

No. 778,514.

PATENTED DEC. 27, 1904.

H. TESSEYMAN.
CENTERING DEVICE FOR DRAW BARS.
APPLICATION FILED OCT. 28, 1904.

Fig 1.

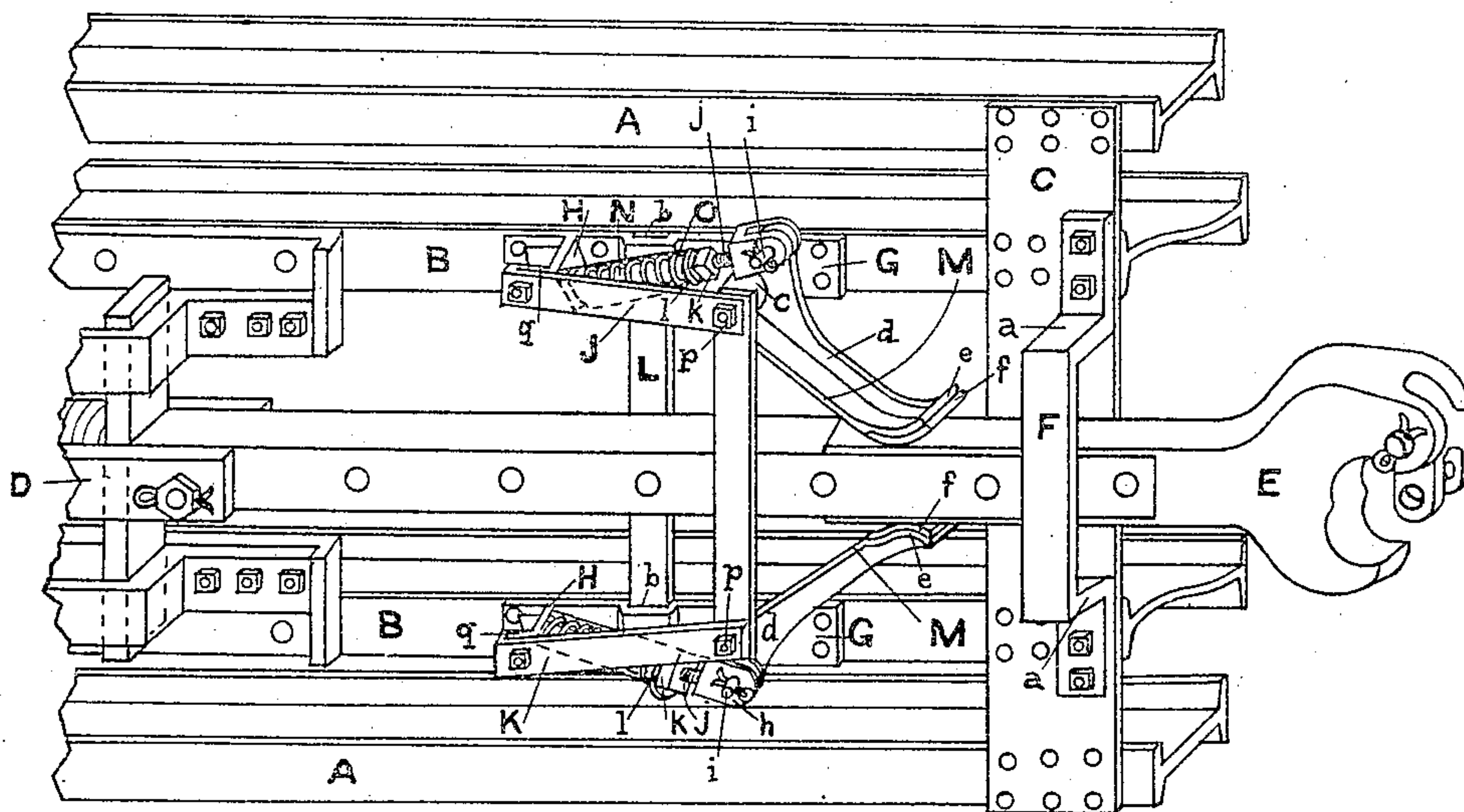
