No. 830,558. PATENTED SEPT. 11, 1906.

J. B. BARNES.

BRAKE BEAM FOR RAILROAD CARS.

APPLICATION FILED JUNE 16, 1906.

Fig. 1.

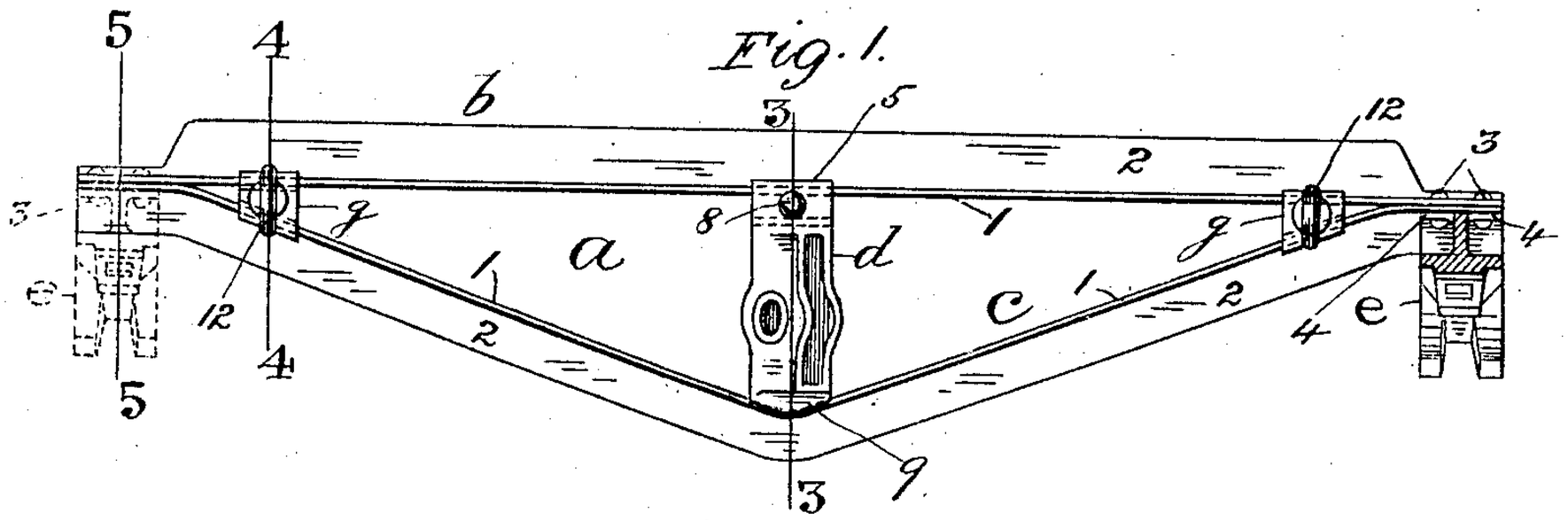


Fig. 2.

