

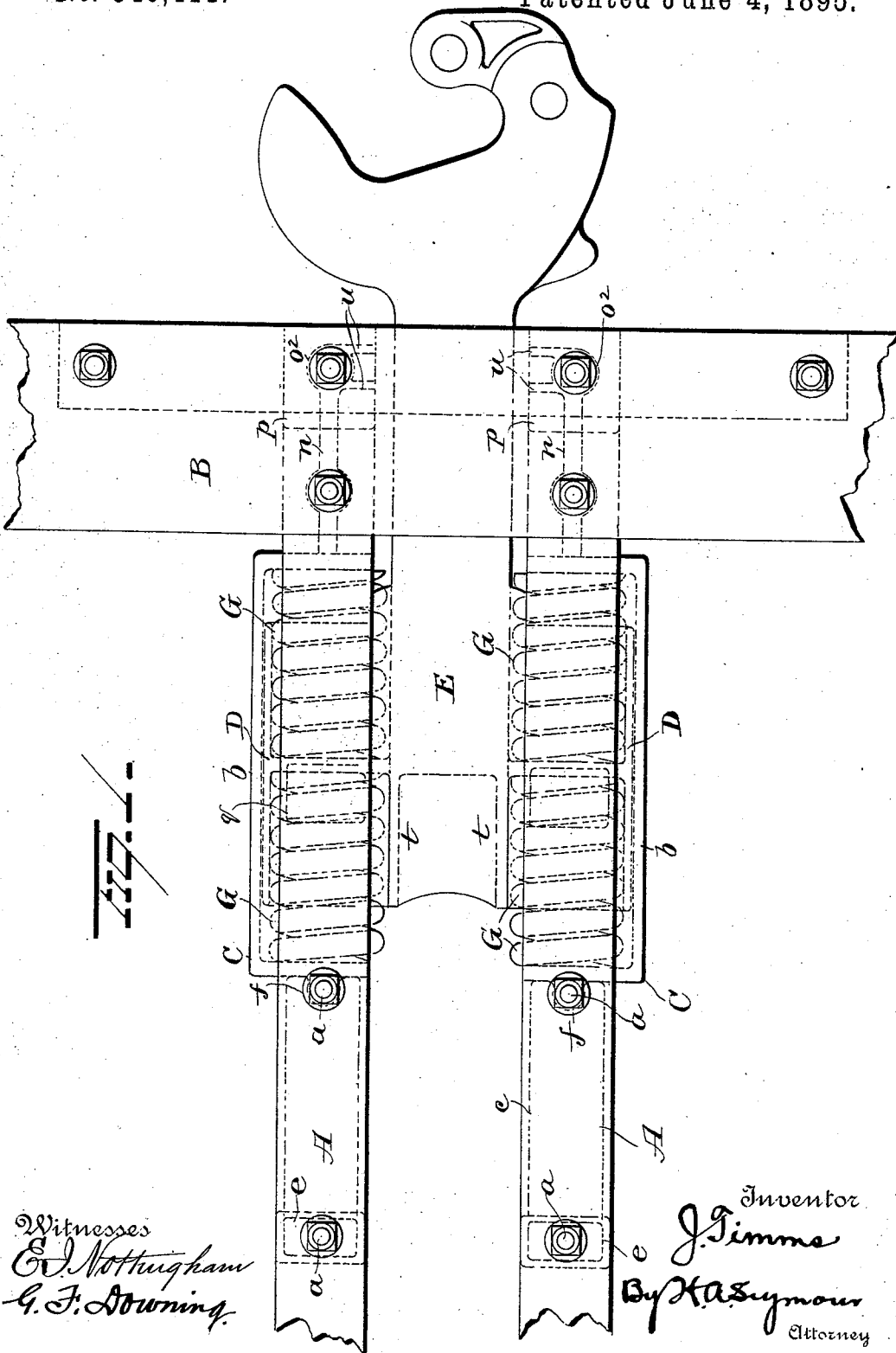
(No Model.)

4 Sheets—Sheet 1.

J. TIMMS.
CAR COUPLING.

No. 540,411.

Patented June 4, 1895.



Witnesses
E. Nottingham
G. F. Downing.

