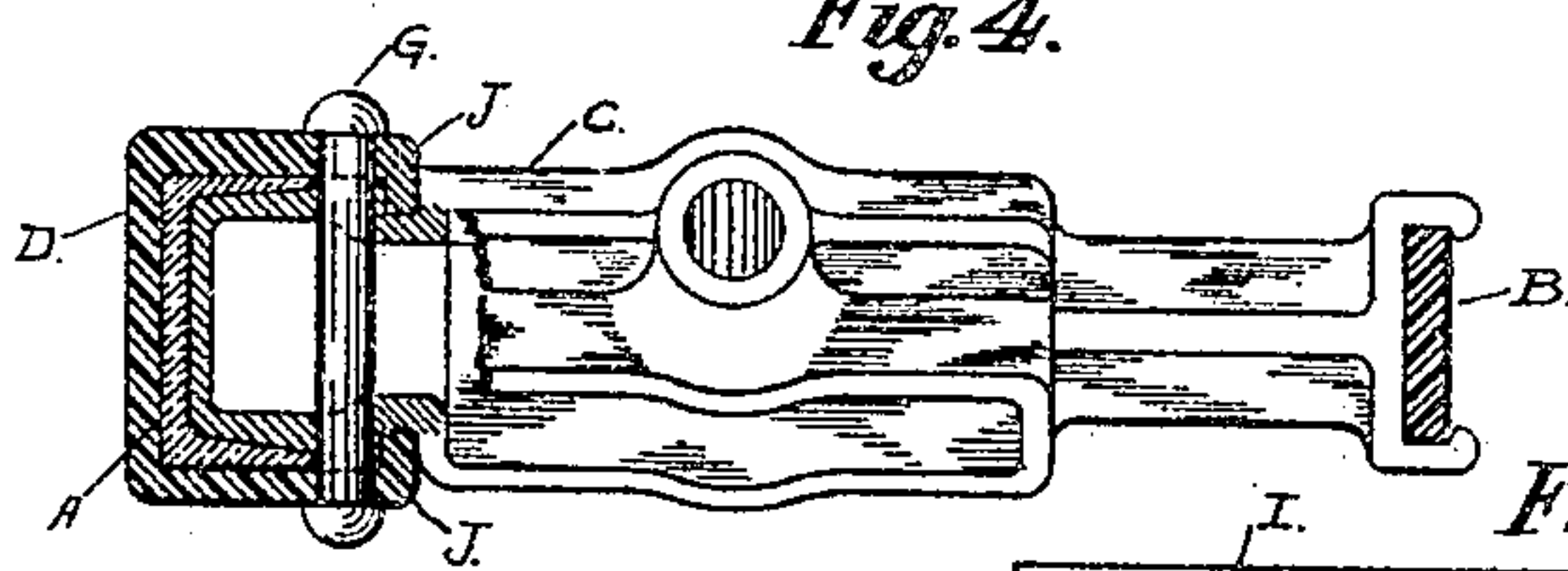


Fig. 7.

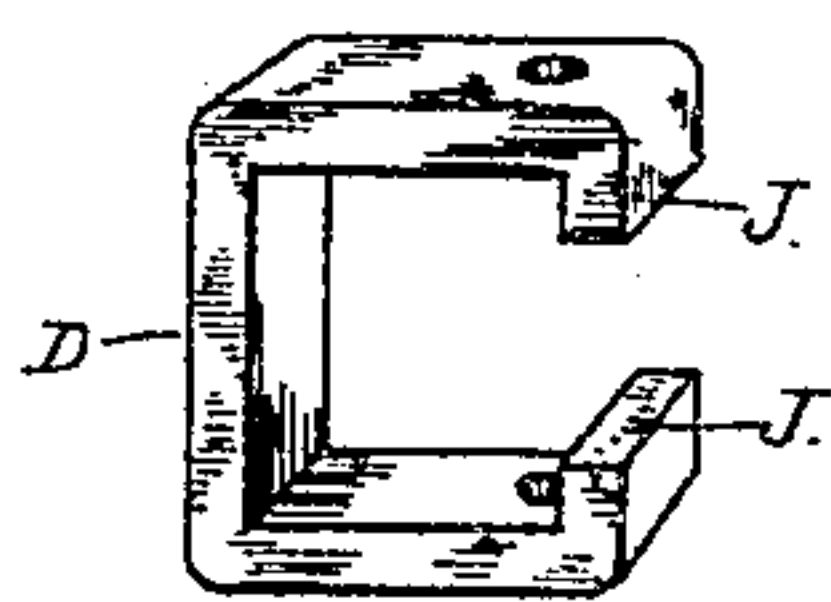


Fig. 5.

