No. 855,998. PATENTED JUNE 4, 1907.

# H. C. STICKEL.

## DRAFT RIGGING FOR FREIGHT CARS.

APPLICATION FILED OCT. 9, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

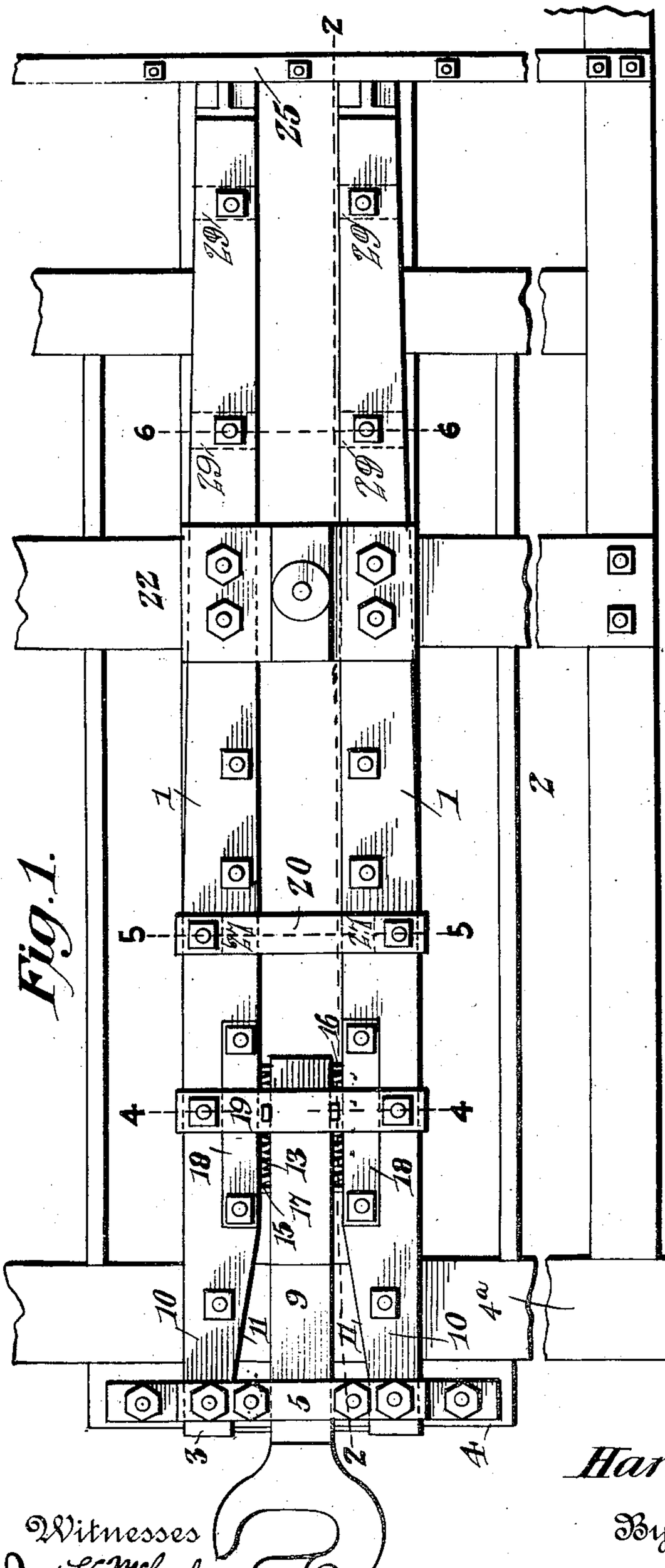
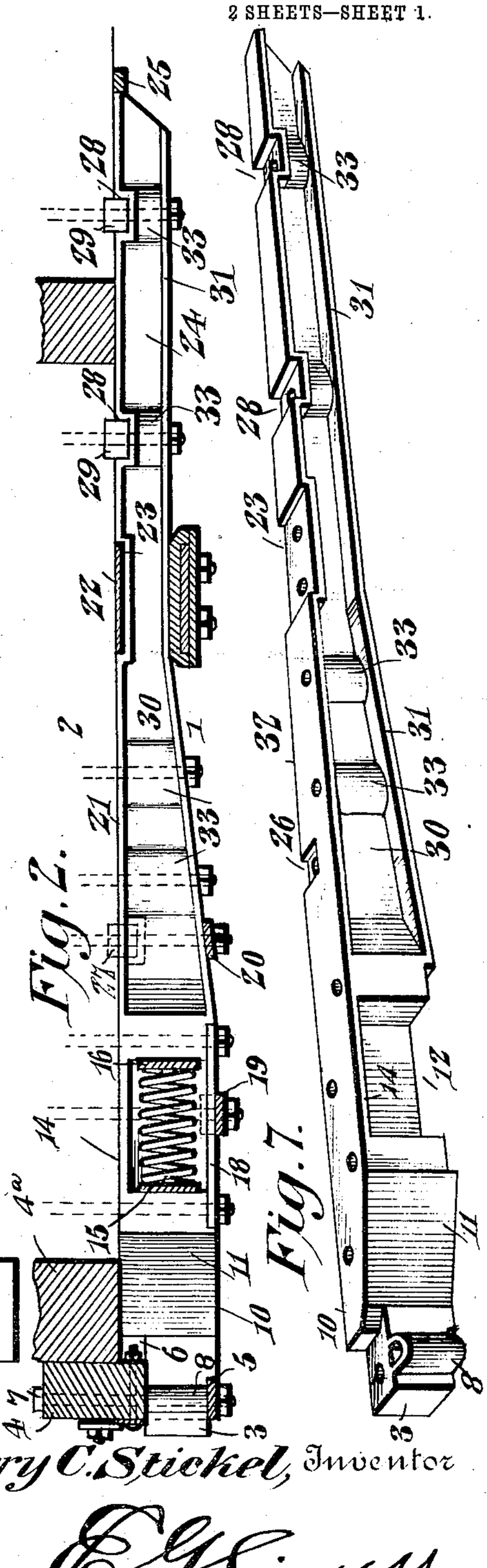



