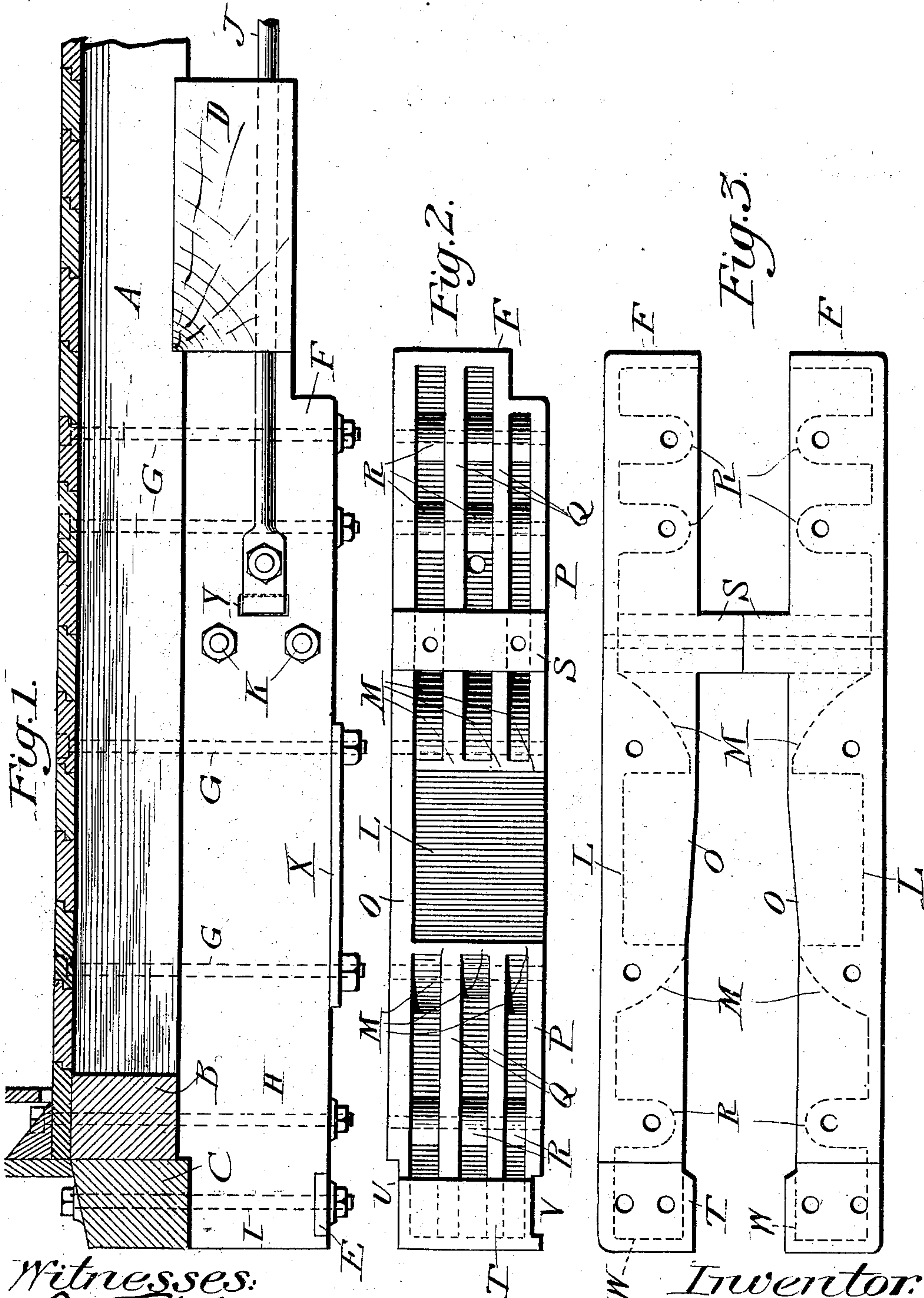


J. K. EVANS.  
DRAFT BEAM FOR CARS.

(Application filed July 25, 1901.)

(No Model.)



Witnesses:  
D. W. Edlin.  
Chas. H. Baker.

Inventor:  
J. K. Evans.  
By Stebbins & Wright, Attys



# UNITED STATES PATENT OFFICE.

JONATHAN K. EVANS, OF DICKERSON RUN, PENNSYLVANIA.

## DRAFT-BEAM FOR CARS.

SPECIFICATION forming part of Letters Patent No. 702,189, dated June 10, 1902.

Application filed July 25, 1901. Serial No. 69,694. (No model.)

*To all whom it may concern:*

Be it known that I, JONATHAN K. EVANS, a citizen of the United States, residing at Dickerson Run, in the county of Fayette and State of Pennsylvania, have invented new and useful Improvements in Draft-Beams for Cars, of which the following is a specification.

My invention relates to improvements in draft-beams for cars, and has for its object the provision of a metallic draft-beam which shall have a maximum strength and resisting power for withstanding the shocks and strains incident to severe service; and for this purpose the same consists of a draft-beam formed of integral parts, as hereinafter described.

It further consists of the combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a vertical longitudinal section of a car-floor on the outer side of the sills or beams embodying my invention. Fig. 2 represents a view of one of the metallic draft-beams on a line through the longitudinal center of the car and in elevation. Fig. 3 represents a top plan view of the two draft-beams when united and bolted together.

Like letters indicate similar parts in the different figures.

Referring to the several views, the letter A designates one of the two central sills or stringers, and B an end sill, on which sills the floor of the car is laid.

F designates my improved draft-beams, preferably of malleable iron or steel, each having a plain outer face and of substantially uniform height except at its front end, which is recessed for a purpose hereinafter set forth.

