

No. 802,469.

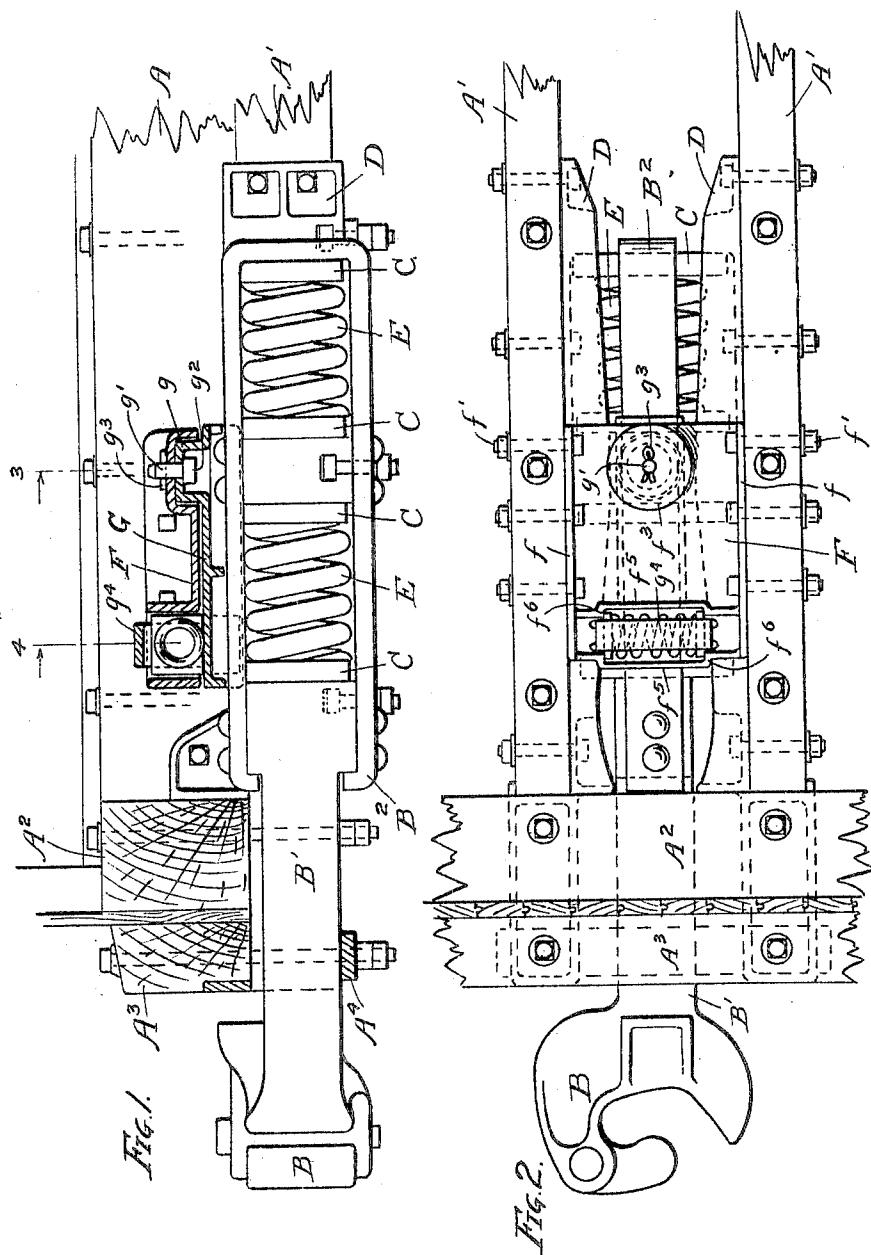
PATENTED OCT. 24, 1905.

J. F. O'CONNOR.

DRAW BAR CENTERING DEVICE FOR RAILWAY DRAFT RIGGING.

APPLICATION FILED JULY 19, 1905.