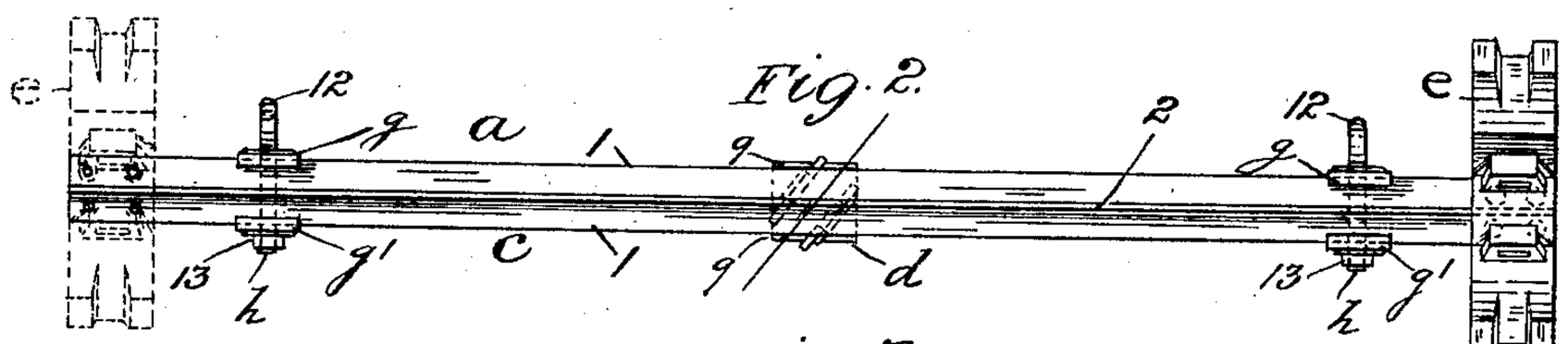


Fig. 3.

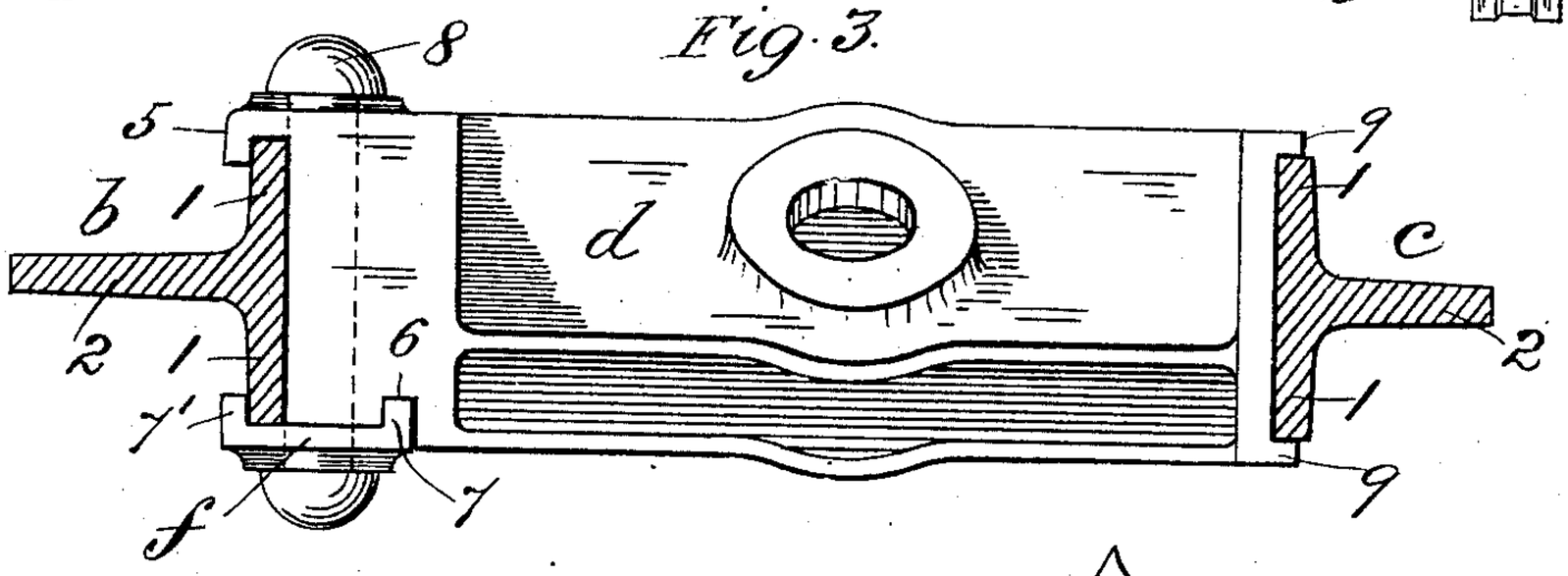


Fig. 4.

