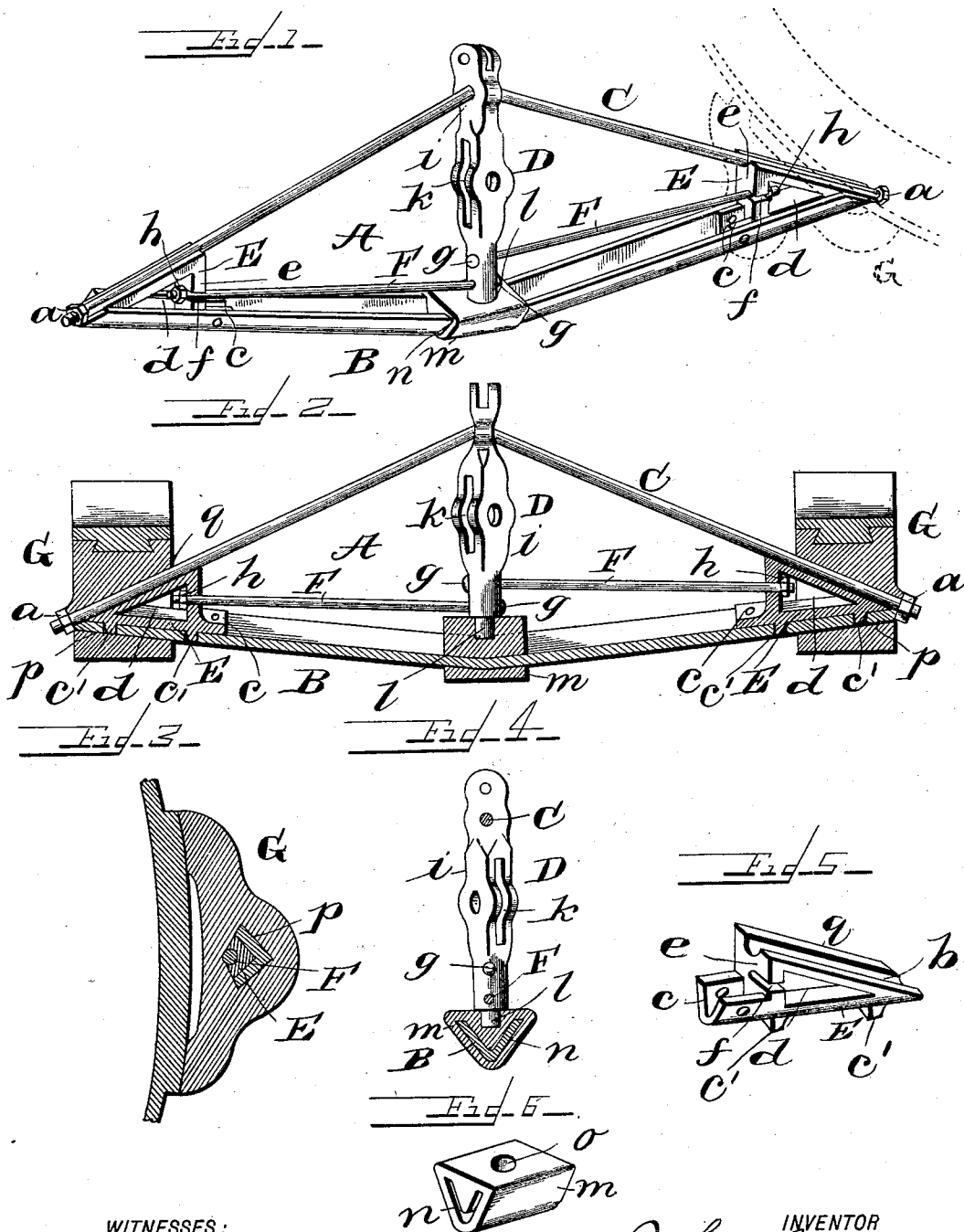


J. GREEN.
BRAKE BEAM.

Patented June 28, 1892.



WITNESSES:

G. A. Taubenschmidt,
H. B. Reinohl

INVENTOR
John Green
BY
Johnston & Reinohl
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN GREEN, OF RENOVO, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
JOHN W. FORSTER AND IRENE FORSTER, OF SAME PLACE.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 478,057, dated June 28, 1892.

Application filed February 25, 1892. Serial No. 422,759. (No model.)

To all whom it may concern:

Be it known that I, JOHN GREEN, a citizen of the United States, residing at Renovo, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Brake-Beams for Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to railway-cars, and has for its object certain improvements in the construction of brake-beams, whereby the strength is greatly augmented at the points subject to the greatest strain.

The invention will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, I have illustrated the best form in which I have contemplated embodying my invention, and in said drawings Figure 1 is a perspective; Fig. 2, a side elevation, partly in section; Fig. 3, an end view; Fig. 4, a perspective of the post or strut detached; Fig. 5, a similar view of one of the supports, and Fig. 6 a perspective of the lower end of the post which engages the bar of the brake-beam.

Practical use of light metallic brake-beams has demonstrated that the greatest strain upon the bar which supports the brake-shoe is just inside of the shoe-holder, and in very many instances the bar at this point is bent back to such an extent as to greatly impair the brake. Furthermore, brake-beams as ordinarily constructed have the post or strut between the bar and the tie-rod in one piece, and as a consequence when either the outer or the inner end of the post is broken from any cause the entire post must be thrown away. It is my purpose to so support the bar as to strengthen it at the point where the greatest strain is exerted and connect the supports to the truss-post or strut by tie-rods, so that the bar cannot be bent back by any degree of strain capable of being brought to bear upon the bar, and provide means for enabling the brake-beam to be used even in the event of the breaking of the truss-rod until the car can be turned in for repairs, and

to make the truss-post in two separable pieces, so that in the event of breaking either end the other end need not be thrown away.