2 SHEETS—SHEET 1.



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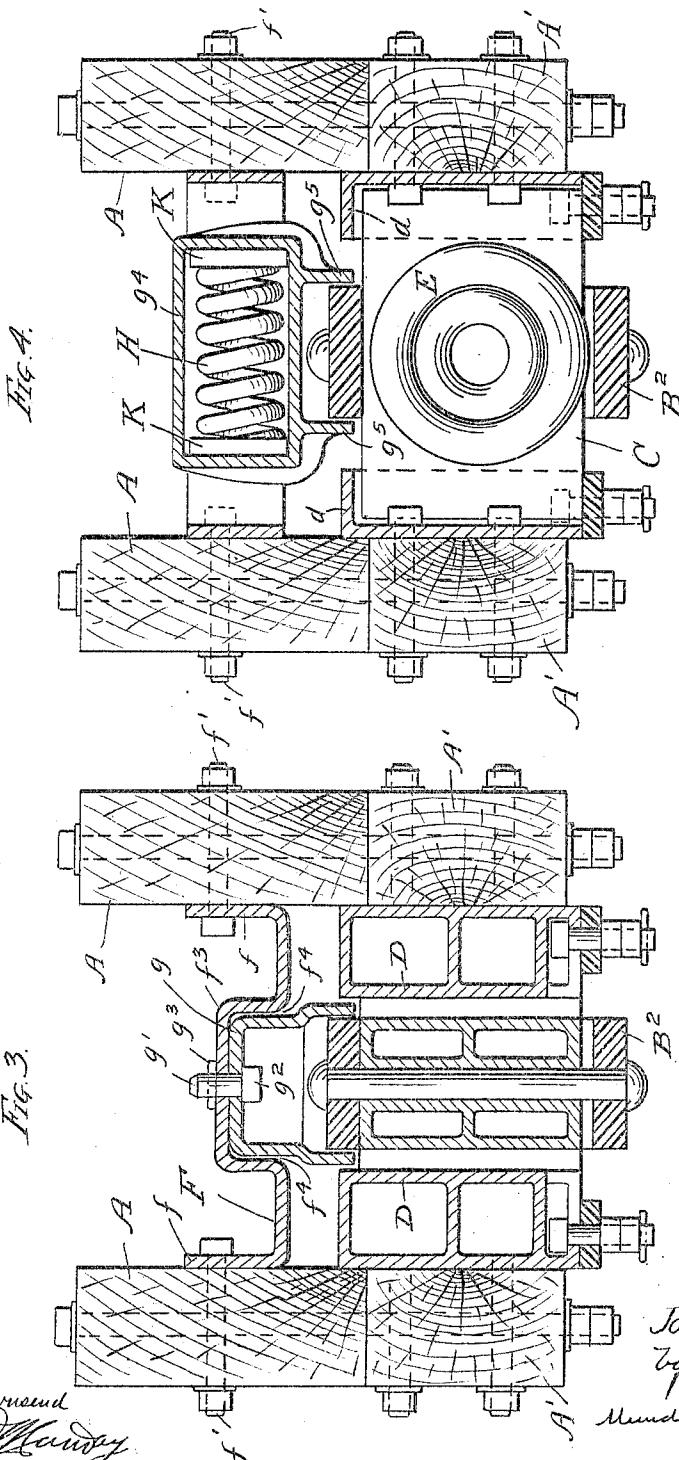
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John F. O'Connor

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Monday, 8<sup>th</sup> Oct. 1860.

His Excellency

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# UNITED STATES PATENT OFFICE.

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## DRAW-BAR-CENTERING DEVICE FOR RAILWAY DRAFT-RIGGING.

No. 802,469.

Specification of Letters Patent.

Patented Oct. 24, 1905.

Application filed July 19, 1905. Serial No. 270,321.

*To all whom it may concern:*

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement 5 in Draw-Bar-Centering Devices for Railway Draft-Rigging, of which the following is a specification.

My invention relates to draw-bar-centering devices for railway-cars.

The object of my invention is to provide a draw-bar-centering device of a simple, efficient, and durable construction, which will be out of the way and which will not interfere with or require any change in the form 15 or construction of the draw-bar, carry-iron, draft-rigging, or other parts, and which, while operating efficiently to center the draw-bar, will not in any way interfere with the easy 20 and quick application of the draw-bar and draft-rigging to the car and the removal of the same therefrom, and which will operate not only to center or restore to position the front end of the draw-bar, but which will also 25 center and keep in position the middle portion and, in effect, give the draw-bar and its extension not only a sliding but a pivotal connection with the framework of the car.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists, in connection with the draw-bar and draw-bar strap or extension, of a draw-bar-centering lever or device mounted above the draw-bar or its 35 strap or extension and extending longitudinally thereof and having side flanges embracing the draw-bar strap and affording a sliding connection therewith, and which centering device or lever is pivotally connected 40 at one end to a cross-plate extending between the center sills above the draw-bar, and thus, in effect, affording a pivotal connection between the draw-bar extension and car-frame in coöperation with a centering-spring and 45 followers which engage the centering device or lever at the front end thereof and stops or shoulders on the cross-frame plate for the followers to abut against.

It further consists, in connection with the 50 car-framework, of a draw-bar-centering lever or device pivoted thereto at or near the point about which the draw-bar tends to turn as a center in its laterally-swinging movement and extending longitudinally of the draw-bar, of

a draw-bar having a sliding connection with 55 said centering lever or device, and through it a pivotal connection with the car-framework.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein 60 shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, partly in central vertical longitudinal section, of a draw-bar and draft-rigging 65 furnished with a centering device embodying my invention. Fig. 2 is a plan view. Fig. 3 is a transverse section on line 3 3 of Fig. 1, and Fig. 4 is a transverse section on line 4 4 of Fig. 1.

