

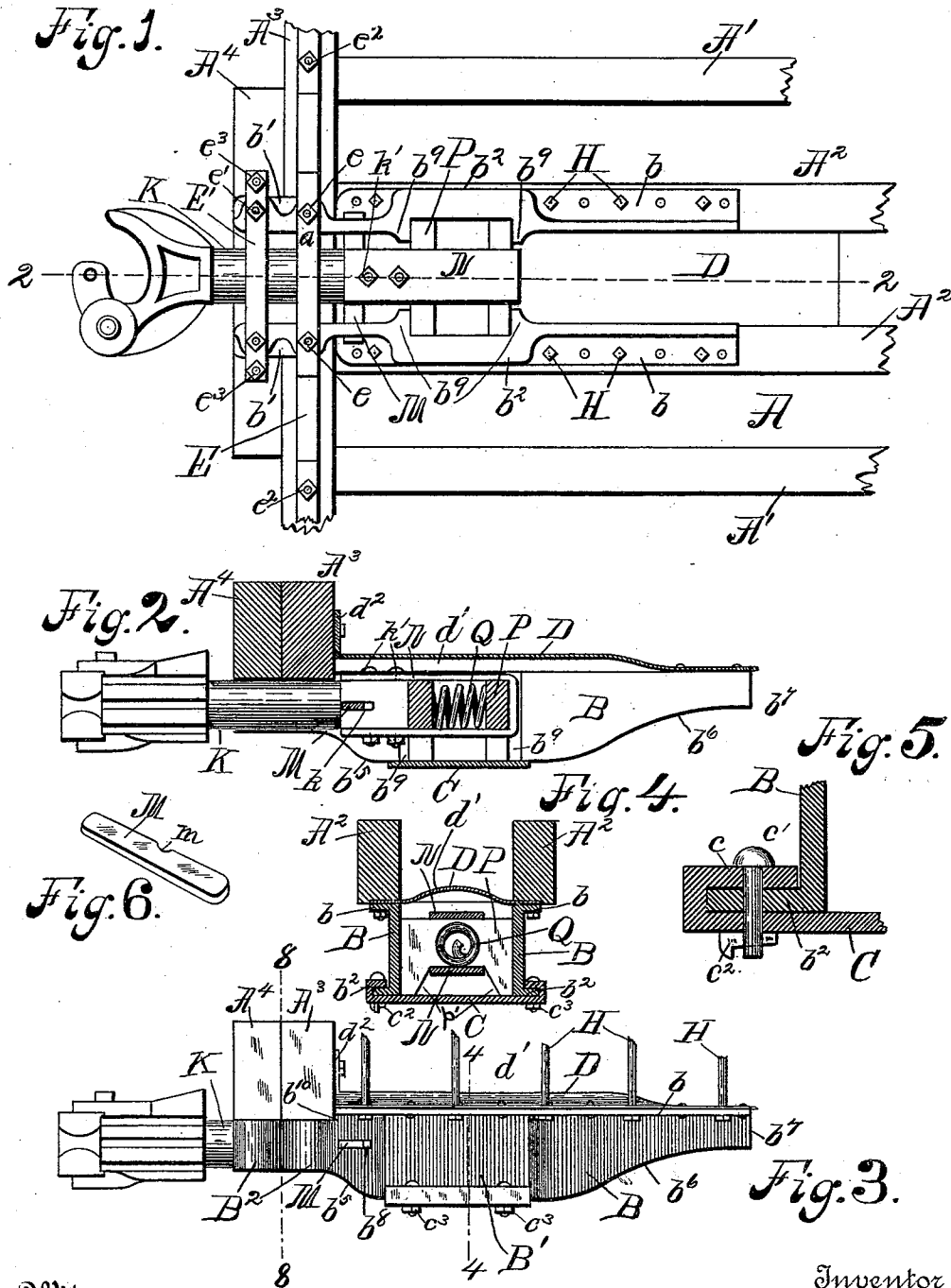
(No Model.)

2 Sheets—Sheet 1.

J. A. ROOSEVELT.
DRAFT RIGGING FOR RAILWAY CARS.

No. 555,023.

Patented Feb. 18, 1896.



Witnesses
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Fig. 7.