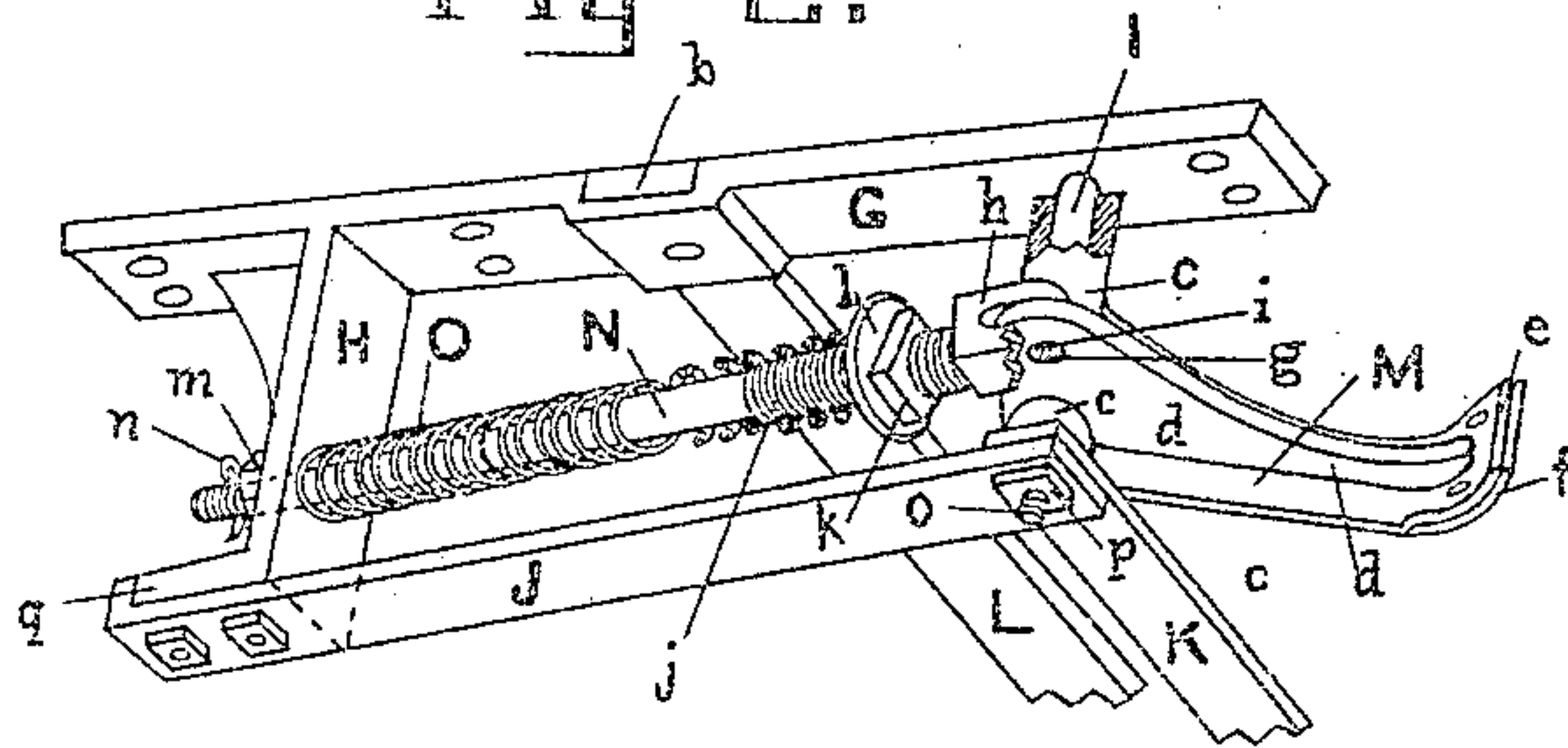


Fig 2.



Attest.
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UNITED STATES PATENT OFFICE.