Inventor
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Attorney

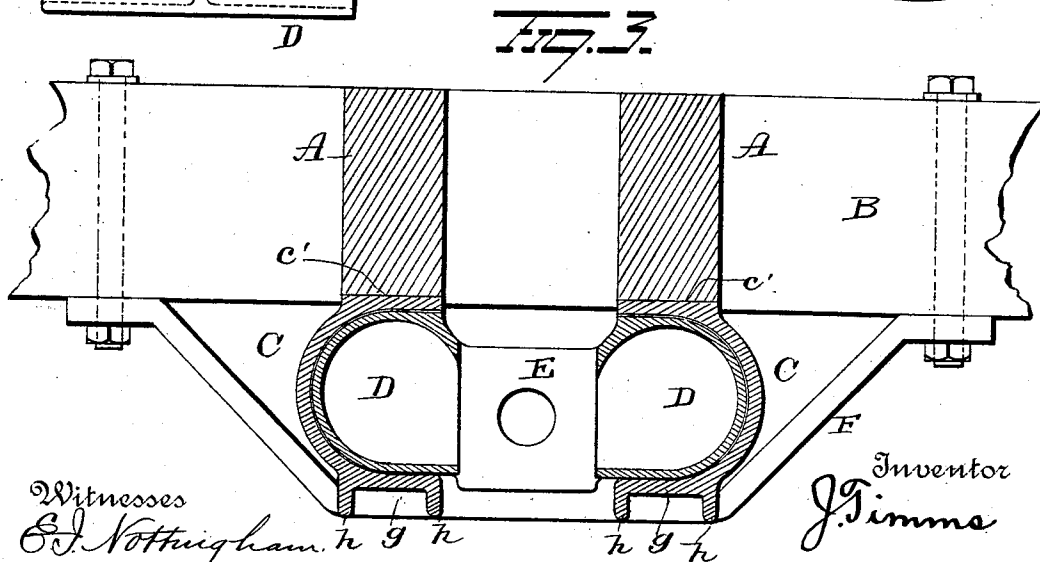
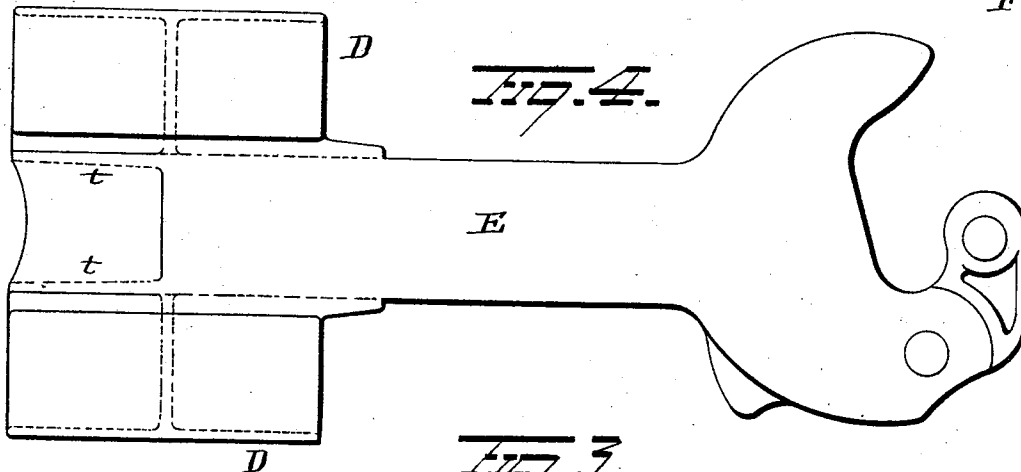
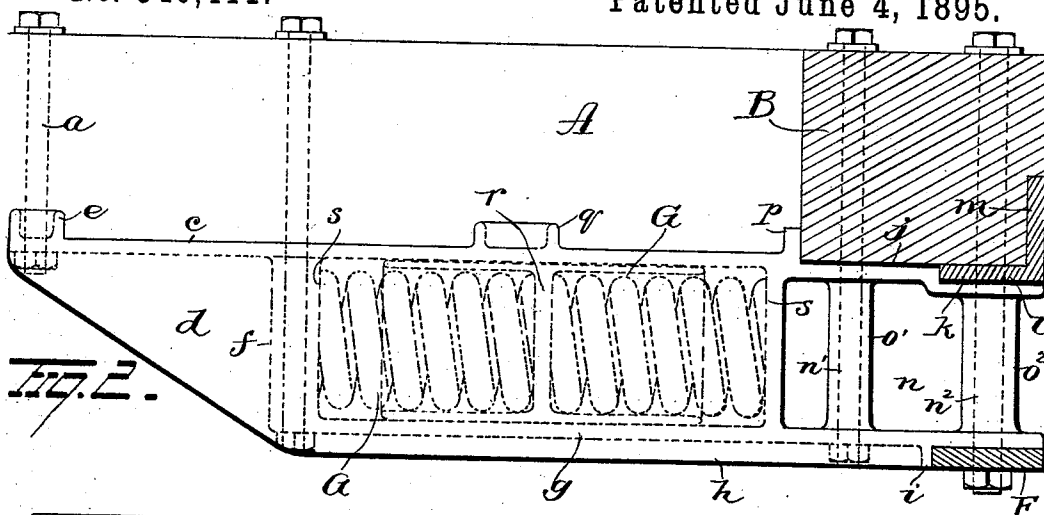