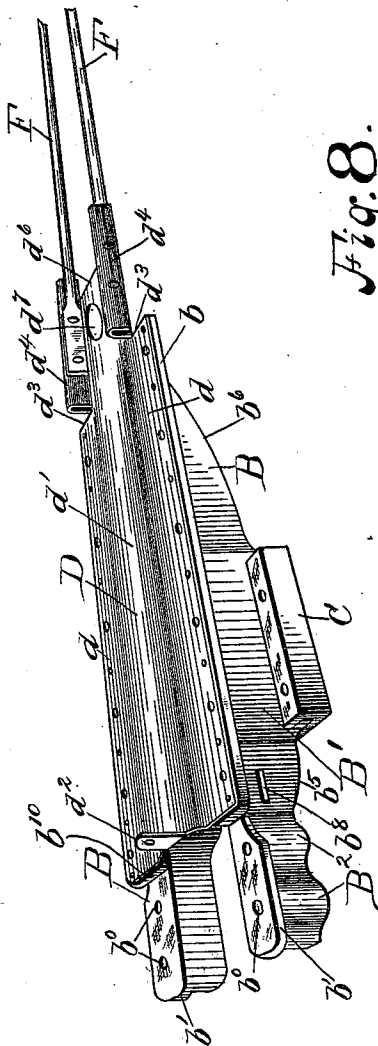
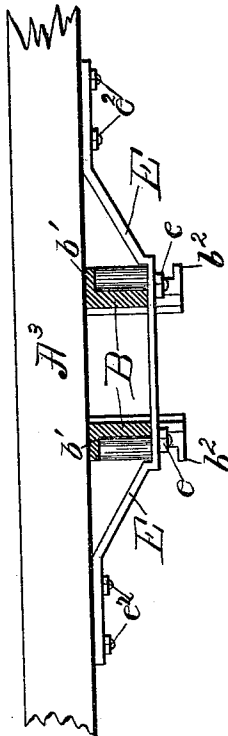


Fig. 8.



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UNITED STATES PATENT OFFICE.

JAMES A. ROOSEVELT, OF FRANKLIN, PENNSYLVANIA, ASSIGNOR TO THE FRANKLIN STEEL CASTING COMPANY, OF SAME PLACE.

DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 555,023, dated February 18, 1896.

Application filed October 25, 1895. Serial No. 566,926. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. ROOSEVELT, a citizen of the United States, residing at Franklin, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Draft-Rigging for Railway-Cars; 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 improvements in draft-rigging for railway-cars, and it consists in a certain improved metallic draft-rigging, made of cast-steel, pressed steel, or other suitable material, which may be either cast in one or readily put together and readily and firmly secured to the car.

My present invention is especially intended to provide for certain improvements upon the draft-rigging described in the Letters Patent No. 542,110, granted to me July 2, 1895.

The said invention will be understood by reference to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents an inverted plan view of the draft-rigging, and shows the draw-bar mounted therein and the draft-rigging secured to the car. The bottom plate of the draft-rigging is omitted in order to show more clearly the manner of securing the tail of the draw-bar in place. Fig. 2 represents a section along the line 2 2 of Fig. 1. Fig. 3 represents a side elevation of the draft-rigging, showing the draw-bar mounted therein. Fig. 4 represents a section along the line 4 4 of Fig. 3. Fig. 5 represents an enlarged detail view of a portion of the device shown in Fig. 4. Fig. 6 represents a perspective view of the safety pin or bar that is slipped horizontally through the draft-rigging and the draw-bar to serve as a protection in case the tail-bolt carries away. Fig. 7 represents a modified form of draft-rigging with rods for connecting the same from one end of the car to the draft-rigging at the other end of the car, and Fig. 8 represents a section along the line 8 8 of Fig. 3 and looking to the right.

Since the fittings of the two ends of the car

are similar it will be necessary to describe only one end.

A represents the bottom of the car, which is provided with suitable longitudinal sills A' and with the middle sills A², to which the draft-rigging is connected.

A³ represents one of the end sills of the car, and A⁴ the dead-wood.

The draft-rigging consists essentially of four parts, each preferably made of cast-steel, pressed steel, or other suitable metal. These parts are the side plates B, the bottom plate C, and the top plate D, and when the draft-rigging is secured in place these four parts are bolted together and are secured to the car, as will be hereinafter more fully described.

