

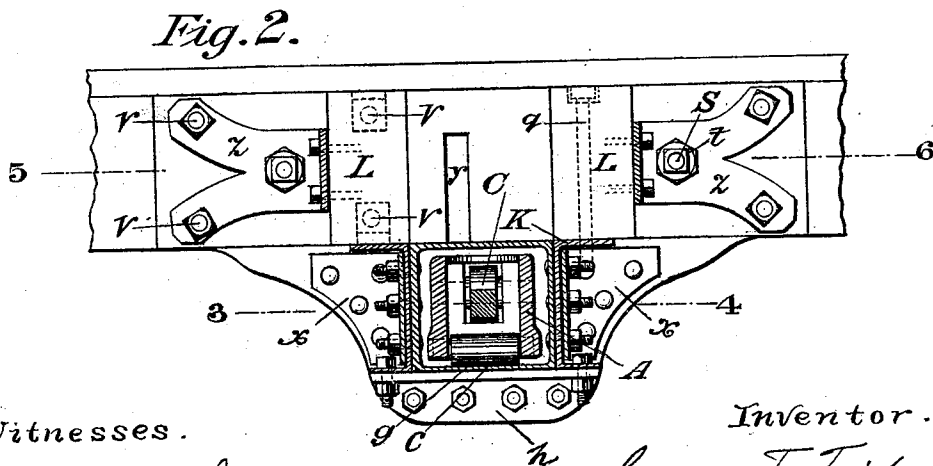
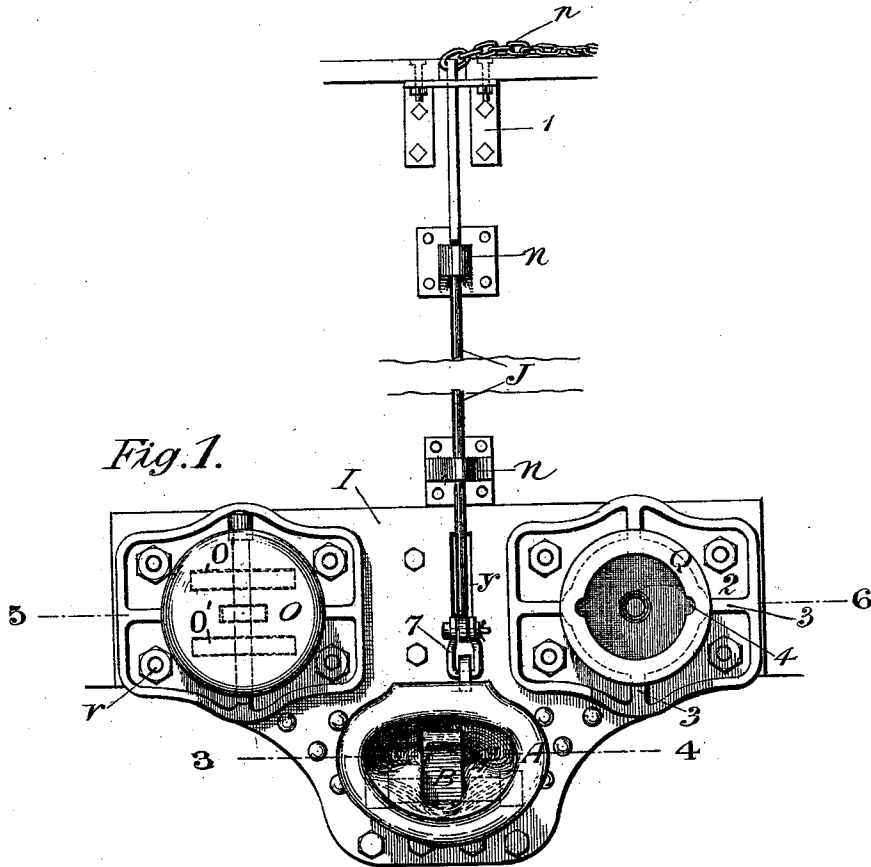
(No Model.)

3 Sheets—Sheet 1.

G. T. TRIBE.
RAILROAD CAR.

No. 554,900.

Patented Feb. 18, 1896.



Witnesses.

M. F. Bligh.
Chas. H. Luther

Inventor.

George T. Tribe,
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Attys.

