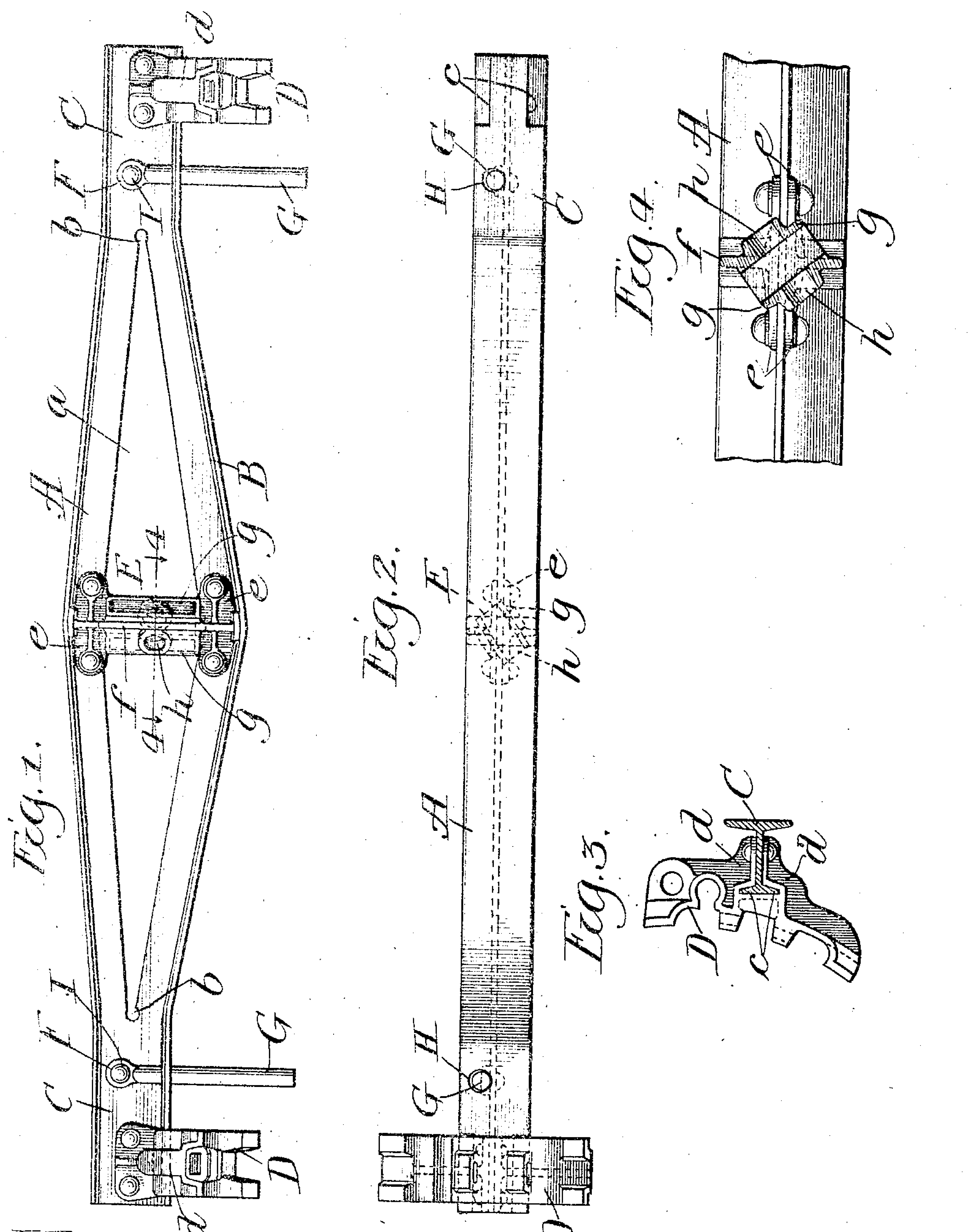
W. P. BETTENDORF.

BRAKE BEAM.

APPLICATION FILED NOV. 9, 1908.

950,653. Patented Mar. 1, 1910.



Witnesses

Inventor

William P. Bettendorf

by Frank D. Thomason

Atty

UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

BRAKE-BEAM.

950,653. Specification of Letters Patent. Patented Mar. 1, 1910.