The side plates, B, are provided with horizontal flanges *b* along the major portion of the top thereof, and near their forward ends are provided with a similar flange *b'* at a slightly lower elevation than the flange *b*, leaving a shoulder *b'¹⁰* between the two flanges which abuts against the end sill, A³. The depth of these side plates, B, is greatest at about their centers, decreasing toward their ends, as shown at *b⁵* and *b⁶*, and the lower edge of the central portion is provided with a flange *b²*, over which pass the lapped-over ends *c* of the bottom plate, C, which bottom plate is slid on from either end, and is bolted in place by the bolts *c'*, which may be either held in place by the gibs *c²*, (shown in Fig. 5,) or by the nut *c³*, (shown to the right in Fig. 4,) or in any other way convenient for taking out the said bolts *c'*, when desired. It will thus be seen that the plate C may be taken off and put on when desired, whereby greater convenience in adjusting the tail-fastenings is secured. At the same time the piece C makes a very secure fastening for the side pieces, B, for the ends being lapped over the part *b²*, as shown in Fig. 5, if all of the bolts but one were loose or carried away this one bolt would still hold the plate C in place, and from its shape while in place it would be impossible for the sides B to spread or get out of shape.

The forward ends of the side plates, B, are thickened, as shown at B³, beneath the flange *b'*, and through these thickened portions ex-

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tend the perforations b^0 , through which pass the bolts e and e' , which secure the straps or stirrups E and E' beneath the said side plates and the said stirrups and the forward ends of the side plates to the end sill and dead-wood of the car. The outer ends of the said stirrups are also secured to the sills and dead-wood by means of the bolts e^2 and e^3 . (Shown in Fig. 1 and partly in Fig. 8.)

The top plate, D , may be either curved upward at its center, as shown at d' , or it may be flat on top if preferred. The outer edges d of this plate are perforated to register with the perforations in the flanges b of the side plates, whereby the said top and side plates may be riveted together, and whereby bolts II may pass through both the flange of the side plate and the side of the top plate and secure the two firmly to the car. These bolts are shown in Figs. 1 and 3. The front end of the plate D is preferably provided with an ear d^2 , perforated and turned upward, so that it may be bolted to the rear face of the end sill, as shown in Figs. 2 and 3.

The rear end of the top plate, D , may be either cut off, as shown in Figs. 1, 2, and 3, or it may be shouldered, as at d^3 in Fig. 7, and the ends beyond said shoulders turned up, as at d^4 , to fit between the middle sills, A^2 , and to give sufficient mass of metal to enable the rods F to be bolted thereto. These rods F , when used, connect the draft-rigging at one end of the car with the draft-rigging at the other end of the car, as described in my Patent No. 542,110, before referred to.

The top plate, D , when constructed as shown in Fig. 7, may be also provided with an extension b^6 , perforated, as at b^7 , to receive the king-bolt of the truck, and thus to transmit the strain directly from the king-bolt to the top plate and parts connected thereto.

The inner ends of the side plates, B , are of greatly reduced depth, as shown at b^7 , and may be either angular, as shown in Figs. 2 and 3, or sloped gradually to the top flanges b , as shown in Fig. 7.

The central portions, B' , of the side plates, B , are provided with inwardly-projecting shoulders b^9 , while the plates themselves project outward at these points, so that the holding ends of the follower-plates P shall be in about a vertical plane passing through the major portion of the said plates, and thus a direct strain longitudinally on the plates is provided. Between these follower-plates is the spring Q , and the said follower-plates and spring are held within the tail-strap N , secured by means of the bolt k' to the draw-bar K .

It will be seen from the shape of the follower-plates P , as shown in Fig. 4, that the said follower-plates have lugs p' , projecting downward, which lugs rest on the plate C . By this means the tail-strap M is kept from chafing on the plate C and wearing it out, and at the same time they keep the plate C from wearing off the bolts k' while in service. This

draw-bar may be of any desired or standard pattern, and is preferably provided with a horizontal slot near the tail end thereof, adapted to receive the bar M , which bar is preferably grooved, as at m , at its center to engage the forward one of the bolts k' , which bolt thus serves to lock the said bar in place. This is a great advantage above having a cotter-pin or other holding device in each end, for if one of said devices were lost the bar M would be liable to get lost, whereas when provided with the groove m it is impossible for it to get out of place, it being held in position by the bolt K' . The ends of the said bar project through the slots b^8 in the side plates, B , and the said bar serves as a safety-catch, supporting the coupler should the carrier-iron be broken away or should the tail-fastenings break loose.