Fig. 2.




Witnesses
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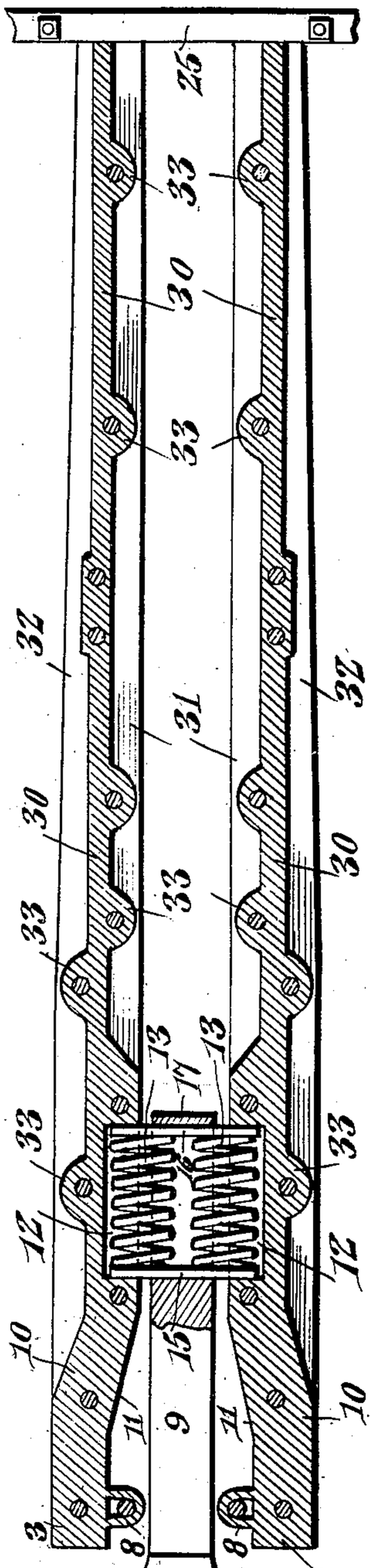


Fig. 3.

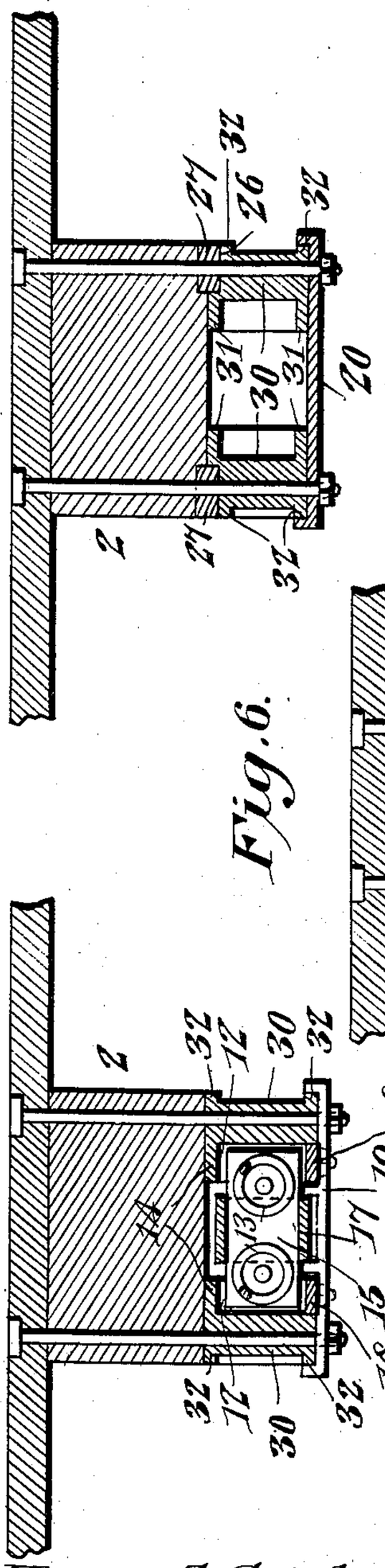


Fig. 5.