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CENTERING DEVICE FOR DRAW-BARS.

SPECIFICATION forming part of Letters Patent No. 778,514, dated December 27, 1904.

Application filed October 28, 1904. Serial No. 230,416.

To all whom it may concern:

Be it known that I, HENRY TESSEYMAN, a citizen of the United States, and a resident of the city of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Centering Devices for Draw-Bars; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, as forming a part of this specification.

My invention relates to draw-bars for railway-cars, and more particularly to a centering device therefor. Its object is to provide improved means by which the draw-bars or couplers on passenger-cars are given a wider range of lateral or side movement and automatically returned to a central position when free from other restraining influences. This increase in side movement is very essential, particularly on long cars when coupled together and rounding curves, for when the draw-bar has sufficient freedom of motion to enable the cars to turn on the curves without transmitting the pulling strain to the body of the car or the platform thereof the life of the car is prolonged.

To these ends my invention consists in the construction, combination, and arrangement of parts, as hereinafter fully described, pointed out in the claims at the end of this specification, and which are fully illustrated in the accompanying drawings, of which—

Figure 1 is an inverted perspective view of a portion of the under side of the longitudinal car-sills, showing the draft-rigging, the draw-bar, and my improved centering device applied thereto; and Fig. 2 is an inverted perspective broken view of one-half of the centering device detached, showing the spring partly in section and the means for adjusting the tension of the latter.

Similar letters of reference indicate corresponding parts in both figures of said drawings.

The outer sills are represented by the letter

A, and the center sills by the letter B, and these sills are tied together by a tie-plate C.

D represents the draft-rigging, and E the draw-bar, both of which may be of any suitable type, the draw-bar being carried by a carry-iron F, secured to the center sills near the end of the car and preferably in the manner shown in Fig. 1. The side or lateral travel of the draw-bar is limited to within the space formed by the vertical members *a a* of the carry-iron, which movement in the absence of auxiliary means for returning the draw-bar to a central position is ordinarily about two inches, the same being so limited in order that the draw-bar may at all times be within coupling range with that of another when two cars are to be coupled together. It is obvious that when a train of cars is rounding curves and that from other causes incident to a moving train the car-bodies partake of oppositely lateral movements and when such movements are restrained by limitation of movement of the draw-bars in the manner explained above the strain caused by such limitations is transmitted to the car-bodies and at times is so great as to materially weaken them, and thereby impair their longevity. Hence it is most desirable that such freedom of lateral movement be given the draw-bars as will compensate for the oppositely lateral movements of adjoining cars and that means be employed for automatically returning the draw-bars to such positions as will permit of their coupling when two cars are brought together for that purpose.

I have illustrated and will describe my improvement as applied to steel underframing. It is, however, obvious that the same is applicable to either steel, iron, or wood constructed underframing.

The draft mechanism and centering device are located below the sills, and the construction and operation of my said improvement are as follows:

A frame consisting of plates G, brackets H, posts I, bars J K, and brace L is secured to the under side of the center sills, as shown, each of the plates G being provided with a recess *b* to receive the ends of the brace L,

which serves as a stiffener for the frame. A reciprocating arm M, having a bored boss *c*, through which the post I passes and upon which the said arm operates, is mounted in the said frame. This arm M is also provided with a central web *d* and is curved at its free end *e*, the said curved end being provided with a steel face-piece *f*, which acts as a wearing-surface for that part of the arm which comes in frictional contact with the draw-bar. The web *d* is extended at the back and perforated at *g*, where it is pivotally connected with the bifurcated head *h* of the spring-rod N by means of a pin or bolt *i*, as more clearly shown in Fig. 2. The said spring-rod N is provided with an enlarged screw-threaded portion *j*, which engages a nut *k*, against which bears a loose washer *l*. The opposite or free end of the spring-rod is mounted in the bracket H, which serves as a guide therefor through which it is adapted to slide backward and forward, its free end being provided with a nut *m*, which forms a stop for the outward movement of the rod, and behind this nut there is a cotter-pin *n*, which passes through the rod to prevent undue displacement of the nut. Surrounding the spring-rod N there is a coiled spring O, having one end bearing against the inner side of the bracket H and the other end bearing against the loose collar *l*, the tension of the spring being regulated by the nut *k*.