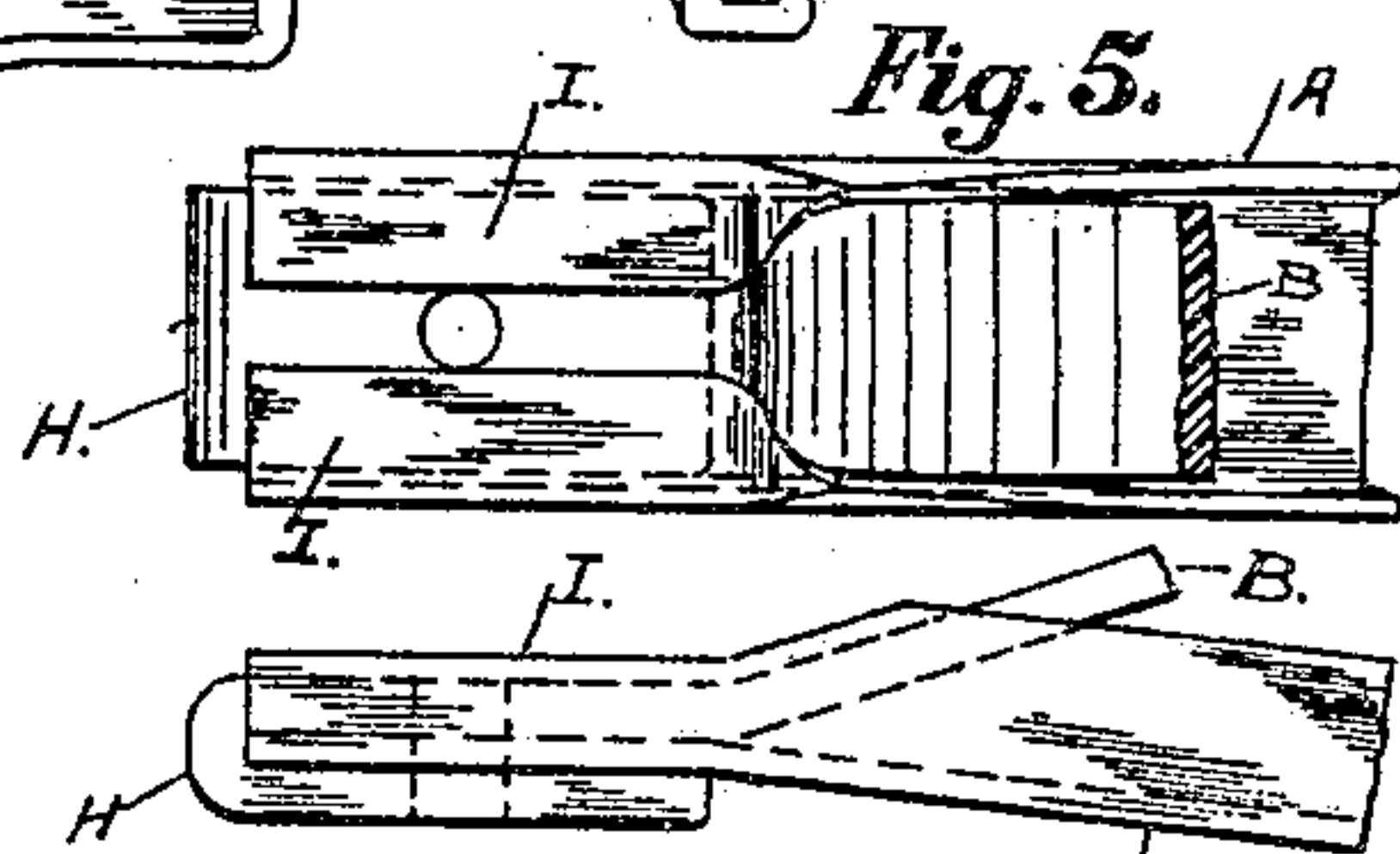
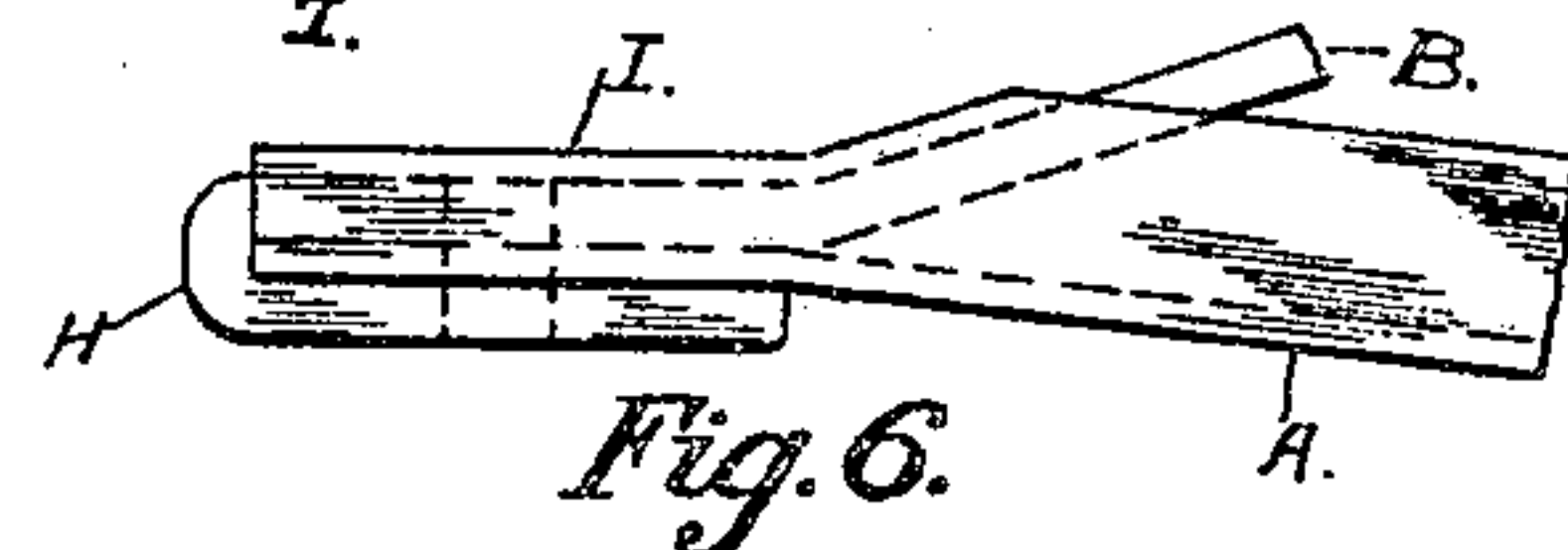