In the drawings, A represents the center sills; A', the draft-timbers; A<sup>2</sup>, the end sill; A<sup>3</sup>, the buffer-block; A<sup>4</sup>, the carry-iron; B, the coupler; B', the draw-bar, and B<sup>2</sup> the draw-bar strap or yoke. C C are the followers, D D the side plates or stop-castings, and E E the springs of the draft-rigging. All 70 these parts may be of any suitable or desired construction.

F is a cross-plate secured to the center sills 80 above the draw-bar and draft-rigging and constituting the part of the framework to which the centering-lever is pivotally connected. This cross-plate is furnished with side flanges f, secured to the center sills by 85 bolts f'. The cross-plate F is provided at its rear portion with an upwardly-projecting boss f<sup>3</sup>, forming a cup-shaped pivot-recess f<sup>4</sup> on its under side to receive the pivot-boss g of the centering device or lever G, and which 90 is further connected at its rear end to the cross-plate F by a pin g', having head g<sup>2</sup> and cotter g<sup>3</sup>. The centering device or lever G is provided at its front end with a loop or member g<sup>4</sup> to receive the centering-spring H 95 and followers K, and the cross-plate F is furnished at its front end with upright guides or flanges f<sup>5</sup>, which are provided with stops or shoulders f<sup>6</sup> for the followers K to abut 100 against. The guides or flanges f<sup>5</sup> serve as guides for the followers and also as a case for the centering-spring H, which is embraced between the followers at the ends thereof and at the top and bottom by the upper and lower members of the loop g<sup>4</sup> and at the sides by 105 the guides f<sup>5</sup>, the spring being thus entirely inclosed on all sides. The centering device or lever G extends longitudinally of the draw-

bar and above the same and is provided with depending flanges or sides  $g^3$ , which engage the draw-bar strap  $B^2$  on either side thereof, and thus constitute a sliding connection between the draw-bar and the centering device. The pivotal connection of the centering device  $G$  with the cross-plate  $F$  is at the middle portion of the draft-rigging or of the side plates  $D$  or at the point in the draft-rigging about which the draw-bar tends to turn as a pivot in its laterally-swinging movement from side to side. The draw-bar and its strap or extension while being thus entirely free to reciprocate longitudinally owing to its sliding connection with the longitudinally-extending pivotal centering-lever  $G$  is also given, through the centering device or lever  $G$ , a pivotal connection with the stationary cross-plate  $F$ , which is fixed to or forms part of the frame. In other words, my draw-bar-centering device not only keeps the middle or pivotal portion of the draw-bar-strap centrally between the side plates or stop-castings, but also operates to restore the front end of the draw-bar and coupler to its true central position by operation of the spring  $H$  and its followers. Heretofore the middle portion of the draw-bar strap has not been positively centered between the side plates of the draft-rigging, but has simply been left floating, so to speak, and maintained approximately in position by the adjacent upper guide-flanges  $d$  of the side plates  $D$ .

As in my invention the draw-bar-centering device is located above the draw-bar or the extension thereof and as the connection between the draw-bar and the centering device consists simply of open or depending sides or flanges on the centering device and forming an open channel therein to receive and engage the draw-bar or its extension, the draw-bar and draft-rigging may be as quickly and readily removed and replaced in the car as though it were furnished with no centering device whatever. My centering device thus does not interfere in the least with the insertion or removal of the draw-bar and draft-rigging, and it operates not only to center the front end of the draw-bar, but also, in effect, to pivotally connect the sliding draw-bar with the car-framework at the point about which the draw-bar turns as a center in its laterally-swinging movement.

I claim—

1. The combination with a draw-bar and its extension, of center sills, draft-rigging springs, followers, and stop-castings, of a cross-plate secured to the center sills above the draw-bar and provided with a pivotal recess at one end, and with guides and stops for centering spring-followers at the other end, a draw-bar-centering lever above the draw-bar and extending longitudinally thereof, and pivotally connected at its rear end to said cross-plate, and provided at its front end with

a loop to receive a centering-spring and followers therefor, and provided with depending sides or flanges embracing and engaging the draw-bar or its extension and a centering-spring and followers therefor acting against the free end of said centering-lever, substantially as specified. 70

2. The combination with a draw-bar and its extension, of center sills, draft-rigging springs, followers, and stop-castings, of a cross-plate secured to the center sills above the draw-bar and provided with a pivotal recess at one end, and with guides and stops for centering-spring followers at the other end, a draw-bar-centering lever above the draw-bar and extending longitudinally thereof, and pivotally connected at its rear end to said cross-plate, and provided at its front end with a loop to receive a centering-spring and followers therefor, and provided with depending sides or flanges embracing and engaging the draw-bar or its extension and a centering-spring and followers therefor acting against the free end of said centering-lever, said centering-lever being pivotally connected to said cross-plate in the axial line of the draw-bar, and at the middle portion of the draft-rigging, stop-castings about which the draw-bar tends to turn as a center in its laterally-swinging movement, substantially as specified. 85