As shown in the drawings, there is one of the above-described spring-actuated reciprocating arms at each side of the draw-bar. Therefore when the draw-bar moves to either side of its normal position, which is substantially on the center longitudinal line of the car-body, such movement will cause the reciprocating arm at the side where such movement takes place to be rotated upon its bearing, (one of the posts I,) and such movement will through its pivotal connection therewith impart a sliding movement to the spring-rod, and thereby compress the spring, which action continues until the draw-bar ceases its lateral movement. Then as the latter is moved back toward a central position by the action of the train or when it is free from other restraining influences the pressure of the spring O will create a reverse movement of the spring-rod and the reciprocating arm and the latter will follow the draw-bar to such central position, and when the same is reached further movement of the centering mechanism will be arrested by the nut *m*, before referred to.

Referring again to the frame in which the centering mechanism is mounted, the bar K constitutes a lateral tie for the lower ends of the posts I and relieves same from side strains from the draw-bar, while the bars J form rigid connections between the bracket H and the posts I, and by which the same are relieved of shocks and strains caused by the action of the springs O. The bars J and K are united at their meeting ends with the posts I by

means of bolts *o*, which are preferably passed through the said posts and bars and secured by nuts *p*, the opposite ends of the bars J being secured to angle portions *q* of the brackets H, as shown.

In the foregoing I have described what appears to me to be the more practical manner of carrying out the principle of my invention; but I do not wish to limit the invention to the exact structural details which I have shown and described, as it is obvious that the same may be modified in various ways without departing from the spirit thereof.

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

1. The combination with the draw-bar of a railway-car, of a pair of reciprocating arms located one at each side of the draw-bar and axially supported on the framework of the car-body and adapted to be rotated away from their normal positions by lateral movement of the draw-bar, and spring-actuated mechanism adapted to automatically return the said arms to their normal positions whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body.

2. The combination with the draw-bar of a railway-car, of a pair of reciprocating arms located one at each side of the draw-bar and axially supported on the framework of the car-body and adapted to be rotated away from their normal positions by lateral movement of the draw-bar, spring-actuated mechanism adapted to automatically return the said arms to their normal positions whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body, and stops for limiting the return movement of said arms.

3. The combination with the draw-bar of a railway-car, of mechanism adapted to retain the draw-bar in substantially central position when relieved of other restraining influences, said mechanism comprising a pair of reciprocating arms located one at each side of the draw-bar; each of said arms having a cooperating spring-rod one end of which is in pivotal engagement therewith; supporting-guides in which the opposite ends of said rods are slidably mounted; coiled springs surrounding the said rods and adapted to return the said arms to their normal positions when forced therefrom by action of the draw-bar, and means for attaching said mechanism to the framework of the car.

4. The combination with the draw-bar of a railway-car, of mechanism adapted to retain the draw-bar in substantially central position when relieved of other restraining influences, said mechanism comprising a pair of reciprocating arms located one at each side of the

draw-bar; each of said arms having a cooperating spring-rod one end of which is in pivotal engagement therewith; supporting-guides in which the opposite ends of said rods are slidably mounted; coiled springs surrounding the said rods and adapted to return the said arms to their normal positions when forced therefrom by action of the draw-bar; stops for limiting the return movement of the said arms, and means for attaching said mechanism to the framework of the car.

5. The combination with the draw-bar of a railway-car, of a frame secured to the framework of the car, a pair of reciprocating arms each having its axis carried by said frame, a cooperating spring-rod in pivotal connection at one end thereof with each of said arms, guides carried by said frame and in which the opposite ends of said rods are slidably mounted, and springs adapted to operate the said rods and therethrough impart a return movement to the said arms when forced from their normal positions by action of the draw-bar and when relieved from such restraining influence, whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body.