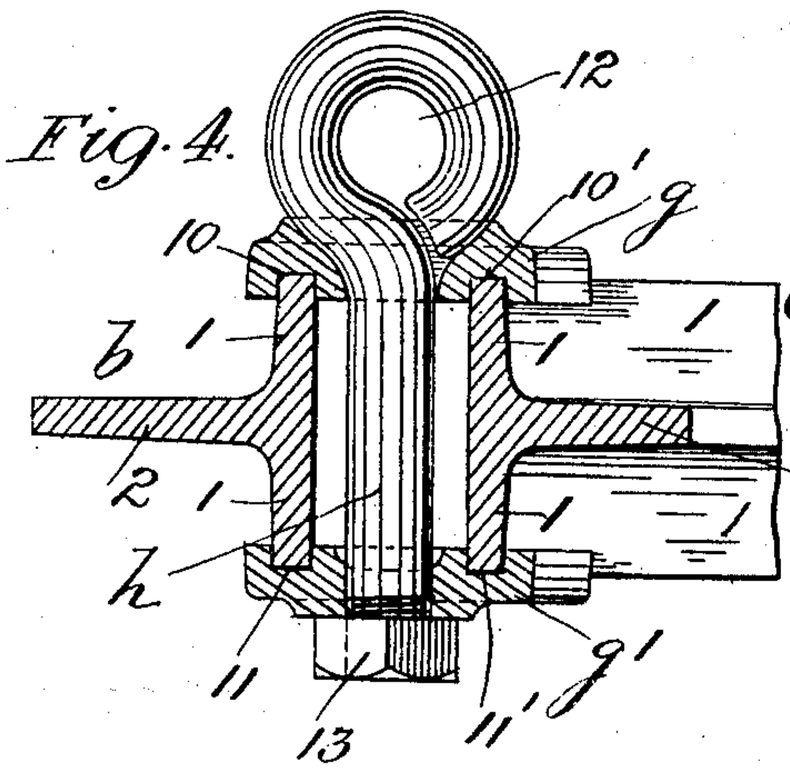
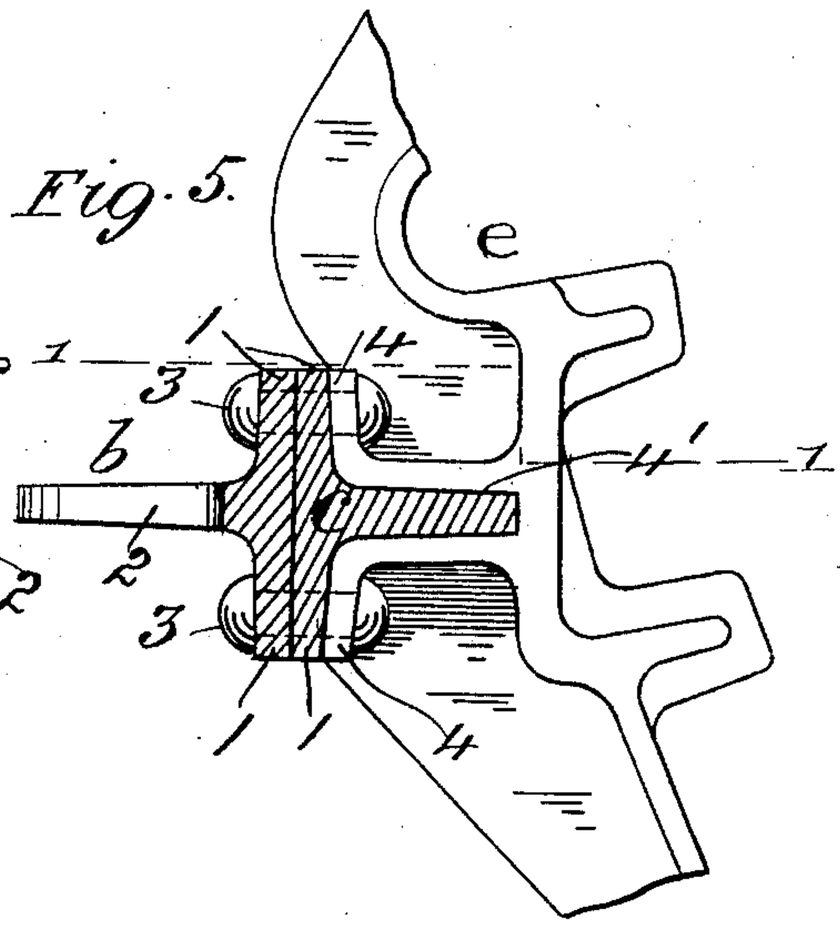


Fig. 5.