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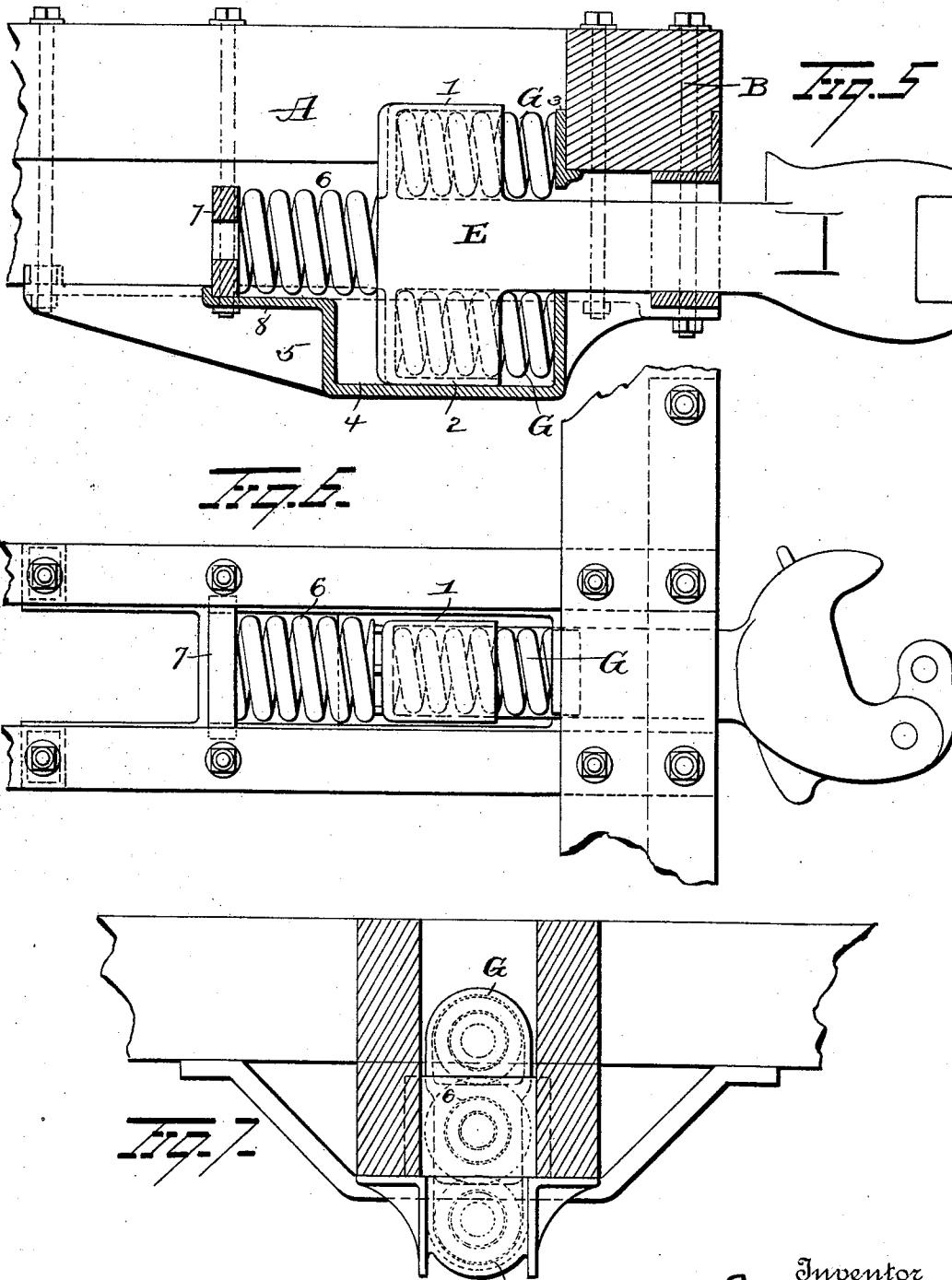
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4 Sheets—Sheet 4.