6. The combination with the draw-bar of a railway-car, of a frame secured to the framework of the car, a pair of reciprocating arms each having its axis carried by said frame, a cooperating spring-rod in pivotal connection at one end thereof with each of said arms, guides carried by said frame and in which the opposite ends of said rods are slidably mounted, springs adapted to operate the said rods and therethrough impart a return movement to the said arms when forced from their normal positions by action of the draw-bar and when relieved from such restraining influence, whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body, and stops for limiting the return movement of the said arms.

7. The combination with the draw-bar of a railway-car, of mechanism adapted to retain the draw-bar in substantially central position when relieved of other restraining influences, said mechanism comprising a pair of reciprocating arms located one at each side of the draw-bar; each of said arms having a cooperating spring-rod one end of which is in pivotal engagement therewith; supporting-guides in which the opposite ends of said rods are slidably mounted; coiled springs surrounding the said rods and adapted to return the said arms to their normal positions when forced therefrom by action of the draw-bar; a device for adjusting the tension on said springs, and means for attaching said mechanism to the framework of the car.

8. The combination with the draw-bar of a railway-car, of mechanism adapted to retain the draw-bar in substantially central position when relieved of other restraining influences, said mechanism comprising a pair of reciprocating arms located one at each side of the draw-bar; each of said arms having a cooperating spring-rod one end of which is in pivotal engagement therewith; supporting-guides in which the opposite ends of said rods are slidably mounted; coiled springs surrounding the said rods and adapted to return the said arms to their normal positions when forced therefrom by action of the draw-bar; a device for adjusting the tension on said springs; stops for limiting the return movement of the said arms, and means for attaching said mechanism to the framework of the car.

9. The combination with the draw-bar of a railway-car, of a frame secured to the framework of the car, a pair of reciprocating arms each having its axis carried by said frame, a cooperating spring-rod in pivotal connection at one end thereof with each of said arms, guides carried by said frame and in which the opposite ends of said rods are slidably mounted, springs adapted to operate the said rods and therethrough impart a return movement to the said arms when forced from their normal positions by action of the draw-bar and when relieved from such restraining influence; whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body, and means for adjusting the tension on said springs.

10. The combination with the draw-bar of a railway-car, of a frame secured to the framework of the car, a pair of reciprocating arms each having its axis carried by said frame, a cooperating spring-rod in pivotal connection at one end thereof with each of said arms, guides carried by said frame and in which the opposite ends of said rods are slidably mounted, springs adapted to operate the said rods and therethrough impart a return movement to the said arms when forced from their normal positions by action of the draw-bar and when relieved from such restraining influence; whereby the normal position of the draw-bar when free from other restraining influences will be maintained substantially in line with the longitudinal center of the car-body, stops for limiting the return movement of the said arms, and means for adjusting the tension on said springs.

11. In a centering device for draw-bars for railway-cars, a frame consisting of the plate G, bars J and K, posts I, and brackets H, in combination with the reciprocating arms M, guide-rods N, and springs O, all constructed and arranged to operate substantially as set forth.

12. In a centering device for draw-bars for

5 railway-cars, a frame consisting of the plates G, bars J and K, posts I, and brackets H, in combination with the reciprocating arms M, guide-rods N, springs O, and stops for limiting the return movement of said arms, all constructed and arranged to operate substantially as set forth.

10 13. In a centering device for draw-bars for railway-cars, a frame consisting of the plates G, bars J and K, posts I, and brackets H, in combination with the reciprocating arms M, guide-rods N, springs O, and means for adjusting the tension on said springs, all constructed and arranged to operate substantially as set forth.

14. In a centering device for draw-bars for railway-cars, a frame consisting of the plates G, bars J and K, posts I, and brackets H, in combination with the reciprocating arms M, guide-rods N, springs O, stops *m*, and means for adjusting the tension on said springs, all constructed and arranged to operate substantially as set forth.

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

HENRY TESSEYMAN.

Witnesses:

H. M. ESTABROOK,
A. A. HARTSOCK.