No. 889,748. PATENTED JUNE 2, 1908.

L. BOIRAULT.

DRAW BAR OF CAR COUPLINGS.

APPLICATION FILED DEC. 12, 1906.

fig. 1.

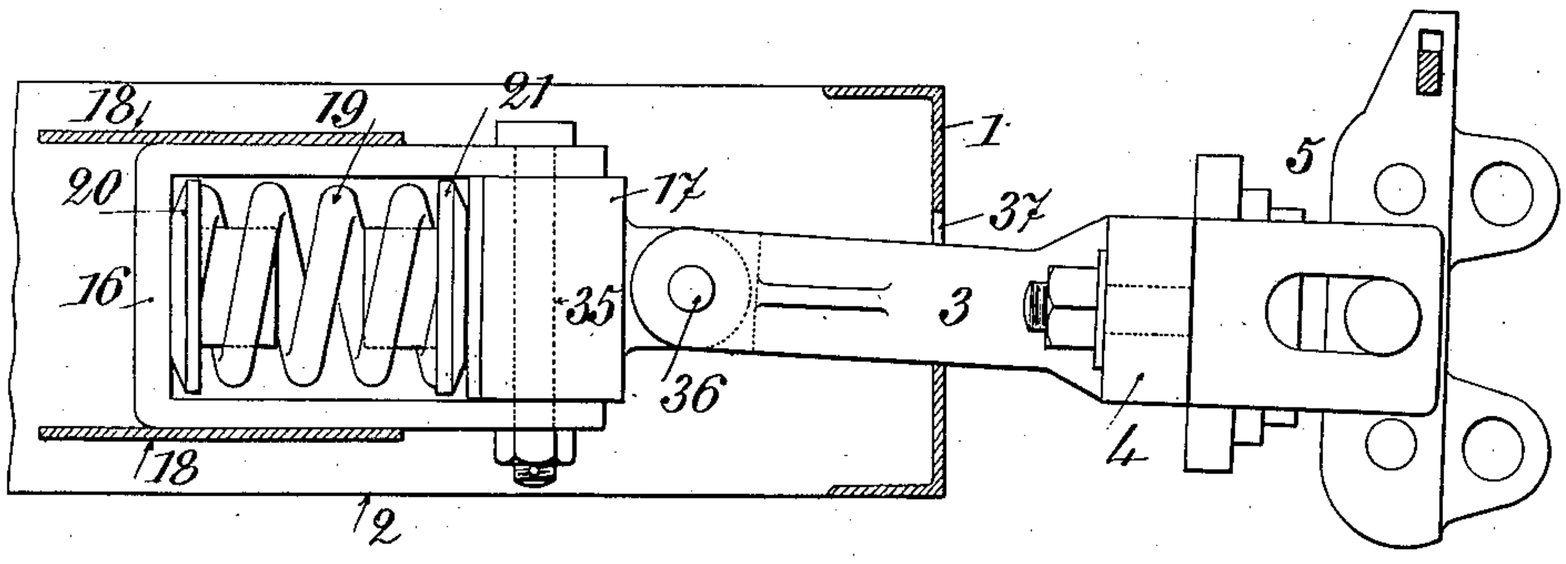
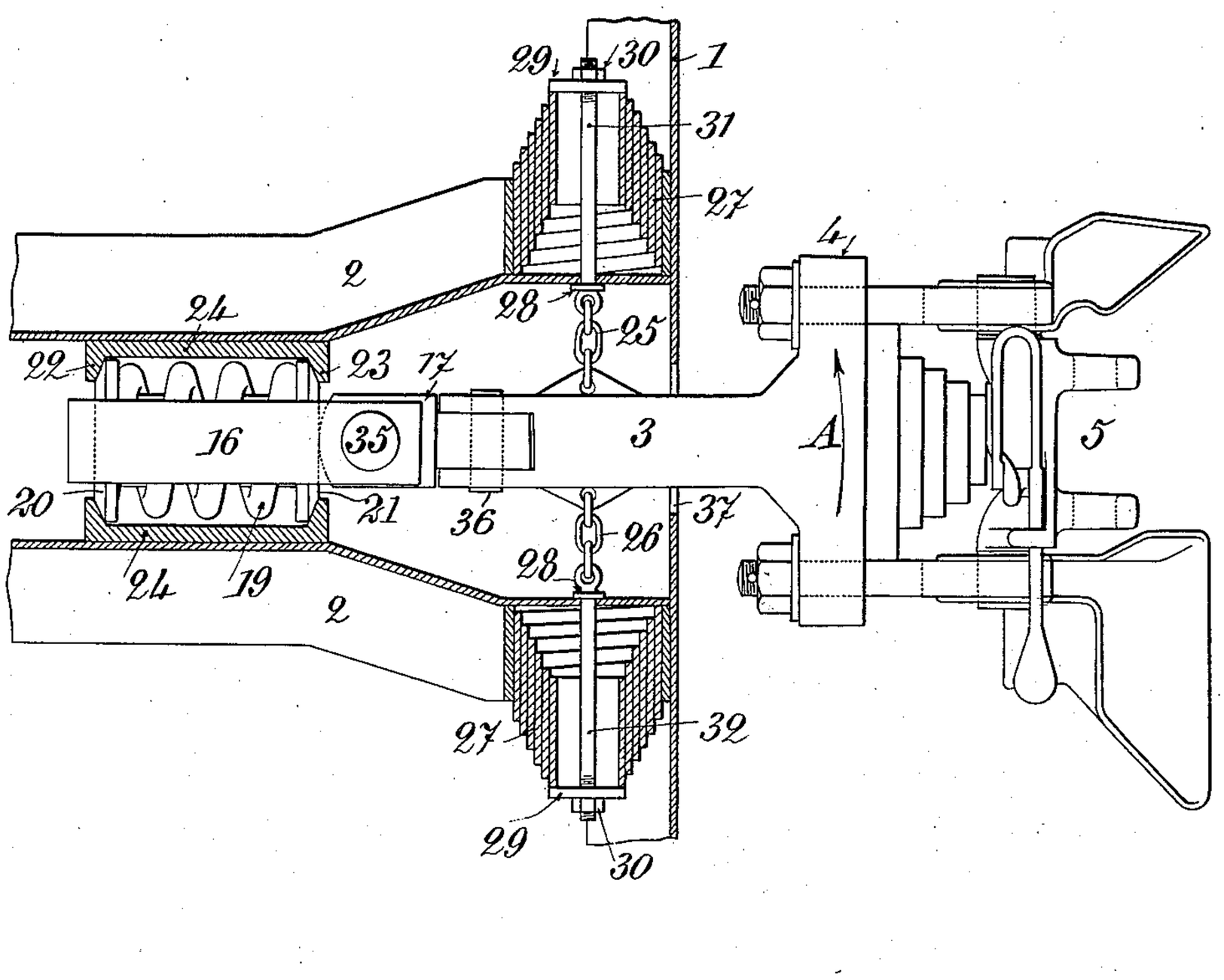