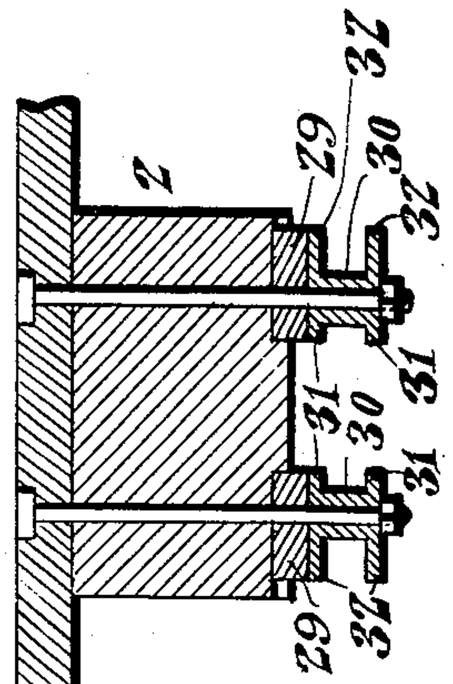


Fig. 6.

Fig. 4.

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# UNITED STATES PATENT OFFICE.

HARRY C. STICKEL, OF STAR JUNCTION, PENNSYLVANIA.

## DRAFT-RIGGING FOR FREIGHT-CARS.

No. 855,998. Specification of Letters Patent. Patented June 4, 1907.

Application filed October 9, 1906. Serial No. 338,140.

*To all whom it may concern:*

Be it known that I, HARRY C. STICKEL, a citizen of the United States, residing at Star Junction, in the county of Fayette and State of Pennsylvania, have invented a new and useful Draft-Rigging for Freight-Cars, of which the following is a specification.

The invention relates to improvements in draft rigging for freight cars.

The object of the present invention is to improve the construction of draft rigging for freight cars, more especially the construction of draft timbers, and to provide a pair of metallic draft beams or timbers, which will be light, strong and durable and which will not only increase the life of the draft rigging, but which will also serve to brace and support the center sill and the body bolster, and prevent the same from being broken by the jars and blows incident to the operation of coupling cars.

A further object of the invention is to provide a draft beam of this character, adapted to dispense with the tie rod usually employed for connecting the draft beams at one end of the car with those at the other end thereof.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a reverse plan view of a portion of a car provided with metallic draft beams, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view, taken on the line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is a similar view on the line 5—5 of Fig. 1. Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 1. Fig. 7 is a detail perspective view of one of the draft beams.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1—1 designate a pair of metallic draft beams, constructed of malleable metal and arranged directly beneath the center sills or sill of a freight car 2. The draft beams, which are secured to the frame of the car by vertical bolts, are spaced apart to receive the car coupling, and the front or outer portions, between which the car coupling is arranged, are provided with horizontal upper and lower faces, and the front ends 3, which project beyond the end sill $4^a$ of the car, are recessed at the top to receive a dead-block or piece 4. The block 4, to which the draw-bar carrier iron 5 is bolted, is secured in the recess 6 of the outer or front ends of the draft beams by means of vertical bolts 7, which pass through vertical eyes 8 of ribs or enlargements, formed integral with the draft beams and located at the inner faces thereof. The reduced front ends 3 of the draft beams are also provided at their lower faces with recesses to receive the carrier iron. The ribs serve as guards for spacing the draw-bar 9 from the inner faces of the draft beams, for maintaining the car coupling along the median line of the car. The front portions 10 of the draft beams are tapered outwardly, and the inner faces 11 of the two tapered portions 10 converge inwardly. This reduces the amount of metal and lightens the construction.

