Dec. 7, 1937. W. WRIGHT 2,101,280

RAILWAY CAR COUPLER POSITIONING DEVICE

Filed Aug. 10, 1936 2 Sheets-Sheet 1

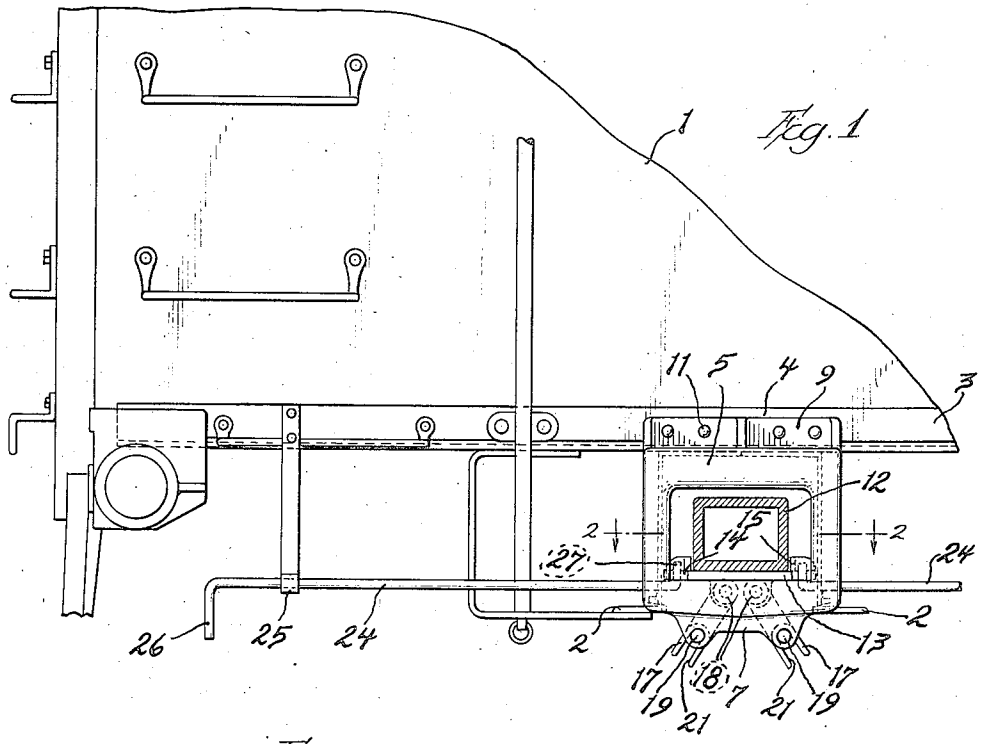


Fig. 1