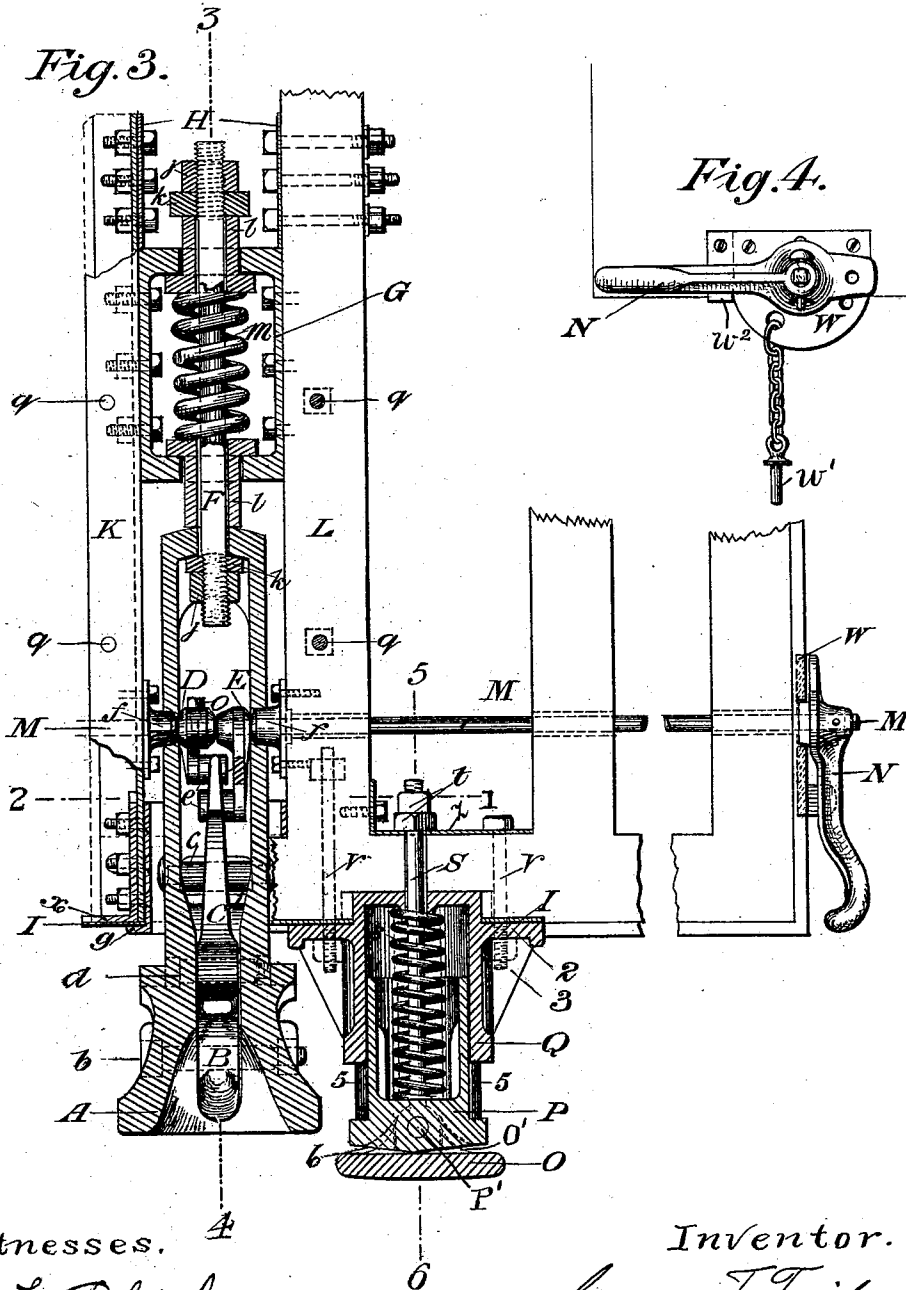
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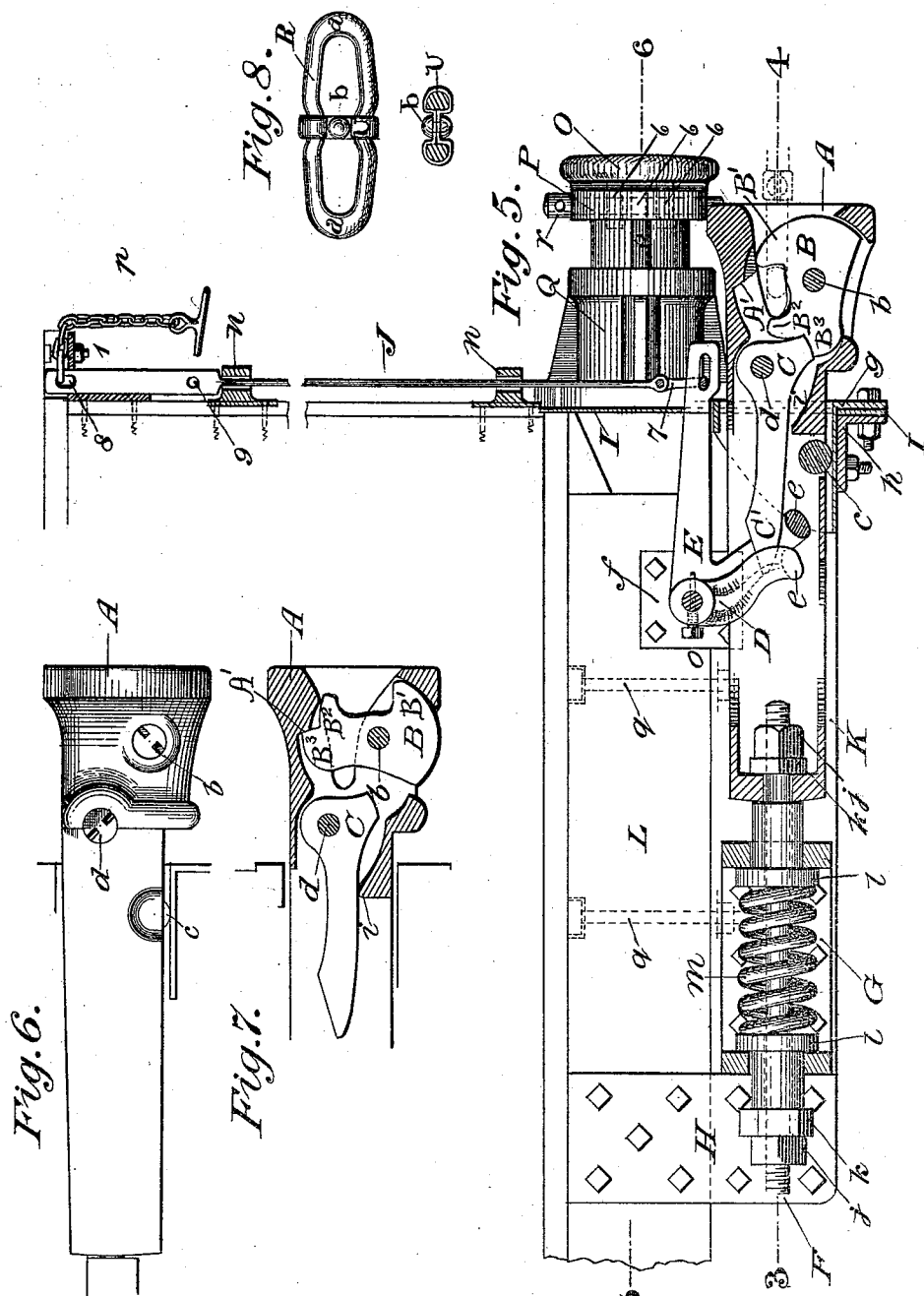
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M. F. O'Leigh.
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UNITED STATES PATENT OFFICE.