In rear of the tapered portions 10, the draft beams are provided at their inner faces with longitudinal recesses 12, which receive draft springs 13 of the car coupling. The recesses 12 extend upward from the lower faces of the draft beams, and terminate short of the upper face to provide top guiding flanges 14, which form the top walls of the recesses 12. The ends of the springs fit against front and rear follower plates 15 and 16, which have their ends normally arranged against the front and end walls of the recesses 12. The follower plates are connected with the inner or rear end of the draw-bar 9 of the car coupling by means of a substantially rectangular yoke or strap 17. The bottom walls of the recesses 12 are formed by longitudinal plates 18, which are let into the lower face of the draft beams, and which have their lower faces flush with the lower faces of the said beams 1. These plates 18 are detachably secured to the draft beams by means of the vertical bolts, which secure the beam to the car frame, and as the nuts of the bolts are arranged at the lower faces of

the draft beams 1, the plates 18 may be readily detached to afford access to the draft springs and the follower plates. The draft beams 1 are connected at the recess 12 by a carrier bar 19, and in rear of the recess by a tie bar 20.

The intermediate portion 21 is tapered rearwardly, its lower face being inclined upwardly and rearwardly from the car coupling to the body bolster 22, and the draft beam, which extends through the body bolster, is provided at its upper face with a recess 23 to receive the upper member of the body bolster. The rear portion 24 has horizontal upper and lower faces, and it extends inwardly or rearwardly beyond the body bolster to a transverse tie bar 25. The rear end of the draft beam is tapered or beveled, the rear edge being inclined upwardly and rearwardly and the point of the taper being fitted against the bar 25.

The draft beam is provided in advance of the body bolster 22 with a recess 26 for the reception of a check block 27, and the rear portion 24 of the draft beam is provided in its upper face with recesses 28 to receive check blocks 29. The check blocks are let into the center sill and are thereby interlocked with both the center sill and the draft beams, and they are secured in their interlocked relation with the center sill and the draft beams by the vertical bolts, which fasten the draft beams to the car frame. The front recess 26 extends inwardly from the outer edge of the top face of the draft beam, and it terminates short of the inner edge thereof, and the other check block receiving recesses 28 extend entirely across the upper face of the draft beam.

Any number of bolts may be provided for securing the draft beam to the car frame, and in order to further lighten the draft beams, the latter are constructed of flanged metal and consist substantially of central vertical web portions 30, inner and outer longitudinal flanges 31 and 32, which extend laterally from the inner and outer faces of the web portions at the top and bottom of the draft beams. The inner top and bottom flanges extend from the outer end of the intermediate portion 21 to the rear end of the rear portion 24, and the outer side flanges extend from the rear end of the draft timber to within a short distance of the front or outer end of the same. The web portion is provided at the vertical bolt opening with vertical enlargements or bosses 33 to provide the necessary thickness of the web.

It will be seen that by constructing the draft beams of metal and by extending them in rear of the body bolster, they are adapted to strengthen and support the center sill and the car frame, and that they greatly increase the strength and durability of the car and prevent the timbers thereof and the body bolster from being broken or otherwise injured by the jars and blows incident to the operation of coupling cars.

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

1. The combination with a car provided with recesses and having a body bolster, draft beams passing through and extended in advance and in rear of the body bolster and provided with a recess receiving a portion of the same, whereby they are interlocked with the body bolster, said draft beams being also provided in advance and in rear of the body bolster with recesses, and check blocks secured in the latter recesses and engaging those of the car.

2. The combination with a car having at its front end a transverse block, of spaced draft beams having outwardly tapered portions presenting angularly disposed inwardly converging inner faces, said draft beams being provided beyond the tapered portions with reduced outer ends having upper and lower recesses, the upper recesses receiving the said block, vertical eyes located between and formed integral with the reduced ends of the draft beams, a carrier iron having its terminals fitted in the lower recesses of the reduced ends of the draft beams, and fastening devices passing through the eyes and piercing the carrier iron and the block.

3. As a new article of manufacture, a metallic draft beam consisting of a vertical web and laterally projecting upper and lower flanges, said beam being provided in its upper face with an intermediate body bolster receiving recess, and having check block receiving recesses located in advance and in rear of the bolster receiving recess.

4. As a new article of manufacture, a metallic draft beam provided at its inner side with a recess and consisting of a web having lateral enlargements and inner and outer top and bottom flanges, the inner flanges terminating at the said recess and the outer flanges being extended in advance of the same.

5. As a new article of manufacture, a metallic draft beam provided at its front end with an upper recess and having a side recess at its inner face and consisting of a vertical web and laterally projecting flanges, said draft beam being provided at its upper face with a body bolster receiving recess and having check block receiving recesses in advance and in rear of the same.

6. As an article of manufacture, a metallic draft beam consisting of a vertical web and laterally projecting upper and lower flanges extending from opposite sides of the web, the outer flange being extended along the web in advance of the inner flange, said draft beam being provided in its upper face

with a series of recesses, and lateral enlargements or bosses extending from the web between the upper and lower flanges, some of the said bosses or enlargements being on the outside and some on the inside, and certain of the recesses having said enlargements or bosses located beneath the same.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY C. STICKEL.

Witnesses:

LENA GALLEY,

D. M. GRAHAM.