Application filed November 9, 1908. Serial No. 461,718.

To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Brake-Beams, of which the following is a clear, full, and exact description.

My invention relates to brake-beams and its object is to construct a truss-shaped frame which will combine economy of construction with the essential elements of strength, durability and light weight. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings;—Figure 1 is a plan view of my improved brake-beam. Fig. 2 is a longitudinal edge view of the same. Fig. 3 is an end view thereof. Fig. 4 is a section of the king-post or central spreader casting, taken on dotted line 4, 4, Fig. 1, and showing a fragmentary portion of the tension member of the brake-beam, and together therewith drawn to a larger scale.

The accompanying drawings show a brake-beam made of a single I-beam of a length, which, before it has been worked into the desired shape, is slightly longer than the length a standard M. C. B. brake-beam should be. The web of this I-beam is provided, midway its flanges, with a longitudinal slit *a*, the ends of which terminate preferably, in punched openings *b*, located at a suitable distance back from each end of the beam, and said brake-beam is then made into a truss-shape by pressing its ends toward each other, or, better still by grasping the flanges midway the length of the beam and pulling the said flanges and the portion of the web integral therewith away from each other sufficiently to form the tension member B, and the compression member A of a truss. The ends C of this truss, between the terminal openings *b* and the extremities of the beam aline with each other and remain as originally rolled, except that the end portion of the flanges constituting a continuation of the flanges of the compression member of the beam is cut away at *c*, *c*. The ends *c*, *c*, of said flanges are cut away to enable the fastening lugs *d*, of the brake-shoe holder D to slip over the same. There are two of these fastening-lugs *d* projecting to the rear from the central portion of said holder and the space between them corresponds to the transverse contours of the reduced flanges *c* and a part of the web of the beam, to which as shown, they are secured by rivets or other means. When the holders D are placed over the ends of the brake-beam they are moved until they bear against the shoulders caused by cutting away said flanges and thus their exact position, when the beam is assembled, is assured. These brake-shoe holders, are, in every other respect substantially the same as those now in extensive use; that is to say they are substantially crescent shaped, having their forward vertical surface so recessed or depressed transversely as to leave lugs between which the fastening lugs of the brake shoe extend and are secured by the usual bolt or pin.

At the center of length of the brake-beam, a king-post E is interposed between the compression and tension members, A and B. This king-post consists preferably of a cast metal column of substantially I-beam shape in cross-section the ends of which are slit longitudinally and flattened to form end-plates *e*, *e*, which pass on either side of the web of the adjacent portion of the compression and tension members of the beam and are secured thereto by rivets or otherwise, and midway between said rivets, said posts are provided on each side of the beam with transversely disposed flanges *f*, *f*, that extend the entire length of the post and terminate in feet that bear against the inner surfaces of the flanges of the beam at their centers of length where they are separated farthest apart. Between the separated webs of the compression and tension members the body of the king-post consists of two corresponding flat parallel walls *g* which are disposed obliquely, or, at an angle of about forty-five degrees to the plane of the web of the brake-beam. The usual lever (not shown) which is employed to operate the brake-beam is placed between these walls, and pivoted by a suitable bolt (not shown) the ends of which are journaled or secured in bearings *h*, *h*, made in the center of length of said walls.

Near each end of the brake-beam and between the holders D and the terminals of the separated portions of the same, I have provided guard-pins G, which project in front of the forward edge of the brake-beam a suitable distance and are adapted to prevent the longitudinal displacement of the

brake-beam by engaging the inside surface of the flanges of the car-wheels (not shown) in the usual manner. These guard-pins consist of short sections of steel-bars, one F end of which is bent toward the web of the brake-beam and flattened and secured to said web by a rivet or bolt, I, and the other end of which extends straight forward, out through openings H in the flange of the beam. This manner of securing the guard-pins in place, permits them to be readily replaced when in need of repairs or broken.

I do not wish to be confined to the exact construction of brake-shoe holder or the king-post, although I prefer to make them as shown and described.

What I claim as new is:—

1. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the portions thereof on each side of said slit moved a suitable distance from the plane of said slit, and a king-post of substantially I-beam shape whose ends are secured to said separated portions of said beam, and which has bearings therein for the pivot of the operating lever of the brake-beam.

2. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the portions thereof on each side of said slit moved a suitable distance from the plane of said slit, and a king-post whose ends are split lengthwise and provide cheek-plates that are secured to the web of said separated portions of said beam, and which has bearings therein for the pivot of the operating lever of the brake-beam.

3. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the portions thereof on each side of said slit moved a suitable distance from the plane of said slit, and a king-post of substantially I-beam shape whose ends are secured to said separated portions of said beam, which has bearings therein for the pivot of the operating lever of the brake-beam and is provided with a longitudinal flange the ends of which butt against the longitudinal flanges of the brake-beam.

4. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the portions thereof on each side of said slit moved a suitable distance from the plane of said slit, and a king-post whose ends are split lengthwise and provide cheek-plates that are secured to the web of said separated portions of said beam, which has bearings therein for the pivot of the operating lever of the brake-beam and is provided with a longitudinal flange the ends of which butt against the longitudinal flanges of the brake-beam.

5. A brake-beam comprising a single flanged beam, the ends of one of the flanges of which are recessed to reduce their widths, and brake-shoe holders having fastening lugs adapted to be slipped longitudinally over said reduced ends and suitably secured thereto.

6. A brake-beam comprising a single flanged beam the ends of one of the flanges being reduced in width, and near said reduced ends provided with openings therethrough, brake-shoe holders secured to said reduced ends and guard-pins one end of each of which is bent toward and secured to the web of the brake beam and having their shafts tended through said openings.

7. A brake-beam comprising a single flanged beam the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the ends of one of the flanges of which are reduced in width, a king-post interposed between and whose ends are secured to said separated portions of the beam, and brake-shoes adapted to be placed upon and secured to said reduced end portions of said flange.

8. A brake-beam comprising a single flanged beam the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the ends of one of the flanges of which are reduced in width, a king-post interposed between and whose ends are split longitudinally and secured to the webs of said separated portions of the beam, and brake-shoes adapted to be placed upon and secured to said reduced end portions of said flange.

9. A brake-beam comprising a single flanged beam the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the flange of which nearest the car-wheels having openings therein, a king-post of substantially I-beam shape interposed between and having its ends secured to said separated portions and guard-pins one end of each of which is bent toward and secured to the web of the brake beam and have their shafts extending through said openings.

10. A brake-beam comprising a single flanged beam the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit, the ends of the flange of one edge of which are reduced in width, and are, adjacent to said reduced portions, provided with openings, a king-post interposed between and having its ends secured to said separated portions, brake beam holders placed upon and secured to the reduced ends of the beam, and guard pins one end of each of which is bent toward and secured to the web of the beam and the shafts of which

extend through the openings in the flange thereof.

11. A brake-beam comprising a single I-beam, the web of which between its ends midway between its flanges is slit longitudinally and the portions thereof on each side of said slit moved a suitable distance from the plane of said slit, and a king-post of substantially I-beam shape whose ends are secured to said separated portions of said beam, and which has bearings therein for the pivot of the operating lever of the brake-beam.

12. A brake-beam comprising a single flanged beam the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the ends of one of the flanges of which are reduced in width, a king-post interposed between and whose ends are secured to said separated portions of the beam and is provided with longitudinal flanges the ends of which butt against the longitudinal flanges thereof and brake shoes adapted to be placed upon and secured to said reduced end portions of said flange.

13. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the flange of which nearest the car-wheels having openings therein, a king-post interposed between and having its ends split longitudinally and secured to the webs of said separated portions, and guard-pins one end of each of which is bent toward and secured to the web of the brake-beam and have their shafts extending through said openings.

14. A brake-beam comprising a single flanged beam, the web of which between its ends is slit longitudinally and the separated portions moved a suitable distance from the plane of said slit and the flange of which nearest the car-wheels having openings therein, a king-post interposed between and having its ends secured to said separated portions, and having longitudinal flanges the ends of which butt against the flanges of said separated portions, and guard pins one end of each of which is bent toward and secured to the web of the brake beam and have their shafts extending through said openings.

In testimony whereof I have hereunto set my hand and seal this 27th day of October, A. D., 1908.

WILLIAM P. BETTENDORF. [L. S.]

Witnesses:

HENRY BELLINGHAUSEN,

JOHN H. PLOEHN.