

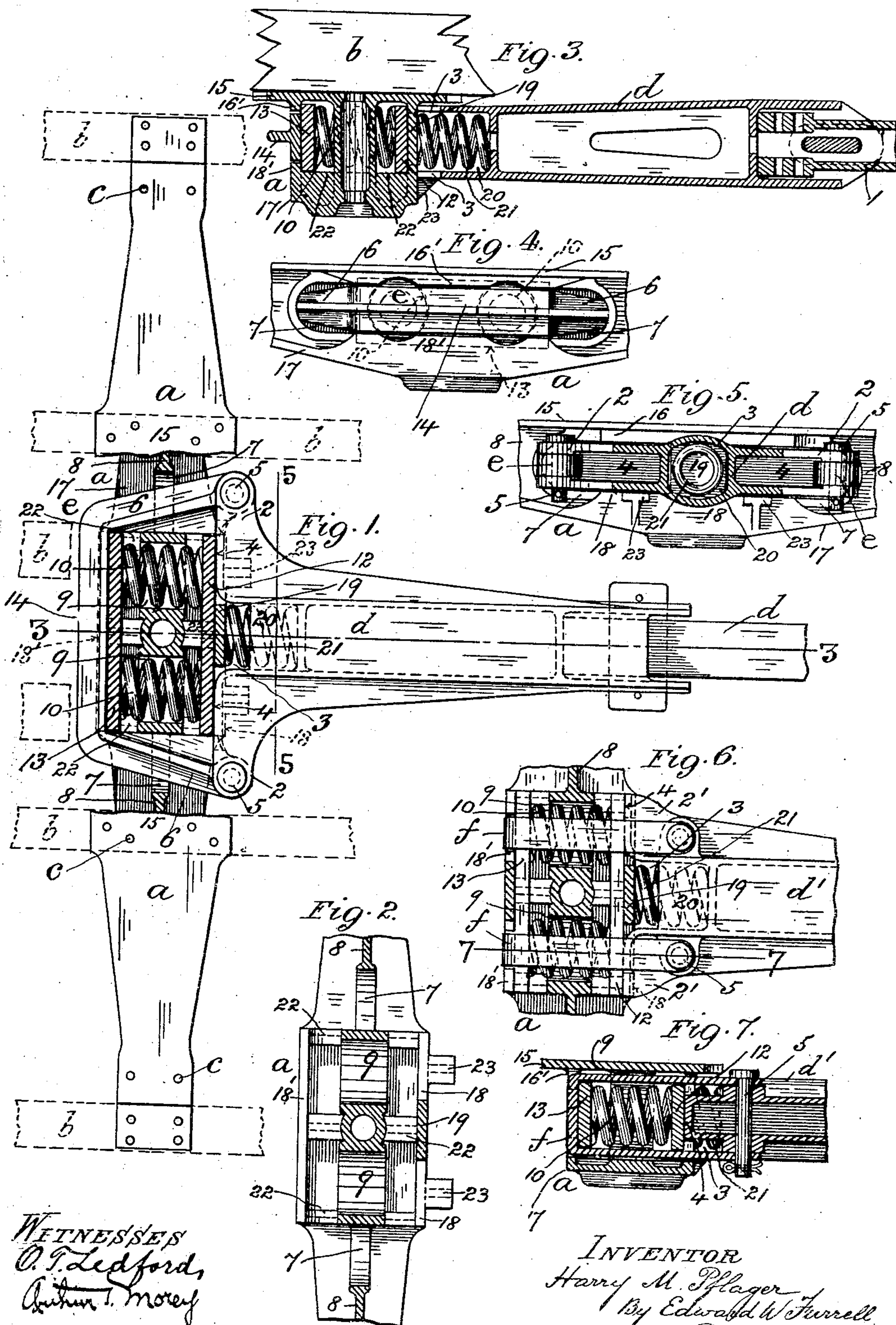
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H. M. PFLAGER.

DRAFT GEAR FOR RAILROAD CARS.

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WITNESSES
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DRAFT-GEAR FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 779,559, dated January 10, 1905.

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To all whom it may concern:

Be it known that I, HARRY M. PFLAGER, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Draft-Gear for Railroad-Cars, of which the following is a specification.

My invention, which is in the nature of an improvement on that for which Letters Patent of the United States were granted to me October 18, 1904, No. 772,370, for an improvement in draft-gear for railroad-cars, relates to that class of draft-gear in which the draw-bar, with its follower-plates and draft-springs, is combined directly with the body-bolster without the use of draw-timbers and separate housings for the springs with their respective fastenings, and has for its object to insure a uniform distribution of the tensional and "buffing" or compression strains of the draw-bar through the bolster and thence to the entire series of car-sills and to effect an automatic adjustment to its normal position or centering of the draw-bar.