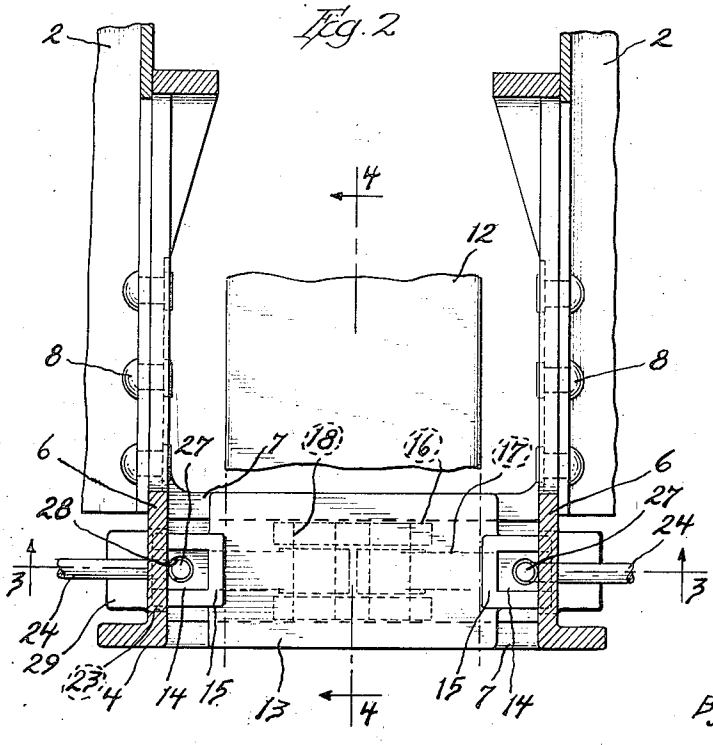


Fig. 2

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Fig. 3

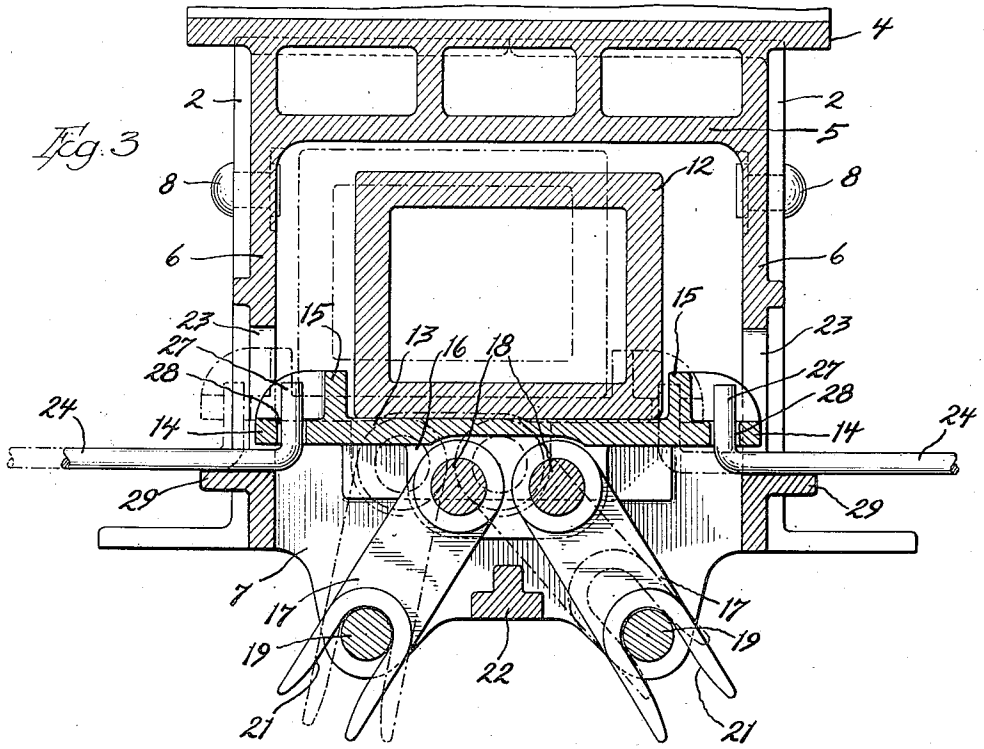
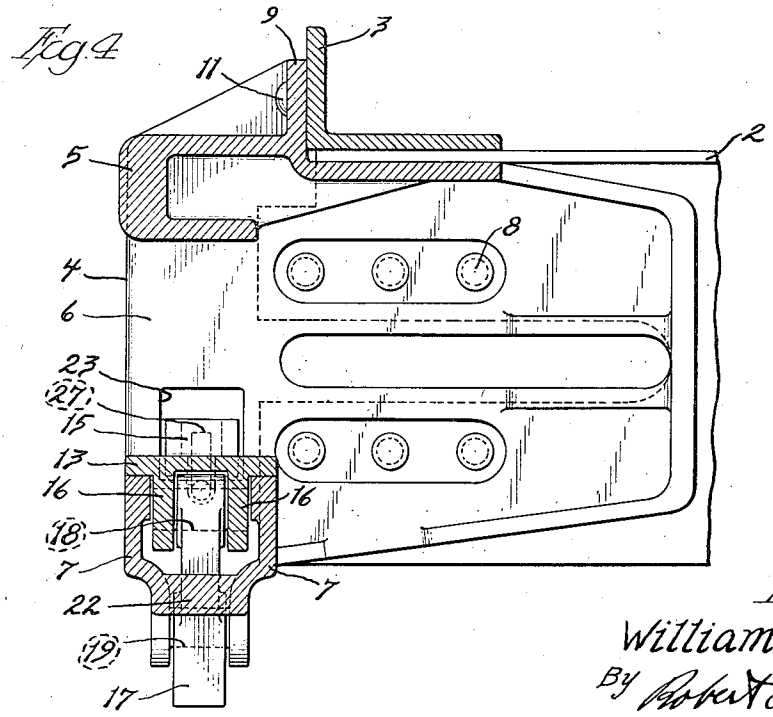