WITNESSES
Meta Jaehne
E. V. Lohman

INVENTOR
Joshua B. Barnes
By Edward W. Furrell
His Atty

UNITED STATES PATENT OFFICE.

JOSHUA B. BARNES, OF SPRINGFIELD, ILLINOIS.

BRAKE-BEAM FOR RAILROAD-CARS.

No. 830,558. Specification of Letters Patent. Patented Sept. 11, 1906.

Application filed June 16, 1906. Serial No. 322,026.

To all whom it may concern:

Be it known that I, JOSHUA B. BARNES, a citizen of the United States, residing at Springfield, in the county of Sangamon, State of Illinois, have invented a new and useful Improvement in Brake-Beams for Railroad-Cars, of which the following is a specification.

My invention relates to an improvement in that part of the air-brake gear of a railroad-car known as the "brake beam or bar" in connection with the brake-lever and having the brake-heads attached thereto, and has for its object to provide a light, rigid, and durable brake-beam of simple and inexpensive construction.

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 top plan view of my improved brake-beam, showing one of the brake-heads attached thereto in horizontal section on line 1 1 in Fig. 5; Fig. 2, a front view thereof; Fig. 3, a vertical cross-section, to enlarged scale, through the brake-beam on line 3 3 in Fig. 1, and a corresponding elevation of the combined king-post and brake-lever fulcrum (hereinafter termed "brake-lever fulcrum") thereat; and Figs. 4 and 5, similar views to Fig. 3 through the brake-beam on lines 4 4 and 5 5 in Fig. 1 looking to the right.

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

a represents my improved brake-beam, which is of the trussed order, comprising a compression member, which consists, preferably, of a rolled straight T-iron bar *b* and a tension member or rolled T-iron bar *c*, which is fixed at its end portions to the corresponding portions of the compression-bar *b* and held apart from the bar *b* in the middle of the beam *a* to form a truss therefor by the brake-lever fulcrum *d*, as hereinafter more particularly described.

The flanges 1 of the T-iron bars *b* and *c* in their assembled position are vertically arranged and outwardly opposite to each other, respectively, the webs 2 projecting therefrom in opposite directions and in the same horizontal plane. The flanges 1 of the bars *b* and *c* for a suitable distance from each end of the brake-beam *a*, corresponding to the width of the brake-head *e*, bear against each other, and are secured together thereat by rivets (or bolts) 3, which pass through the flanges 1 and through upper and lower flanges 4 therefor on the rear side of the brake-head *e*, which is preferably composed of malleable iron and configured as shown or of any other suitable design. In and transversely through the brake-head *e*, between its flanges 4, is formed a horizontal slot 4′, which when the brake-head *e* is secured to the flanges 1, as described, straddles and closely fits the web 2 of the tension-bar *c*, whereby the brake-head *e* is rigidly held thereat to the bars *b* and *c* at the desired angle and position as seen in Fig. 5. The tension-bar *c* is inclined outward from the brake-heads *e* and otherwise suitably shaped to form a truss to the compression-bar *b*, from which it is held apart at the required distance in the middle of the brake-beam *a* by the intermediate brake-lever fulcrum *d*, which is composed, preferably, of malleable iron and adapted to engage the brake-lever (not shown) in the usual well-known manner.