3. The combination with a draw-bar and its extension, of center sills, draft-rigging springs, followers, and stop-castings, of a cross-plate secured to the center sills above the draw-bar and provided with a pivotal recess at one end, and with guides and stops for centering-spring followers at the other end, a draw-bar-centering lever above the draw-bar and extending longitudinally thereof, and pivotally connected at its rear end to said cross-plate, and provided at its front end with a loop to receive a centering-spring and followers therefor, and provided with depending sides or flanges embracing and engaging the draw-bar or its extension and a centering-spring and followers therefor acting against the free end of said centering-lever, said centering-lever having an integral pivot-boss fitting in the pivot-recess of said cross-plate, substantially as specified. 90

4. The combination with a draw-bar, of a plate secured to the car-frame above the draw-bar, a draw-bar-centering lever extending longitudinally of the draw-bar and pivotally connected to said plate above the draw-bar, and having a channel to receive the draw-bar and afford a sliding connection of the same therewith, and a centering-spring acting on the free end of said draw-bar-centering lever, substantially as specified. 105

5. The combination with a draw-bar, of a plate secured to the car-frame above the draw-bar, a draw-bar-centering lever extending longitudinally of the draw-bar and pivotally connected to said plate above the draw-bar, and

having a channel to receive the draw-bar and afford a sliding connection of the same therewith, and a centering-spring acting on the free end of said draw-bar-centering lever, followers for said spring and stops for said followers, substantially as specified.

6. The combination with a draw-bar, of a plate secured to the car-frame above the draw-bar, a draw-bar-centering lever extending longitudinally of the draw-bar and pivotally connected to said plate above the draw-bar, and having a channel to receive the draw-bar and afford a sliding connection of the same therewith, and a centering-spring acting on the free end of said draw-bar-centering lever, followers for said spring and stops for said followers, said centering-lever having at its free end a loop to receive said centering-spring and followers, substantially as specified.

20 7. The combination with a draw-bar, of a plate secured to the car-frame above the draw-bar, a draw-bar-centering lever extending longitudinally of the draw-bar and pivotally connected to said plate above the draw-bar, and having a channel to receive the draw-bar and afford a sliding connection of the same therewith, and a centering-spring acting on the free end of said draw-bar-centering lever, followers for said spring and stops for said followers, said cross-plate having transverse flanges to serve as guides for said spring and followers, substantially as specified.

35 8. The combination with a draw-bar, of a plate secured to the car-frame above the draw-bar, a draw-bar-centering lever extending longitudinally of the draw-bar and pivotally connected to said plate above the draw-bar, and having a channel to receive the draw-bar and afford a sliding connection of the same therewith, and a centering-spring acting on the free end of said draw-bar-centering lever, followers for said spring and stops for said followers, said cross-plate having transverse flanges to serve as guides for said spring and followers, 40 and said centering-lever having at its free end a loop to receive said spring and followers, substantially as specified.

45 9. The combination with a draw-bar and its strap or extension, side plates or stop-castings, springs and followers, of a draw-bar-center-

ing device or lever extending longitudinally of and having a sliding connection with the draw-bar or its extension, and having at one end a pivotal connection with the frame near the middle portion of the draft-rigging side 55 plates about which the draw-bar turns as a center in its laterally-swinging movement, and a centering-spring acting against the free end of said centering device or lever, substantially as specified.

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10. The combination with a draw-bar and its extension, of a centering-lever therefor extending longitudinally thereof and having a sliding connection therewith, and pivoted to the frame at one end, and a centering-spring 65 acting on the free end of said draw-bar-centering lever, substantially as specified.

11. The combination with a car-frame, of a draw-bar-centering device or lever pivoted thereto and extending longitudinally of the 70 draw-bar, and a draw-bar having a sliding connection with said centering device or lever, and a centering-spring acting on the free end of said centering device or lever, substantially as specified.

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12. The combination with a car-frame, of a draw-bar-centering device or lever pivoted thereto and extending longitudinally of the draw-bar, and a draw-bar having a sliding connection with said centering device or lever, 80 and a centering-spring acting on the free end of said centering device or lever, followers for said spring and stops for said followers, substantially as specified.

13. The combination with a car-frame, of a draw-bar-centering device or lever pivoted thereto and extending longitudinally of the draw-bar, and a draw-bar having a sliding connection with said centering device or lever, 85 and a centering-spring acting on the free end 90 of said centering device or lever, followers for said spring and stops for said followers, said centering device or lever having at its free end a loop to receive said centering-spring and followers, substantially as specified.

JOHN F. O'CONNOR.

Witnesses:

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