GEORGE T. TRIBE, OF WORCESTER, MASSACHUSETTS.

RAILROAD-CAR.

SPECIFICATION forming part of Letters Patent No. 554,900, dated February 18, 1896.

Application filed May 28, 1895. Serial No. 550,997. (No model.)

To all whom it may concern:

Be it known that I, GEORGE T. TRIBE, of the city of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Cars; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the ends of railroad-cars; and it consists in the improved construction of the draw-head, the coupling and buffers, more fully set forth hereinafter.

One object of the invention is to secure greater strength and durability in the ends of railway-cars to resist the concussion of the car ends against each other.

Another object of the invention is to resist the blows and jars of the ends of railroad-cars against each other.

Still another object of the invention is to provide an improved automatic coupling device for the car ends and means for disconnecting the cars.

Figure 1 is a front view of the coupling end of a railroad-car, showing the draw-head and two buffers, as also the rod for disconnecting the car from the top or roof of the car. Fig. 2 is a rear view, partly in section, showing the connection of the draw-head and buffers with the end beam and sills of a freight-car. Fig. 3 is a horizontal sectional view of the end of a car, showing the construction of the draw-head, the mechanism for connecting and disconnecting the cars, the buffer, and their connection with the frame of the car. Fig. 4 is a view of the lever, placed on the side of the car, for operating the coupling mechanism. Fig. 5 is a vertical longitudinal section of the end of a car, showing the improved draw-head, one of the buffers, the coupling mechanism, and the connection for operating the same from the roof of the car. Fig. 6 is a side view of the draw-head. Fig. 7 is a vertical section of the draw-head, showing the link hook or tumbler in the uncoupled position. Fig. 8 is a view of my improved coupling-link.

Similar letters and numbers of reference

designate corresponding parts in all the figures.

In the drawings, A indicates the draw-head which is provided with the usual bell-shaped open end, and in this end the tumbler B is pivotally secured to the transverse bolt *b*. The tumbler B has on one end the link-hook B' and on the other end the back hook B² and the heel B³, the interior of the draw-head being formed to allow the tumbler B to turn on the bolt *b* from the position shown in Fig. 5 with the link-hook B' on the heavier part of the tumbler to the position shown in Fig. 7, where the heel B³ rests against the shoulder A' in the draw-head. The tumbler is held in this position by gravity, the lower part being heavier than the upper part.

In coupling, the link is forced against the part of the tumbler above the pivotal point on the bolt *b* and turns on the same until it passes below the heel-latch C pivotally supported in the draw-head by the bolt *d*. The pivotal support of the heel-latch C on the bolt *d* is so nearly on a radial line with the heel B³ of the tumbler that all possible strain on the link-hook B' is firmly resisted and the tumbler is firmly locked until the heel-latch C is turned off from the heel of the tumbler by raising the arm C' of the heel-latch C.

Two means for unlatching the tumbler B are preferably used. The one to be operated from the side or sides of the car consists of the lever D, having the lug *e* at its free end extending under the arm C' of the heel-latch, secured by screw-pin O to the round operating-rod M, which is supported by two cast-iron bearings *f f*, bolted to the wooden beams L and on one or preferably both sides of the car outside on two plates W provided with a hole for the pin W' secured to the plate by a chain, as shown in Fig. 4. The hand-lever N is secured to the end of the rod M and rests on the shoulder W², in which position it may be locked by inserting the pin W' into the hole in the plate W. When the hand-lever N is raised the lever D and lug *e* raise the arm C' of the heel-latch C, and thereby move the toe end from contact with the heel B³ of the tumbler, which can now turn on its shaft or pin B and disengage the link from the hook B'.

The other device for operating the heel-latch consists in the bell-crank lever E, one arm of which is provided with a lug *e* extending under the arm C' of the heel-latch C. The bell-crank lever E turns loose on the operating-rod M as on a fulcrum. The horizontally-extending arm of the bell-crank lever E extends through the slot Y in the steel plate I, and to the slotted end of the lever is connected by the loop 7 the raising-rod J, preferably by means of a loose bolt and clinch-pin. A length of flat or rectangular bar-iron is welded to the top of the rod J, which passes through an opening in the bracket 7. The chain *p* and eye-bar attached are secured in the top hole, 8, and are used for raising the rod. The lower hole, 9, when raised above the roof of the car, is used to pass the eye-bar through to keep the bar in the raised position. The rod J is held in position by the staples *n n*.

The steel plate I, which is securely bolted to the outside of the end sill of the car, forms the base for the support of the buffers and is provided with a square opening for the draw-head A. On each side of the draw-head two double-flanged steel plates K are secured to the plate I with the steel angle-framings X bolted to the plates and riveted to the plate I. The top flange of each plate is secured to the longitudinal beams L by the bolts *q* and at the ends by means of the plates H, which are securely bolted to the beams and the plates K. The front end of the channel, formed by the plates K, is formed by the malleable-iron sleeve *g* flanged on the outer end and forming a plane for the antifriction-roller *c* in the lower surface of the draw-head A, as shown in Fig. 6. The sleeve *g* is secured by bolts to the plate I by the angle-plates *h*.

The draw-bar F, one end of which is secured to the draw-head by the nuts *k* and *j*, passes rearward through the sleeves *ll*, between which the spring *m*, which surrounds the draw-bar F, is placed so as to abut against the flanges of the sleeves *ll*, and the inner end of the draw-bar is provided with the two nuts *k j*. The iron frame G, in which the sleeves *ll* are supported, is securely bolted to the two side plates K.