Fig. 4



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UNITED STATES PATENT OFFICE

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RAILWAY CAR COUPLER POSITIONING DEVICE

William Wright, Chicago, Ill., assignor of one-half to Jay V. Westcott and one-half to Claude M. Baker, both of Chicago, Ill.

Application August 10, 1936, Serial No. 95,125

8 Claims. (Cl. 213—16)

One object of my invention resides in the provision of a novel, simple and practical automatic centering device for railway car couplers, which is susceptible to a rugged and compact design well adapted to the requirements of its purpose.

Another object of my invention resides in the provision of a novel, simple and practical manually controlled positioning device for railway car couplers which is particularly adapted for combination with the centering device of my invention.

With these objects in view my invention consists in certain features of novelty in the construction, combination and arrangement of parts by which the said objects and certain other objects, hereinafter appearing, are effected, all as fully described with reference to the accompanying drawings and more particularly pointed out in the appended claims.

In the said drawings—

Figure 1 is a partial end elevation of a railway car with a part broken away and shown in section;

Figure 2 is an enlarged partial sectional view substantially on the line 2—2 of Figure 1;

Figure 3 is a partial sectional view substantially on the line 3—3 of Figure 2; and

Figure 4 is a partial sectional view substantially on the line 4—4 of Figure 2.

Referring to the drawings, 1 generally designates a car body involving longitudinally extending center sills 2 and an end sill 3. A coupler throat part generally designated at 4 is arranged at ends of the sills 2 and consists of an outer throat portion involving a top or striker portion 5, side walls 6 and a throat bottom portion comprising a pair of vertically disposed laterally spaced extending wall portions 7.

The side walls 6 are extended inwardly and are secured with the center sills 2, as designated at 8, and the top portion 5 is provided with a flange 9 by means of which it is secured with the end sill 3, as designated at 11.

A coupler shank 12 passes through the opening of the throat part, and, as usual, is movable laterally and vertically with respect thereto. A coupler or carrier part 13 underlies the coupler shank for supporting the same vertically and, associated with the opening of the throat part, is likewise movable laterally and vertically with respect thereto. The carrier part 13 is provided with reduced upwardly ribbed lateral extensions 14, inner transverse ribs 15 of which laterally confine the coupler shank 12 with the carrier part to the end that the coupler shank and carrier part are substantially fixed with reference to lateral movement.

The carrier part 13 is arranged above the wall portions 7, comprising the throat bottom portion of the coupler throat part, and is provided intermediately thereof with a pair of vertically disposed spaced laterally extending lugs 16 extending downwardly therefrom into the space between the wall portions 7.

A pair of centering links 17 are arranged between the wall portions 7 and the upper ends of these links are disposed between the lugs 16 and are pivotally connected therewith by means of laterally spaced pivot studs 18 engaged in apertures through the lugs 16 and the upper ends of the links 17.