Fig. 6.



Witnesses.

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RAILWAY-CAR BRAKE-BEAM.

No. 808,325.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE L. WARREN, a resident of St. Paul, Ramsey county, Minnesota, have invented a certain new, useful, and Improved Railway-Car Brake-Beam, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in brake-beams for railway-car trucks, and has particular reference to improvements in brake-beams of the class known as "open-truss" brake-beams.

The object of my invention is to provide a brake-beam that shall be of minimum weight and maximum strength.

A particular object of the invention is to provide a brake-beam that shall be composed of commercial or rolled shapes and simple cast-metal parts.

With these objects in view my invention consists generally in a railway-car brake-beam comprising a channel-beam which constitutes its compression member, in combination with a flat bar which constitutes its tension member, said flat bar having its ends bent about the web portion of said channel-beam, there being also a suitable strut or fulcrum-tie and brake-heads that are attached to the united ends of said beam and bar members; and, further, my invention consists in a brake-beam characterized as above, wherein the sides or flanges of the channel-form compression member are at its ends bent inwardly and clasped upon the tension member to reinforce the union of the members; and, further, my invention consists in novel means for connecting the strut or fulcrum-tie to the compression member of the brake-beam without piercing, notching, or otherwise weakening said compression member.

My invention also consists in various details of construction and in combinations of parts, all as hereinafter described, and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this invention, in which—

Figure 1 is a side elevation of a four-wheeled car-truck provided with brake-beams embodying my invention. Fig. 2 is an enlarged plan view of my brake-beam. Fig. 3 is a front elevation of the brake-beam. Fig. 4 is a sec-

tional view of the beam, substantially in the plane of the fulcrum-tie or strut. Figs. 5 and 6 are detail views showing the construction of the ends of the brake-beam. Fig. 7 is a perspective view of the strap used to secure the fulcrum-tie or strut to the compression member of the brake-beam. Fig. 8 illustrates a brake-shoe head in place upon the united ends of the compression and tension members.

As shown in the drawings, the compression member A of my brake-beam is preferably a rolled channel-beam having a slight bend or camber. The tension member B of the beam is a rolled flat bar of rectangular cross-section bent to the form of the truss. The ends of the tension member are formed into hooks, which closely fit the end portions of the web of the channel member A. The hooked ends of the tension member and the web of the compression member are provided with bolt-holes to receive the bolts F by which the brake-shoe heads are attached to the beam. These bolts assist in affording the beam the needed rigidity.