The inner face of each of the beams F F has a horizontally-projecting upper or top wall or flange O and a horizontally-projecting lower or bottom wall or flange P, with end connecting flanges or walls. Intermediate of the said top and bottom walls are the horizontally-extended ribs Q, which are united at their outer ends to the end flanges or walls of the beams and at their inner ends to the vertical end walls or abutments M of the pockets L, which latter are adapted to receive the follower-plates which support the yoke of a draw-bar. (Not shown, as they are not a part

of my invention.) Bosses R, connecting the top wall, ribs, and lower wall, are formed integral with the side plate or vertical wall of the beam, but projecting therefrom, so that the strength of said side wall is not impaired by the openings in said bosses through which the bolts G and H are passed. Each of the said bolts G has its head countersunk in the car-floor and passes through a stringer A and the top and bottom walls, ribs, and bosses of a beam F and has a securing-nut on the threaded lower end. The bosses R, as well as the abutments M, are formed within or do not extend outside of or beyond the vertical plane of the edges of the top and bottom walls and ribs of the beam.

S designates a lug formed on the inner surface of each of the beams F and extending beyond the top and bottom walls thereof. The lugs of the two beams F F when the latter are in place abut against each other, as in Fig. 3, and have coinciding horizontal openings, in which the securing-bolts K are inserted for binding said beams together. The lugs S S also serve as a stop, limiting the rearward movement of the draw-bar.

The front ends of the draft-beams F F are rigidly secured in position by means of the sill B and the head-block C, the former by means of the bolts H, while the ends of the latter rest in recesses U on the upper faces of the said beams and are fastened thereto by means of the bolts I, which pass vertically through said block and beams and also through the carry-iron E, countersunk in a recess in the under face of each of the beams.

Abutting against the inner ends of the beams F F is the body-bolster D, which has its upper edge inserted in recesses in the under faces of the sills A A. A strain-rod J is secured near its front end by a bolt to the outer face of each of the beams F F, the said end being bent and inserted in a recess Y in the beam, and the rod extending rearward through a horizontal opening in the bolster D is secured at its other end and threaded end to a needle-beam. (Not shown). By fastening the front ends of the strain-rods J J as described and passing them through the body-bolster D a rigid front connection of said rods is effected, whereby a greater resistance to lateral as well as to longitudinal strains is



secured, while at the same time there is an additional strengthening and bracing of the beams F F in place.

Each of the beams F F has on its inner face at its front end and integral with its walls a plate forming the wearing-boss T for the coupler-shank. This boss serves to strengthen the said front end of the beam, which otherwise than for the ends of the ribs Q is hollow, as at W.

It will be noticed that the outer face of each of the draft-beams F F is plain, presenting no projection, and that the walls, ribs, bosses, and lug of each beam are integral therewith, so that formed as described the beam has great power to resist a strain in any direction that may be imposed upon it.

The beams F F are each of substantially uniform height, except at their front ends, where they are recessed for the countersinking of the head-block C and the carry-iron E. The outer faces of the beams when in position are substantially parallel, and the walls thereof are of less width between the wearing-bosses and the abutments of the pockets than in the rear of the latter, giving more space in front for the draw-bar, while at the rear greater strength is given to the connection of the abutting lugs. The removable plates X, as is obvious, hold the follower-plates and springs in place, and the removal of the nuts on the bolts G allows the removal and replacement of the springs and follower-plates.

While I have illustrated and described only one example of the physical embodiment of my invention, I do not intend to limit the scope thereof to such example, inasmuch as in practice changes and modifications may be introduced at will without constituting a substantial departure.

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

1. The combination with the stringers A A, of two metallic draft-beams, each beam having a top wall O, bottom wall P parallel with the top wall, ribs Q, said bottom wall, top wall and ribs Q extending inwardly from the vertical wall, walls or abutments M bounding the pocket L for the follower-plates, perforated bosses R intermediate the top and bottom walls and the ribs Q, perforated lug S, and bolts G passing through the stringers and bosses R; in substance as set forth.

2. The combination with the stringers A A, of two metallic draft-beams, each beam having a perforated lug S located in the rear of the pocket L for the follower-plates and adapted to form a stop for a coupler-yoke, a top wall O, a bottom wall P broken away the length of the pocket, strengthening-ribs Q extending from the pocket L to the ends of the beam, and taking the strains and blows imparted to the abutments M, and bosses R between the top and bottom walls; the said beams being united by bolts K which pass through the stop for the coupler-yoke, and secured to the stringers by bolts G; and the lower portions of the pockets L L closed by a removable plate X detachably held in place by the bolts G, G, and nuts, which are located adjacent the pocket L; as set forth.

3. A metallic draft-beam having the top wall O, bottom wall P, perforated lug S, abutments M, pocket L open at the bottom, ribs Q, hollow space W at the front end closed by the top, bottom, end, and outside walls and by the wearing-boss T, and bosses R perforated for the reception of bolts G; the end of the said beam being adapted to be secured to the head-block by bolts passing through the hollow space W; as set forth.

4. Two metallic draft-beams each having a plain outer face with a recess Y, a top wall, a bottom wall, perforated lug S, pocket L open at the bottom, ribs Q, perforated bosses R, in combination with bolts K, stringers, bolts G, a removable plate X, and strain-rods J, each strain-rod being bent at the end and seated in a recess Y and the opposite end extended through the body-bolster and adapted to be attached to a needle-beam.

5. The combination of the two draft-beams F, F, having substantially parallel outer faces and horizontally-projecting walls on their inner faces with connected abutting lugs intermediate of their ends and wearing-bosses at their front ends; said walls being of less width between said wearing-bosses and said abutting lugs than in the rear of the latter; in substance as set forth.

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

JONATHAN K. EVANS.

Witnesses:

SCOTT FULTON,  
WM. McDONALD.