From one side of the brake-lever fulcrum *d*, at its rear end, projects, preferably, a lip 5, which hooks over the edge of the corresponding flange 1 of the compression-bar *b*, while in and across the opposite side of the brake-lever fulcrum *d*, at a suitable distance from its rear end, is preferably formed a slot 6, which when the parts are assembled is engaged by a corresponding projection 7 on a clamp-plate *f*, having a similar parallel projection 7′, which hooks over the edge of the other flange 1 of the compression-bar *b*, the plate *f* being fixed to the brake-lever fulcrum *d* by a rivet (or bolt) 8, passing therethrough, and thereby firmly securing the brake-lever fulcrum *d* to the compression-bar *b*. From each side of the brake-lever fulcrum *d*, at its opposite or front end, projects a lip 9, which overlaps the edge of the corresponding flange 1 of the tension-bar *c*, and thereby holds the latter in position against the front end of the brake-lever fulcrum *d*, all as shown particularly in Fig. 3, or the brake-lever fulcrum *d* may be flanged at its ends and thereby or otherwise secured to the bars *b* and *c*.

Across the top edges of the bars *b* and *c*, adjacent to each brake-head *e*, is placed a clamp-plate *g*, composed, preferably, of malleable iron and having in its inside face two longitudinal grooves 10 and 10′, the groove 10′ being inclined to the groove 10, so that when the parts are assembled the straight and inclined edges of the bars *b* and *c* fit closely within the grooves 10 and 10′, respectively, whereby

the bars *b* and *c* and the plate *g* are interlocked and the latter firmly wedged in the desired position and prevented from moving in either direction along the bars *b* and *c*. Across the bottom edges of the bars *b* and *c*, opposite to the clamp-plate *g*, is placed a similar plate *g'*, having grooves 11 and 11' for engaging the bottom edges of the bars *b* and *c* in like manner, the plates *g* and *g'* being preferably drawn toward each other and clamped to the edges of the bars *b* and *c* by the brake-beam hanger-bolt *h*, having an eye 12 at its upper end, which forms a shoulder against the top of the plate *g*, and a nut 13 on its lower end, which bears against the bottom plate *g'* and tightens the bolt *h*, or in lieu of the hanger-bolt *h* the plates *g* and *g'* may be fixed to the bars *b* and *c* by any other suitable means. By this construction the bars *b* and *c* are rigidly held together at and adjacent to the clamp-plates *g* and *g'* and deflection thereof prevented.

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

1. In a brake-beam for a railroad-car, the combination of a T-iron compression-bar and a T-iron tension-bar, fixed together at their end portions, a brake-lever fulcrum intermediate to the said bars at their middle portions, a brake-head fixed to the said bars, two opposite plates extending across the top and bottom edges respectively of the said bars between their end portions and the said fulcrum, and having grooves adapted to fit over the said edges, and means for fixing the said plates to the said bars substantially as described.

2. In a brake-beam for a railroad-car, the combination of a T-iron compression-bar and a T-iron tension-bar fixed together at their end portions, a brake-lever fulcrum intermediate to the said bars at their middle portions, means for fixing the brake-lever fulcrum to the compression-bar, a brake-head fixed to the said end portions respectively and having a slot therethrough adapted to be engaged by a web of the said tension-bar, two opposite plates extending across the top and bottom edges respectively of the said bars between their end portions and the said fulcrum, and having grooves adapted to fit over the said edges, and means for fixing the said plates to each other and to the said bars substantially as described.

3. In a brake-beam for a railroad-car, the combination of a T-iron compression-bar and a T-iron tension-bar fixed together at their end portions, a brake-lever fulcrum intermediate to the said bars at their middle portions, and having an end projection on one side adapted to engage the corresponding edge of the compression-bar, a plate having a projection adapted to engage in a slot formed in the other side of the said fulcrum, and having a second projection adapted to engage the other edge of the compression-bar, means for fixing the plate to the said fulcrum, an end projection at each side of the brake-lever fulcrum adapted to overlap the corresponding edge of the tension-bar, and a brake-head fixed to the said bars, substantially as described.

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

JOSHUA B. BARNES.

Witnesses:

ALONZO B. MARS,

E. F. NEEDHAM.