Reference being had to the drawings, A indicates a brake-beam of my improved construction, and consists of a bow-shaped bar B, preferably of angle iron curved in the direction of the strain brought to bear upon the beam in applying the brake to the wheels of a car, a truss-rod C, the ends of which are screw-threaded and provided with a nut *a*, and a truss-post or strut D, ordinarily assembled to form a brake-beam.

In the outer ends of the bar B are secured metal castings E, forming supports for the truss-rod, which lies in a groove *b* in the upper surface of the casting, and the casting conforms to the contour of the inside of the bar and is rigidly secured thereto by bolts or rivets passing through the flange or lug *c* on the inner end of the casting, and on the under side of said casting may be formed spurs *c'*, one or more to project through the bar B and form braces against which the tie-rods draw. To reduce the weight of the casting E, it may be cored at *d*, which admits of adjustment of the tie-rods, and in the inner end *e* of the casting is a slot *f* for the insertion of the tie-rod. The tie-rods F pass through the post or strut D, and are arranged in planes nearly horizontal and substantially coincident with the plane of the bar B, the heads *g* of the tie-rods preferably resting against the post and the nuts *h* being in the cavity *d* in the truss-rod support, which prevents the nuts becoming accidentally disengaged. The height of the tie-rods may be varied to suit modified constructions of the brake-beam.

The post or strut D is made in two parts, *i* being the upper part through which the truss-rod C passes and is provided with a slot *k* for the brake-lever and a dowel-pin *l*, and *m* the lower part or foot of the post, which is provided with an angular aperture *n*, which conforms to the inner and outer surfaces of the bar B, and thereby braces the sides of the bar at the point engaged by said foot *m*, and with a socket *o* to receive the dowel-pin *l* on the part *i*. In the event of breaking either end of the post only the broken piece need be removed from the brake-beam

and replaced by a new piece, thus reducing cost of repairs in time and material. In this connection it may be stated that the tie-rods F also serve to hold or secure the post in its proper position and prevent its moving on the bar, as frequently occurs in use to the detriment of the brake-beam, as the truss-rod then becomes loose and no longer braces the bar B, and the tie-rods may be made in one piece.

G indicates the brake-shoe holder, which is provided with an opening or aperture *p*, which conforms to the configuration of the bar B and the castings or supports E, and is secured on each end of the brake-beam by the nuts *a* on the truss-rod C, and as the upper side *q* of the casting E is inclined it forms a wedge upon which the shoe-holder is drawn tight by the nut *a*, and owing to the configuration of the bar and the casting the shoe-holder is prevented turning on the brake-beam.

The brake-beam thus constructed is doubly braced, causing it to be rigid in use, and by the use of the tie-rods prevented from falling on the track at the risk of derailing the car in the event of breaking the truss-rod.

Having thus fully described my invention, what I claim is—

1. A brake-beam for railway-cars, consisting of a bar, a truss-rod, a post or strut, and a tie-rod between said bar and truss-rod.

2. A brake-beam for railway-cars, consisting of a bar, a truss-rod, a post or strut, and a tie-rod in a plane substantially coincident with the plane of said bar and connected to said post.

3. A brake-beam for railway-cars, consisting of a bar, a truss-rod, a post or strut, supports between the bar and the truss-rod, and a tie-rod connected to the post and the supports.

4. A brake-beam for railway-cars, consisting of a bar, a truss-rod, and a post in two separable parts, one of which engages the bar and is provided with a socket and the other part engaged by the truss-rod and provided with a dowel-pin loosely engaging said socket.

5. A brake-beam for railway-cars, consisting of a continuous bar of angle-iron, a truss-rod, and a post or strut in two separable parts, one provided with a dowel-pin and the other with a socket in its upper surface and having an aperture through it conforming to the angle of the bar and engaging said bar on both sides.

6. A brake-beam having castings or supports permanently secured at its ends and provided with inclined and grooved upper surfaces, in combination with a truss-rod engaging said grooves, and brake-shoe holders engaging the bar and said castings.

7. A brake-beam for railway-cars, consisting of a bow-shaped bar curved in the direction of the strain of the beam, a truss-rod, a post or strut, and a tie-rod between the bar and the post and between the bar and the truss-rod.

8. A brake-beam for railway-cars, consisting of a bow-shaped bar of angle-iron, curved in the direction of the strain of the beam, a truss-rod, a post or strut, angular supports between the bar and the truss-rod, and tie-rods, one each side of the beam, connected to the post and the supports.

9. A brake-beam for railway-cars, consisting of a bar, castings, or supports permanently secured to the ends of the bar and each provided with an outwardly-inclined upper surface having a longitudinal groove, and a truss-rod engaging said groove, in combination with brake-shoe holders engaging the bar and said casting.

10. A brake-beam having castings provided with inclined upper surfaces secured in its ends, a truss-rod, and a post or strut, in combination with tie-rods attached to said castings and posts.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN GREEN.

Witnesses:

D. C. REINOHL,
H. B. REINOHL.