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Fig. 8.

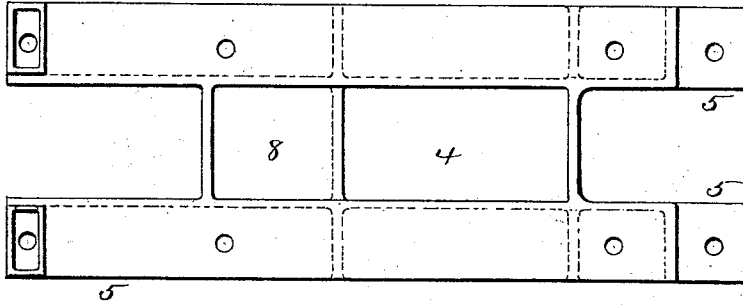
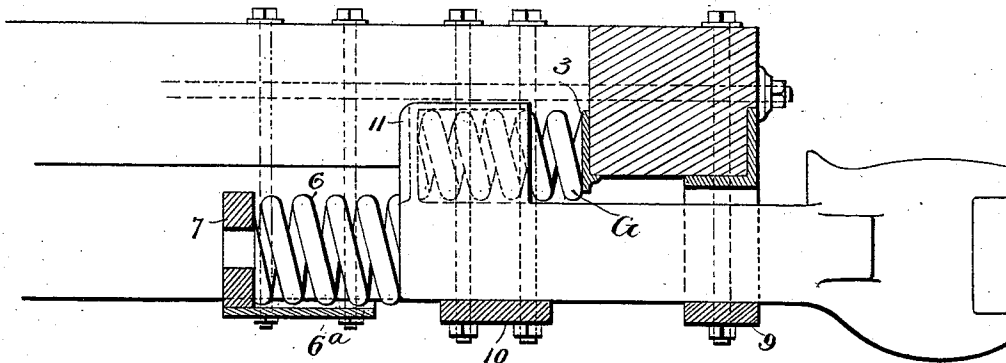


Fig. 9.



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UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO, ASSIGNOR TO THE BUCKEYE MALLEABLE IRON AND COUPLER COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 540,411, dated June 4, 1895.

Application filed October 12, 1894. Serial No. 525,703. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, a resident of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; 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 invention relates to an improvement in car couplings and more particularly to the draft devices for connecting the same to the car timbers, the object of the invention being to simplify the construction of such devices, reduce the number of parts to a minimum and avoid the use of a tail pin and yoke fastenings.

A further object is to produce draft devices which shall be durable, comparatively cheap to manufacture and easy to place in position and which shall be effectual, in all respects, in the performance of their functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a side elevation partly in section. Fig. 3 is a cross-section. Fig. 4 is a detail view of the draw-head and draw-bar, showing the integral boxes on the latter. Figs. 5, 6, and 7 are different views of a modified form of my invention, and Figs. 8 and 9 are different views of still another form of my invention.

A, A, represent the draft timbers of the car, and B the car sill. To the underface of each draft timber A, a box or casting C, constituting, in effect, a draft iron, is secured by means of suitable bolts *a*, each box or casting being made approximately cylindrical in cross section at points intermediate of its ends, as at *b*, with the inner wall removed for the accommodation of cups or boxes D made integral with the draw-bar E, said cups or boxes D being of an external contour corresponding with the internal contour of the interior of the cylindrical portion of the fixed castings C and adapted to have a sliding movement therein, as hereinafter more fully explained.

The rear end of each casting C beyond the cylindrical portion *b* is made U-shaped in cross section, the upper plate *c* thereof being made of a width corresponding to the flat top *c'* of the portion *b* and the thickness of the draft timbers A, the depending flanges *d* of said U-shaped portion being beveled as shown in Fig. 2.