fig. 2.



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LOUIS BOIRAULT, OF PARIS, FRANCE.

DRAW-BAR OF CAR-COUPLINGS.

No. 889,748. Specification of Letters Patent. Patented June 2, 1908.

Application filed December 12, 1906. Serial No. 347,405.

To all whom it may concern:

Be it known that I, LOUIS BOIRAULT, a citizen of the Republic of France, residing at Paris, 8 Rue Emile Gilbert, in the Republic of France, engineer, have invented certain new and useful Improvements in the Draw-Bars of Car-Couplings, of which the following is a specification.

My invention relates to improvements in the drawrods or bars of cars having a central buffering device, and more particularly to the drawbars which carry at their outer end an automatic coupling apparatus and which are connected at their inner end to the under-frame of the car by a yielding buffering device.

The purpose of the improvements is to provide simple and efficient means whereby the spring of the yielding buffering device operates by compression to resist both the impingements of the cars and the pulling action exercised by the train, and to provide also means whereby the drawbar is yieldingly held in the axial line of the car and is securely brought back into said line after having been moved away from the same either to the right or to the left.

The accompanying drawing shows, by way of example, one embodiment of this invention.

Figure 1 is an elevation of the drawbar with the automatic coupling device which it carries, the under frame of the car and the supporting elements of the drawbar being shown in section. Fig. 2 is a plan of the same parts.

In the drawings, 1 designates the cross-bar and 2 the longitudinal bars of the under-frame of a vehicle. Through an opening 37 in the cross bar 1 loosely passes the longitudinal bar 3 of a T-shaped drawbar 3, 4 on the transversal part 4 of which the coupling apparatus 5 is mounted.

To the inner end of the drawbar 3 is connected, through the medium of a piece 17, having two crossed pivots 35 and 36, a yoke 16, slidable between two sheet metal plates 18 secured to the longitudinal bars 2. 19 designates a strong spiral spring arranged within the yoke 16 and acting on two slides 20 and 21, one of which bears against the end of the drawbar 3, and the other against the bottom of the yoke. The vertical edges of the said slides abut against the heels 22, 23 formed on the plates 24, firmly secured to the longitudinal bars 2, so that the drawbar 3, with the yoke 16, cannot move longitudinally without one of the slides 20 or 21 compressing the spring 19 against the other slide 21 or 20, and the corresponding heel or toe 23 or 22. The said spring thus deadens the shocks arising from compression or draft.

On the sides of the drawbar 3 are attached, by means of chains 25, 26, transversal rods 31, 32 passing loosely through the bars 2 and the spiral springs 27, which bear laterally against the latter; each of the said rods is provided with a shoulder 28, arranged to abut against the inner face of the bar 2, and carries at its outer end a washer 29, designed to act on the spring 27. Nuts 30 allow of adjusting the position of the said washers so as to equalize the tensions of the springs 27.

When the drawbar 3, occupies its normal position, the shoulders 28 are in contact with the longitudinal bars and the chains 25 are stretched. If the drawbar 3, is removed from its normal position, for instance in the direction of the arrow A, the rod 32 is pulled by the spring 28 against the action of the corresponding spring 27, while the chain 25 gives way and the rod 31, retained by its shoulder 28, remains motionless. Therefore, the springs act alternatively to bring the coupling into its normal position, so that they do not operate in a differential manner. On pushing two cars the one against the other, the drawbar 3 forced back against the action of the springs 19, bears against the slide 21 and forces it rearward and the slide 20 into firm engagement with the heels or toes 22. The apparatus thus acts as a central buffer and allows of dispensing with the use of lateral buffers.

When the couplings are secured together and the train is put in motion, the pull is transmitted from a car to the following one through the medium of the bars 2, the heels or the toes 23, the springs 19, the yokes 16, the drawbar 3, and the coupling apparatus 5; the springs 19 acting also by compression.

When rounding curves, the couplings incline slightly to the right or left of the axial line of the cars and swing around the axes 35 and against the action of the springs 27.

On the cars being separated, each coupling device is maintained in a determined position

resting on the lower edge of the opening 37 and giving way under the action of the lateral springs 27.

Claims

1. In a car under-frame, the combination of two fixed longitudinal bars, a draft bar movable between the said bars, lateral springs resting on the longitudinal bars and extending outwardly, rods each having two heads one of which engages the outer end of a lateral spring and the other engages the inner face of a longitudinal bar, and chains connecting the inner ends of the said rods with the said draft bar.

2. The combination of an under frame of a car having a cross-bar at the head and longitudinal bars, an opening or aperture in the said cross-bar, a drawbar passing through the said opening and having lateral displacement therein, a coupling head on the said drawbar, a spring adapted to maintain the drawbar yieldingly in the longitudinal direction with respect to the said under-frame, lateral springs resting on the longitudinal bars and extending outwards, bolts each having two heads one of which engages the outer end of a lateral spring and the other engages the inner face of the longitudinal bar, and chains connecting the inner ends of the bolts with the draw bar.

In testimony that I claim the foregoing my invention, I have signed my name in presence of two subscribing witnesses.

LOUIS BOIRAULT.

Witnesses:
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