The invention consists in substituting for the tension-bars and key described in the said Letters Patent a yoke coupled to the draw-bar and straddling the back follower-plate, combined with other features of novelty, as hereinafter described and claimed, reference being had to the accompanying drawings, forming part of this specification, whereon—

Figure 1 is a top plan of a car-body bolster broken away in the middle and seen thereat in horizontal section with my improved draft-gear applied thereto; Fig. 2, a similar view to Fig. 1 of the middle portion of the bolster, omitting the draft-gear; Fig. 3, a vertical longitudinal section through the bolster and draft-gear on line 3 3 in Fig. 1; Fig. 4, a rear side elevation of the middle portion of the bolster and corresponding end view of the draft-gear as seen from the left of Fig. 1; and Fig. 5, a vertical transverse section through the draft-gear on line 5 5 in Fig. 1, showing the middle portion of the bolster in front side elevation, as seen from the right of Fig. 1. Fig. 6 is a view of the middle portion of the bolster corresponding to Fig. 1, showing a modification of my improved draft-gear; and Fig. 7, a ver-

tical longitudinal section thereof on line 7 7 in Fig. 6.

Like letters and numerals of reference denote like parts in all the figures.

a represents the car-body bolster, which is preferably made of cast-steel integral throughout and secured to the car-sills *b* (indicated by broken lines in Fig. 1) by bolts (not shown) which pass through the holes *c* in the bolster *a* and through the sills *b* in the usual well-known manner.

d is the draw-bar, which is composed, preferably, of cast-steel integral throughout and provided with a suitable head 1, (broken away,) having the ordinary coupler. (Not shown.) The draw-bar *d* is formed at its inner end at right angles to each side thereof with an outwardly-projecting arm 2, which is flush on its rear side with and forms a lateral extension of the said end and may be channel-shaped in cross-section, as shown, or otherwise, as desired, the draw-bar *d* being formed in the middle at its inner end with a gap or space 3, which extends vertically therethrough and for a suitable distance along the draw-bar *d*, so as to divide the latter at its inner end into two portions 4, as hereinafter more particularly referred to. To the outer ends of the arms 2 are jointed by pins 5 the corresponding ends of a yoke *e*, which is preferably T-shaped in cross-section and arranged in the same plane with the draw-bar *d*, the sides 6 of the yoke *e* being adapted to slide through openings 7, formed therefor transversely through the middle web 8 of the bolster *a*.

Transversely through the web 8, and preferably integral therewith, between the openings 7 are formed two horizontally-arranged and parallel tubes or housings 9, (preferably cylindrical,) which are open at their ends and equidistant from the center of the bolster *a*. Within and projecting beyond the ends of the housings 9 are arranged the usual draft-springs 10, between the front ends of which and the inner end portions 4 of the draw-bar *d* (and the abutment hereinafter described) is placed the front follower-plate 12, while against the opposite or rear ends of the draft-springs 10 the back follower-plate 13, which is straddled by the yoke *e*, is normally held by the bar 14 of the latter,

the front side of the bar 14 bearing against the rear face of the back follower-plate 13 in the "pulling" operation of the draw-bar *d*.

The front and rear edge portions (or thereabout) of the top flanges or members 15 of the bolster *a*, along its middle portion opposite to the draw-bar *d*, are formed with depending ribs or webs 16 16', respectively, and the corresponding portions of the bottom flanges or member 17 of the bolster *a* with similar upwardly-projecting ribs 18 18', respectively, the front ribs 16 18 being united in the middle by an upright web 19 and overlapping the front follower-plate 12, to which they form the abutment before mentioned, while through the opening between the rear ribs 16' 18', which overlap and form the abutment to the back follower-plate 13, the bar 14 of the yoke *e* is free to slide. The upright connecting-web 19, between the front ribs 16 18, is located opposite to and is of somewhat less width than the space 2 between the inner end portions 4 of the draw-bar *d* which straddle the web 19 and are free to slide past the same through the openings between the upper and lower front ribs 16 18 to an extent corresponding to the play of the draw-bar *d*.

In the gap or space 3 at the inner end of the draw-bar *d* and in central longitudinal alignment with the latter is formed a pocket 20, and within the pocket 20, between its bottom or front end and the upright web 19 of the bolster *a*, is placed a spiral spring 21.

The follower-plates 12 13 are supported at their bottom edges and adapted to slide thereat on bearing surfaces or bars 22, which are formed integrally with the bolster *a* across its bottom portion between the lower ribs or webs 18 18' and the spring-housings 9, respectively, as shown particularly in Figs. 2 and 3.