The rear end of each casting C is provided with an upwardly projecting lug *e* which enters the draft timber, said lug being perforated for the passage of one of the bolts *a*.

At the junction of the cylindrical and U-shaped portion of each casting C an enlargement *f* is made, said enlargement being made with a perforation for the passage of another bolt *a*.

The bottom plate *g* of each casting C is made straight and of a width about equal to the thickness of the draft timber, said bottom plate extending forwardly to a point in line with the front edge of the sill B and provided on its under face with strengthening ribs *h* which terminate a short distance from the forward end of the plate *g*, where they are connected by a transverse rib *i*.

Between the transverse ribs *i* of the respective bottom plates *g* and the forward extremities of said plates, a transverse strap or brace F is located, the ends of which are secured to the end sill B.

The top or flattened plate *c'* of each casting C at the forward end thereof is made of a width equal to the rear portion of the casting C and the draft timber, and extends under the sill B, as at *j* the forward extremity of the portion *j* of said top plate being dropped, as at *k*, for the reception between it and the sill, of a flange *l* projecting from a chafing plate *m* on the front of the sill.

Between the forward ends of the top and bottom plates of the castings C, C, comparatively thin webs *n* are made, each web being made with perforated enlargements *o'* *o''* for the passage of bolts *n'* *n''* the bolts *n'* passing through said top and bottom plates and the sill B and the bolt *n''* passing through these parts and also through the flange *l* of the chafing plate and the strap or bracket F.

At the junction of the forward end of the top plate *c'* and the cylindrical portion *b* of

each casting C, an upturned lug or flange p is made and adapted to project behind the sill B.

Between the ends of the portion b of each casting C, a hollow lug q is made and adapted to enter recesses in the draft timbers A.

The cups or boxes D project from each side of the draw-bar E, and in each cup a stout spring G is located, the inner ends of said springs bearing against the partition walls r which divide the cups D and at their outer ends against the end walls s of the cylindrical portions b of the castings C. The inner edges of these springs are protected by flanges t projecting from the rear end of the draw bar E. To provide abutments for the draw-bar when the same vibrates laterally, flanges u are made on the forward enlargements o^2 of the webs n as shown in Fig. 1.

Instead of arranging the springs G, G, at the side of the draw-bar as above described, said springs may be arranged above and below said drawbar as shown in Figs. 5, 6 and 7. In this form of the invention the draw-bar is provided with integral cups or pockets 1, 2, above and below the same for the reception of the springs G G. One end of the upper spring G bears against the bottom or end of the box or pocket 1 and the other end bears against a plate 3 secured to the end sill B. The box or pocket 2 enters a box or pocket 4 made integral with and between draft irons 5, which latter are secured to the draft timbers of the car, the box or pocket 4 being of such length relative to the box 2, as to permit a longitudinal movement of the latter. The lower spring G bears at one end against the bottom or end of the box or pocket 2 and at the other end against one end of the box or pocket 4. A buffing spring 6 is adapted to bear at its forward end against the rear end of the draw-bar and at its rear end against a transverse bar 7 located on an intermediate plate 8 made integral with the draft irons 5, said plate also serving to support the buffing spring 6.

In the form of the invention shown in Fig. 9, the lower spring G and the draft irons above referred to are dispensed with. The buffing spring 6 is retained in this construction and supported by a plate 6^a secured to the draft timbers, the draw-bar and draw-head being supported by plates or straps 9 and 10 secured respectively to the end sill and draft timbers.

In Fig. 9, the draw-bar is provided with a single integral box or pocket 11 (corresponding to box or pocket 1 in Figs. 5, 6 and 7) located on the top of said draw-bar, the spring G being located in said box or pocket and bearing against the end of said box or pocket and the plate 3 secured to the end sill.

My improvements are very simple in construction, comprise few parts, can be easily and cheaply manufactured and placed in position and are effectual, in all respects, in the performance of their functions.

Slight changes might be made in the details

of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to limit myself to the precise details of construction herein set forth; but,

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

1. The combination with a car, of a drawbar having a cup or box connected therewith and an integral or rigid web in the cup or box and springs in front and rear of the web, said springs bearing on the web at their inner ends and upon a part of the car at their outer ends whereby endwise movement of the draw bar is imparted to the car through the springs, substantially as set forth.