The draw-bar K is normally supported by the stirrups E and E' ; but any suitable carrying-iron may be adopted.

In practice the side plates and the top plate are riveted together, and the two are secured to the middle timbers by the bolts II . Then the draw-bar, with tail-strap, follower-plates, spring, &c., is put in place, the bar M is put in, and the bottom plate, C , is slipped on and bolted in place, as shown in Figs. 2 to 5, and such other connections as may be necessarily required are made.

It will thus be seen that I provide a draft-rigging made entirely of metal, which is eminently durable, extremely strong, and secure against accidents, such as coming loose and dropping on the track. Moreover, the strain on the draft-rigging is distributed in such a way throughout the car as to cause little if any injury to the car-body, and so lighter sills may be used in the construction of cars. These and the various other advantages of the herein-described construction will readily suggest themselves to any practical car-builder.

It will be obvious that many modifications of the herein-described structure might be made which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a draft-rigging for railway-cars, the combination with two side plates flanged top and bottom, of a top plate bolted to the upper flanges, the said upper flanges and top plate being provided with bolt-holes whereby they may be secured to the car-body, a lower plate having bent-over ends adapted to slide upon the lower flanges of the side plates, with bolts securing the said bottom plate to the said lower flanges, and means for securing the tail of the draw-bar between said plates, substantially as described.

2. In a draft-rigging for railway-cars, the combination with two side plates, flanged top and bottom, of a top plate curved upward along its longitudinal axis and bolted at its edges to the upper flanges of the side plates,

the said upper flanges and top plate being provided with bolt-holes whereby they may be secured to each other and to the car-body, a bottom plate secured to the said lower flanges, and means for securing the tail of the draw-bar between said plates, substantially as described.

3. In a draft-rigging for railway-cars, the combination with two side plates flanged top and bottom, and slotted longitudinally near their forward ends, of a top plate and means for securing said plate to the side plates and to the car-body, a bottom plate secured to the lower flanges, a draw-bar held between said plates, and slotted in front of the tail-bolts, and a bar passing through said slots in the side plates and in the draw-bar, and provided with an indentation adapted to engage one of said tail-bolts, substantially as described.

4. In a draft-rigging for railway-cars, the combination with two side plates flanged top and bottom and projecting outward near their centers, with inwardly-projecting shoulders at each end of said outwardly-projecting portion, a top plate bolted to the upper flanges the said upper flanges and top plate being provided with bolt-holes whereby they may be secured to the car-body, a bottom plate adapted to be secured to the said bottom flanges between said shoulders, a draw-bar provided with a tail-strap and follower-plates, held between said shoulders and the said follower-plates resting on the said bottom plate, substantially as described.

5. In a draft-rigging for railway-cars, the combination with two side plates flanged top and bottom and projecting outward near their centers, with inwardly-projecting shoulders at each end of said outwardly-projecting portion, of a top plate and means for securing the same to the upper flanges, and for securing the said flanges and the said top plate to the car-body, a bottom plate adapted to be secured to said bottom flanges between said

shoulders, a draw-bar provided with a tail-strap and spring and follower-plates on either side of said spring, cut away at the bottom, and resting on said bottom plate, substantially as described.

6. In a draft-rigging for railway-cars, the combination with slotted side plates, and a slotted draw-bar, of a bar passing through said slots in the side plates and in the draw-bar, and provided with a groove on one side thereof, and a bolt passing through said draw-bar, and normally engaging in said groove, substantially as described.

7. In a draft-rigging for railway-cars, the combination with slotted side plates, secured to the car, of a draw-bar mounted between said side plates, and normally pressed forward by a spring, the said draw-bar being slotted abreast of the slots in the side plates, a bolt projecting into said draw-bar near the slot therein, and a bar passing through said slots in the side plates and in the draw-bar, and provided with a groove on one side thereof adapted to engage said bolt, substantially, as described.

8. In a draft-rigging for railway-cars, the combination with recessed side plates, and a draw-bar mounted between them, of follower-plates mounted in said recesses, and extending across from one side plate to the other, the base of said follower-plates being cut away to form two legs, of a bottom plate supporting said leg, and a tail-strap secured to the draw-bar, and passing between said legs of the follower-plates, and securing said follower-plates to said draw-bar, substantially as described.

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

JAMES A. ROOSEVELT.

Witnesses:

JOS. H. BLACKWOOD,
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