For maintaining the horizontal position of the draw-bar *d* during its forward and backward movements the lower front rib or web 18 of the bolster *a* is formed on each side of the upright web 19 with an outwardly-projecting lip 23, which is flush with the edge of the rib 18 and on which the draw-bar *d* rides at all times.

In operation when pulling on the draw-bar *d* the bar 14 of the yoke *e* and the back follower-plate 13 are drawn forward and in so doing compress the springs 10, which force the front follower-plate 12 against the front ribs or webs 16 18 of the bolster *a*, by which the strain is transmitted through the latter uniformly to the entire series of car-sills *b*, whereas in the ordinary arrangement of draft-gear the tensile strain of the draw-bar is taken by the draw-timbers and thence through their fastenings to the middle car-sills only.

In the buffing operation of the draw-bar *d* the front follower-plate 12 is pushed rearwardly by the inner end portions 4 of the draw-bar *d*, so as to compress the springs 10,

and thereby force the back follower-plate 13 against the rear ribs or "abutment" 16' 18' and thence through the bolster *a* to the entire series of car-sills *b*. Simultaneously by the rearward movement of the draw-bar *d* the additional central spring 21 is compressed between the bottom of the pocket 20 and the upright web 19 of the bolster *a*.

In the modification of my improved draft-gear (shown in Figs. 6 and 7) I substitute for the yoke *e* (shown in Fig. 1) two double straps *f*, which straddle the back follower-plate 13 and passing through the housings 9 on opposite sides of the springs 10, respectively, are jointed at their front ends to arms 2', which project laterally from the draw-bar *d* in a similar manner to the arms 2 in Fig. 1. Otherwise the general construction is similar to that before described and needs no further description.

I do not limit myself to the particular form and material of the bolster *a* described and shown on the drawings, as the same arrangement of draft-gear is applicable to other forms of body-bolster by modifying its constructive details accordingly.

By this invention the construction of the parts connected to the draw-bar for engaging the follower-plates and draft-springs is simplified and rendered more rigid and durable, and by adding a middle spring between the draw-bar and the bolster the buffing strain on the ordinary draft-springs is reduced and more uniformly distributed, with less jar and liability to fracture. Moreover, by the greater lateral compression of the springs on one side than the other when rounding curves or from swerving the reaction of the springs will constantly tend to return the draw-bar automatically to its normal alinement, or, in other words, the draw-bar will be self-centering, which is of great advantage as a means of steadying the cars when running at high speed. Another advantage of this construction is the facility with which the draw-bars can be brought into alinement for coupling and uncoupling cars when on a curve by the leverage of the laterally-extended inner ends of the draw-bars closing the draft-springs on one side and allowing of their expansion on the other side.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In draft-gear for a railroad-car, the combination with the car-body bolster, of a draw-bar having a suitable head and coupler, and having lateral arms, a yoke jointed at its ends to the said arms and slidable through the bolster transversely thereto, ribs projecting from the top and bottom members of the bolster at the front and rear sides thereof, and in opposite alinement to each other respectively, draft-springs movable in and extending through housings formed transversely through the bolster, a front follower-plate

located between the draft-springs and the said ribs at the front side of the bolster, and adapted to be engaged by the inner end of the draw-bar, a back follower-plate located between the draft-springs and the said ribs at the rear side of the bolster, and adapted to be engaged by the said yoke, and means for securing the bolster to the car-body, substantially as described.

2. In draft-gear for a railroad-car, the combination with the car-body bolster, of a draw-bar having lateral arms, and having a gap at its inner end, a pocket within the said gap, a yoke jointed at its ends to the said arms and slidable through the bolster, transversely thereto, ribs projecting from the top and bottom members of the bolster at the front and rear sides thereof, and in opposite alinement to each other, respectively, draft-springs movable in and extending through housings formed transversely through the bolster, a front follower-plate located between the draft-springs and the said ribs at the front side of the bolster, and adapted to be engaged by the inner end of the draw-bar, a back follower-plate located between the draft-springs and the said ribs at the rear side

of the bolster, and adapted to be engaged by the said yoke, an upright web uniting the said ribs at the front side of the bolster, a spring located within the said pocket and adapted to be closed against the said web in the "buffing" position of the draw-bar, substantially as described and for the purpose set forth.

3. In draft-gear for a railroad-car, the combination with the draw-bar, of two draft-springs arranged parallel to each other, one on each side of and in the plane of the draw-bar, a front follower-plate, a back follower-plate, a housing for the draft-springs and the said plates, and a spring located between the draw-bar and the front face of the housing, the said spring being in central longitudinal alinement with the draw-bar, substantially as described.

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

HARRY M. PFLAGER.

Witnesses:

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