2. In a car, the combination with draft irons, of drawbar having a cup connected therewith the exterior sides of which bear against a draft iron whereby to prevent axial movement of the draw bar, and a spring in the cup, this spring bearing at one end against some rigid part of the car, substantially as set forth.

3. The combination with draft timbers, of castings secured thereto, each casting provided with an intermediate cylindrical portion having end walls, a draw bar, two cups projecting from each side of said draw bar and adapted to have a movement in the cylindrical portion of said castings, and a series of springs bearing at one end in said boxes and at their other ends against the end walls of said cylindrical portions of said castings, substantially as set forth.

4. The combination with draft timbers, of castings secured thereto, each casting having an intermediate cylindrical portion and U-shaped rear ends, said cylindrical portions having end walls, lugs projecting from said castings into the draft timbers, a draw bar interposed between said castings, boxes projecting from the respective sides of said draw bar and into said cylindrical portions of the castings, and springs between said cups and the end walls of said cylindrical portions of the castings, substantially as set forth.

5. The combination with draft timbers and a sill, of castings secured thereto, said castings having an intermediate cylindrical portion, the top and bottom plates of said castings being constructed and adapted to project under said sill at their forward ends, a web connecting said forward ends of the top and bottom plates and constructed with hollow enlargements for the passage of bolts, a draw bar, boxes projecting from said draw bar and adapted to have a movement in the cylindrical portions of the castings, and springs interposed between said boxes and the end walls of said cylindrical portions of the castings, substantially as set forth.

6. The combination with draft timbers and a sill, of castings secured thereto and having intermediate cylindrical portions, the top and bottom plates of said castings projecting at their forward ends under the sill, webs

between said forwardly projecting portions of the top and bottom plates of the castings, said webs being constructed with perforated enlargements for the passage of bolts, the free end of said upper plate of the castings being offset, a chafing plate on the front face of the sill and having a flange disposed between said offset portion of the top plates of the castings and the sill, a draw bar, boxes projecting from said draw bar and into said cylindrical portions of the castings, and springs between said cups and the end walls of the said cylindrical portions of the castings, substantially as set forth.

7. The combination with draft timbers and a sill, of castings secured thereto and having cylindrical portions, lugs projecting from said castings and behind said sill, a draw bar, boxes projecting from the respective sides of the draw bar and fitting said cylindrical portions of the castings, and springs between the bottoms of said boxes and the end walls of the cylindrical portions of said castings, substantially as set forth.

8. The combination with draft timbers and a sill, of castings secured thereto and having intermediate cylindrical portions and end portions having strengthening ribs or webs, strengthening ribs on the bottoms of said castings, a strap secured to said castings and to the sill, a draw bar, boxes projecting from the draw bar and adapted to slide in said cylindrical portions of the castings, and springs between the bottoms of said boxes and the end walls of the cylindrical portions of said castings, substantially as set forth.

9. The combination with draft timbers, of hollow castings adapted to produce boxes, secured to said draft timbers, a draw bar, two boxes projecting from each side of said draw bar fitted to and adapted to operate in said

hollow castings or boxes, springs bearing at their inner ends against the bottoms of the boxes on the draw bar and at their other ends against the end walls of the castings or boxes, and flanges at the rear end of said draw bar adapted to protect said springs, substantially as set forth.

10. The combination with draft timbers, castings secured thereto, and a draw bar, of boxes projecting from said draw bar fitted to and adapted to slide in said castings, and springs inclosed in said boxes and castings, the inner ends of said springs bearing against the bottoms of the boxes on the draw bar and the other ends bearing against the end walls of said castings, substantially as set forth.

11. The combination with car timbers and a draw bar, of a laterally projecting pocket carried by said draw-bar, a spring having bearings against the end of said box or pocket and the car timber respectively, and adapted to yieldingly resist the pull on the draw-bar and head and a buffing spring adapted to cushion the rearward movement of the draw-bar and head, substantially as set forth.

12. The combination with car timbers and a draw bar, of laterally projecting pockets carried by said draw-bar at diametrically opposite points, springs disposed between said boxes or pockets and the car timbers so as to yieldingly resist the pull on the draw-bar and head, and a buffing spring adapted to cushion the rearward movement of said draw-bar and head, substantially as set forth.

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

JAMES TIMMS.

Witnesses:

R. S. FERGUSON,
VERNON E. HODGES.