The lower ends of the links 17 are pivotally and slidably connected with the wall portions 7 by means of laterally spaced pivot studs 19 extending across between the wall portions 7 and preferably formed integrally therewith and longitudinally extending slots 21 in the lower end portions of the links, which slots embrace these studs for pivotal and sliding movement.

The studs 19 are disposed below the studs 18 and are spaced farther apart than the studs 18, so that the planes of the pivotal axes of the links are oppositely inclined laterally and downwardly and outwardly with reference to a vertical plane, and the links have their pivotal engagements with the throat bottom, comprising the wall portions 7, disposed downwardly from their pivotal engagements with the pivot mounting structure, comprising the lugs 16 of the carrier or coupler part 13 and the studs 18.

The arrangement is such that lateral movement of the coupler shank 12 and with it the coupler carrier 13 in either direction from a central position, as shown in Figure 3, causes elevation of the coupler shank and carrier part by reason of the corresponding link 17 moving toward a vertical position, as shown in interrupted lines in Figure 3, the other link assuming a more inclined position which is permitted by the slot 21 of the latter link sliding on its pivot stud 19. The coupler shank and coupler are automatically returned to their central position by reason of gravity acting through the instant supporting link, both links being in supporting condition in said central position by reason of both studs 19 bottoming in the slots 21 in said central position.

The links 17 thus act independently to carry

the coupler shank and coupler carrier on respective sides of the aforesaid central position of the coupler shank and coupler carrier. The wall portions **7** are provided with a downwardly disposed central tie **22** arranged between the links **17**.

The aforesaid lateral extensions **14** are operable into openings **23** through the side walls **6** of the coupler throat. Longitudinally movable positioning rods **24** extend laterally in opposite directions from the coupler throat and the coupler carrier **13**, and bearing brackets **25**, secured to and extending downwardly from the end sill **3**, slidably support the outer end portions of the rods **24**.

The outer ends of the rods **24** are turned downwardly, as designated at **26**, for manual actuation thereof, and the inner end portions of these rods are operable into the openings **23**, and the inner ends thereof are turned vertically upward, as designated **27**, and are slidably engaged in vertical apertures **28** for manually actuating the coupler shank and coupler carrier laterally by means of either rod **24** for purposes of coupling under circumstances where it is necessary to move the coupler out of its central position to effect a coupling, say on sharp curves. The rods **24** permit of manual movement of the coupler at a distance therefrom, say from the side of the car, thus minimizing the usual danger incident to coupling.

The inner end portions of the rods **24** have downward bearing engagements with the side walls **6** which are extended by outward projections **29** on the side walls, and the rods do not move vertically with the coupler carrier by reason of the vertical sliding connections therewith.

Having thus described my invention, I do not wish to be limited to the precise details described as changes may readily be made without departing from the spirit of my invention, but having thus described my invention, I claim as new and desire to secure by Letters Patent the following.

1. In a device of the character described, the combination of a car part, a coupler part movable laterally and vertically thereof, a pair of supporting centering links each of which is pivotally engaged at spaced points thereon with said car and coupler parts, said centering links having the planes of the pivotal axes thereof oppositely inclined laterally with reference to a vertical plane and having their pivotal engagements with said car part disposed downwardly from their pivotal engagements with said coupler part, and at least one of the pivotal engagements of each link being slidable correspondingly with the line of the pivotal engagements thereof whereby said links act independently to carry said coupler part on respective sides of a central position of said coupler part in its lateral movement.

2. In a device of the character described, the combination of a car part, a coupler part movable laterally and vertically thereof, a pair of supporting centering links each of which is pivotally engaged at spaced points thereon with said car and coupler parts, said centering links having the planes of the pivotal axes thereof oppositely inclined laterally and downwardly and outwardly with reference to a vertical plane and having their pivotal engagements with said car part disposed downwardly from their pivotal engagements with said coupler part, and at least one of the pivotal engagements of each link including a slot formation extending correspondingly with the line of the pivotal engagements thereof whereby said links act independently to carry said coupler part on respective sides of a central position of said coupler part in its lateral movement.