I do not depend upon the bolts as a means of rigidly connecting the two members, but additionally unite them by bending the side flanges of the channel-beam inwardly upon the ends of the tension member, so that the tension member is at each end of the channel-beam held between the web and the intumed flanges of said beam or compression member. Thus each member of the beam is employed to grasp and hold the other.

The beam as a whole is made rigid by the fulcrum-tie or truss-strut C. The body of this member may be of any desired form adapting it to serve as the fulcrum of the brake-beam. Its forward end is provided with a jaw that clasps the rectangular tension-bar B. The rear end of the strut C has the form of a rectangular block which fits within the channel A at the angle thereof and the strut there secured by means of a strap or clip D and a bolt G. The strap encompasses the channel A, and the bolt G passes through the sides of the strap and the end of the strut at a point where the bolt will bear against the edges of the channel-flanges. The intumed ends of the strap D fit grooves in the sides of the strut or fulcrum-tie C, as shown. In this manner I firmly secure the strut to the tension member without piercing or otherwise weakening the flanges or the web of said member.

The brake-heads are provided with sockets that substantially conform in shape to the ends of the brake-beam. These heads are forcibly driven upon ends of the beam to
 5 align the holes therein with the holes in the compression and tension members and admit the placing of the bolts F. The short bends H at the ends of the tension member give the bracket-beam a finished appearance
 10 after the brake-heads are placed thereon. It will be seen that the tapered walls of the brake-head sockets serve to reinforce the in-turned flanges of the compression member, and generally it will be observed that each
 15 part of my brake-beam operates to reinforce or strengthen one or more of the other parts thereof. If desired, rivets may be employed in place of the bolts F and G; but I prefer in all cases to use bolts for securing the brake-
 20 heads in order that the latter may be readily removable.

As numerous modifications of my invention will readily suggest themselves to one skilled in the art, I do not confine or limit the
 25 invention to the specific constructions herein shown and described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

30 1. A brake-beam, comprising a compression member of channel form, in combination with a tension member having its ends formed into hooks that grasp the web portion of said compression member, and a suitable fulcrum-tie or strut extending between
 35 said compression and tension members, substantially as described.

2. A brake-beam, comprising a compression member of channel form, in combination
 40 with a tension member or bar form having its ends folded or hooked upon the web portion of said compression member, the flanges of said compression member being folded or bent upon said tension member,
 45 and a suitable strut, substantially as described.

3. A brake-beam, comprising a compression member of channel form, in combination with a tension member having its ends
 50 engaged with the web of said compression member, said compression member having the end portions of its flanges bent or folded about the respective ends of said tension member, and a suitable strut, substantially
 55 as described.

4. A brake-beam, comprising a tension member of substantially rectangular cross-section and having hooked ends, in combination with a compression member of channel
 60 form having its web portions clasped by the

hooked ends of said tension member and having its flanges folded about said tension member, suitable brake-heads attached to the thus-united ends of said tension and compression members, and a suitable strut, substantially as described. 65

5. A brake-beam, comprising a compression member of channel form having its flanges bent inwardly at the ends, in combination with a tension member of rectangular
 70 cross-section and provided with end hooks which clasp the web portion of said compression member and are in turn clasped by in-turned flanges of said compression member, brake-heads having tapered sockets to fit the
 75 united ends of said compression and tension members, bolts piercing said brake-heads and said united ends to secure the heads thereon, and a suitable strut, substantially
 80 as described. 80

6. A brake-beam, comprising a compression member, of channel form and a tension member having their ends suitably united, in combination with a strut or fulcrum-tie
 85 extending between said compression and tension members, a strap inclosing said compression member, and a bolt or rivet piercing said strap and said strut and substantially in contact with the edges of the flanges of said
 90 compression member, substantially as described. 90

7. A brake-beam having a compression member, of channel form, in combination with a strut or fulcrum-tie having an end fitted within said compression member, a
 95 strap encompassing said compression member and having its ends in engagement with said strut and a bolt extending through said strap and said strut, adjacent to the edges of the flanges of said compression member, substantially
 100 as described. 100

8. A brake-beam, comprising a compression member of channel form, in combination with a strut having one end attached to said compression member, a tension member comprising a bar engaged with the opposite
 105 end of said strut and having its ends formed into the hooks which clasp the ends of the web portion of said compression member, the end portions of the flanges of said
 110 compression member being bent into contact with the tension member, to clasp the same, suitable brake-heads and means for securing the same upon the united ends of said
 115 compression and tension members, substantially as described. 115

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Witnesses:

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