The draft on the draw-head and draw-bar, as well as the pressure on the same, is transmitted from one or the other of the sleeves *l* to the spring *m* and transmitted to the other, and all the strain is borne by the flanged plates K and the end plate I.

On each side of the draw-head, but above the same, two circular holes are formed in the steel plate I to receive the cylindrical part of the base of the buffer-stands. These consist of the cylindrical part Q, forming a chamber, the base-plate 2, the stiffening-ribs 3, and two longitudinal grooves 4. The bottom of the cylinder is provided with an opening surrounded with a projecting flange through which the tie-rod S passes. The end of this rod S is provided with the lock-nuts *t*, which bear on the

washer-plate *z*. Within this base is the piston P, provided with the longitudinal semicircular ribs 5, which slide in the grooves 4 of the base. The end of the rod S is provided with a perforated enlargement and is secured to the head of the piston P by the bolt P'. To the piston-head P the buffer-disk O is secured also by the rod P', which passes through holes made in two ribs O' extending rearward from the disk O. (Shown in broken lines in Figs. 1 and 3.) By this construction a rocking movement is permitted to the disks O, by which they more readily adapt themselves to the variations of the road.

While the draw-head should be adapted to the use of any of the forms of connecting-links in common use, I have designed a link adapted for use with my improved draw-head, which link can be used with other draw-heads or pin connections now in use. This link is preferably made of a steel bar of D shape, with the flattened side on the inside of the link. The ends *aa* are preferably upset, so as to secure more wearing metal at these ends. The sides R of the link are crimped inward, as shown in the drawings, and the band *u* of flat steel is bent around the center of the link, and while heated is pressed firmly onto the link and secured by the rivet *b*. A link of this construction may be made lighter than the ordinary link and will resist more strain and wear than the heavier ordinary link, owing to the bracing of the central portion by the band *u*.

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

1. In a draw-head for railway-cars, the combination with the head A provided with an opening for the reception of the tumbler B and with the shoulder A', of the bolt *b* secured in the draw-head below the center, the tumbler B, pivoted on the bolt *b*, provided with the link-hook B', the back hook B² and the heel B³, the heel-latch C provided with the rearward-extending arm C', the lever D having the lug *e* under the arm C' and the horizontal rod M having handle N for operating the same from the side of the car, as described.

2. The combination, in a car-coupling device, with the draw-head A provided with the shoulder A', the tumbler having the hooks B' and B² and the heel B³, the heel-latch C with the arm C' and the bolts *b* and *d*, of the rod M, the lever D provided with the lug *e*, the bell-crank lever E one arm provided with the lug *e*, and connections with the rod M and the bell-crank lever E constructed to operate the coupling device from the side of the car and from the roof, as described.

3. In a railroad-car, the combination with the draw-head and draw-bar, of the plate I at the end of the car forming the base for the buffers and support for the draw-head, the plates H, H, at each side of the draw-head channel, the flanged plates K K forming the sides of the draw-bar channel and secured to

the plates H, H, the frame G secured to the plates K, K, and forming the support of the draw-head spring, the sleeves *l*, *l*, and the spring *m*; the whole constructed to support the draw-head and draw-bar and connect the same with the car-frame, as described.

4. The combination with the car-frame, of the plate I, the plates H, H, forming supports for the draw-bar spring, the flanged plates K, K, secured to the plates H, H, the sleeve *g*, and the angle-plates X, X, by which the plates K, K, and the sleeve *g* are secured to the plate I; the whole constructed to form a rigid support for the draw-head and the buffers, as described.

5. The buffer herein described, the same consisting of the cylindrical base Q provided with the ways 4, the piston P having the ribs 5, the rod S secured to the head of the piston, the spring *s*, and the pivoted disk O, as described.

6. In combination, in the end frame of a railway-car, with the plate I provided with an opening for the draw-head and two openings for the bases of the buffers, the flanged plates K, the plates H, the sleeve *g*, and the angle-plates X X and *h*, of the draw-head provided with a coupling device, the draw-bar, the iron frame G, the sleeves *l*, *l*, and the spring *m* for connecting the draw-head with the car-frame, and the buffers, one on each side and above the draw-head, consisting of the cylindrical bases Q, the piston P, the springs *s* and the pivoted disks O, constructed to yieldingly resist the concussion of the ends of the cars, as described.

In witness whereof I have hereunto set my hand.

GEORGE T. TRIBE.

Witnesses:

JOSEPH A. MILLER,

JOSEPH A. MILLER, Jr.