3. In a device of the character described, the combination of a car part, a coupler part movable laterally and vertically thereof, a pair of supporting centering links each of which is pivotally engaged at spaced points thereon with said car and coupler parts, said centering links being disposed below said coupler part and having the planes of the pivotal axes thereof oppositely inclined laterally and downwardly and outwardly with reference to a vertical plane and having their pivotal engagements with said car part disposed downwardly from their pivotal engagements with said coupler part, the pivotal engagements of said links with said car part including a bearing slot on each link extending along the line of the pivotal engagements thereof.

4. In a device of the character described, the combination of a coupler throat part provided with a throat bottom portion below the coupler opening thereof, a coupler part associated with said coupler opening above said throat bottom portion and movable laterally and vertically thereof, a pair of supporting centering links each of which is pivotally engaged at spaced portions thereon with said throat bottom portion and said coupler, said centering links having the planes of the pivotal axes thereof oppositely inclined laterally with reference to a vertical plane and having their pivotal engagements with said throat bottom portion disposed downwardly from their pivotal engagements with said coupler part, the pivotal engagements of each of said links with said throat bottom portion being adapted to permit relative movement of each link with reference to said throat bottom part corresponding with the lines of the pivotal engagements of the link.

5. In a device of the character described, the combination of a coupler throat part provided with a throat bottom portion below the coupler opening thereof and comprising a pair of vertically disposed spaced laterally extending wall portions, a coupler part associated with said coupler opening above said throat bottom portion and movable laterally and vertically thereof, pivot mounting structure on said coupler part and extending downwardly therefrom between said wall portions, a pair of centering links arranged between said wall portions and each of which is pivotally engaged at spaced points thereon with said pivot mounting structure and said throat bottom portion, said centering links having the planes of the pivotal axes thereof oppositely inclined laterally and downwardly and outwardly with reference to a vertical plane and having their pivotal engagements with said throat bottom disposed downwardly from their pivotal engagements with said pivot mounting structure, the pivotal engagements of each of said links with said throat bottom each comprising a pivot pin extending across between said wall portions and fixed on at least one of the same and a longitudinally extending slot in the link slidably and pivotally engaged with said pin and open at the corresponding end of the link.

6. In a device of the character described, the combination of a car part, a coupler part movable laterally and vertically thereof, a centering device operative to elevate said coupler part with lateral movement thereof out of a central position and vice versa, a longitudinally movable positioning rod extending laterally from said coupler part,

and an operative connection between said positioning rod and said coupler part for actuating said coupler part from said rod in opposition to said centering device comprising a vertically extending slide bearing permitting vertical movement of said coupler part independently of said rod.

7. In a device of the character described, the combination of a coupler throat part including side walls, a coupler part associated with the opening of said throat part and movable laterally and vertically with reference thereto, a centering device operative to elevate said coupler part with lateral movement thereof out of a central position and vice versa, a longitudinally movable positioning rod extending laterally from said coupler part and operable into an opening in one of said side walls and having a downward bearing engagement with said side wall, and said rod having its inner end portion extending vertically upward and engaged in a vertical aperture in said coupler part.

8. In a device of the character described, the combination of a coupler throat part including side walls, a coupler carrier part associated with the opening of said throat part and movable laterally and vertically with reference thereto and provided with lateral extension operable into openings in said side walls, a centering device operative to elevate said carrier part with lateral movement thereof out of a central position and vice versa, a longitudinally movable positioning rod extending laterally from said carrier part and operable into one of said side wall openings and having a downward bearing engagement with said side wall, and said rod having its inner end portion extending vertically upward and engaged in a vertical aperture in the corresponding lateral extension of said carrier part.

WILLIAM WRIGHT.