(No Model.)

W. H. GRIFFITH.

CAR COUPLING.

No. 386,582. Patented July 24, 1888.

Fig. 1

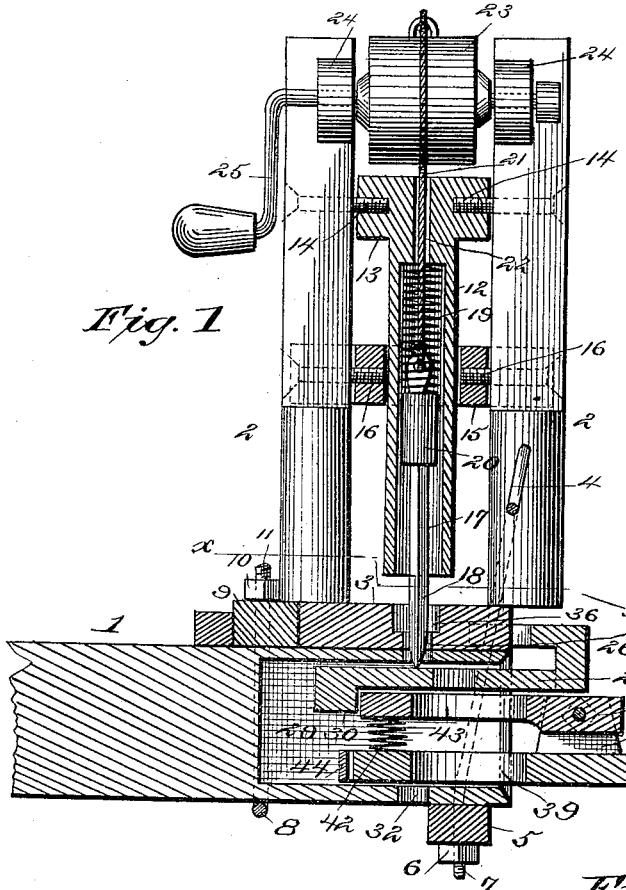


Fig. 3.

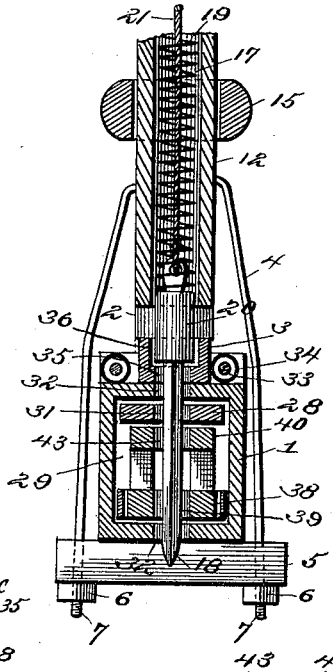


Fig. 2.

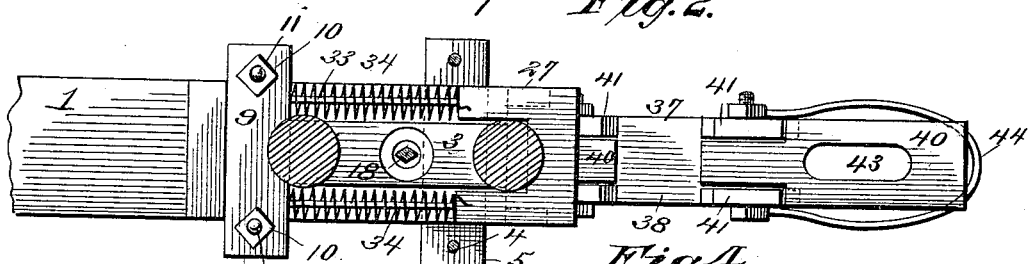


Fig. 4.

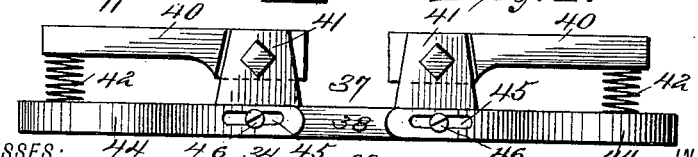
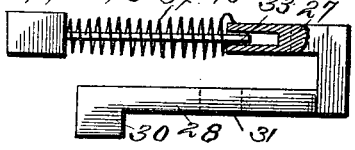


Fig. 5.



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WILLIAM H. GRIFFITH, OF BOLIVAR, TEXAS, ASSIGNOR TO HIMSELF AND C. C. GRUNDY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 386,582, dated July 24, 1888.

Application filed April 5, 1888. Serial No. 269,654. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GRIFFITH, of Bolivar, in the county of Denton and State of Texas, have invented new and Improved Automatic Car-Couplings, of which the following is a full, clear, and exact description.

This invention relates to car-couplings; and has for its object to provide a car-coupling which will be automatically thrown into engagement, and which may be safely uncoupled by a person on the car.

The invention consists in a car-coupling constructed and arranged as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the invention, partly in vertical section, showing a coupling-link in position just before being coupled. Fig. 2 is a horizontal section on line *x x* of Fig. 1. Fig. 3 is a detail view in vertical section looking toward the end of the coupling, showing the coupling-pin and connections with the pin engaging the coupling-link. Fig. 4 is a side view of the coupling-link; and Fig. 5 is a detail, partly broken away, of an attachment to the draw-head.

In coupling and uncoupling cars great risk to life is attendant upon getting between the cars to effect the coupling, and the coupling is not easily accomplished, as the link has to be held in position to enter the draw-head and the pin has to be dropped quickly into position at the right moment to engage the link, and the person attending to this, having to look out for himself and avoid being caught between the bumpers, lets go of the link too soon and pushes in the pin at the wrong time, thereby failing to couple the cars. This often occurs two or three times before the coupling is effected. To avoid this I have constructed a coupling whereby the coupling-pin is normally held in position for engagement with the coupling-link, and the latter is also normally held to enter and engage the meeting draw-heads and automatically releases the coupling-pin and permits it to drop into engagement with the link.

In the construction of this invention the draw-head 1 is provided with a vertical frame consisting, as shown, of posts 2, mounted on a block, 3, secured to the draw-head 1. The posts 2 are secured in any suitable manner to block 3, and may be braced, as shown, by a bent rod, 4, extending downward past the draw-head 1 and through a cross-strip, 5, and secured thereto by nuts 6, engaging its screw-threaded ends 7. The block 3 may also be braced by a rod, 8, extending across the bottom and sides of the draw-head 1 and through a cross-piece, 9, of the block 3 and secured thereto by nuts 10, engaging its screw-threaded ends 11. The vertical frame further consists of a vertical socket-piece, 12, located between the posts 2, and having its head 13 secured by screws 14 to the posts 2 and extending through a cross-brace piece, 15, between the posts, secured thereto by screws 16. The vertical piece 12 is formed with a socket, 17, in which is located a coupling-pin, 18, and a coiled spring, 19, bearing against the enlarged portion or head 20 of pin 18. The latter has fastened to it a rope, 21, which passes up through a hole, 22, in the upper end of vertical piece 12, and is secured to a drum, 23, mounted in brackets 24 at the upper end of posts 2, and provided with a crank-handle, 25.

By turning the crank 25 the rope 21 will be wound upon the drum 23, and the pin 18 drawn up out of engagement with the coupling-link. Upon the end of draw-head 1 is mounted a sliding piece, 26, having a U-shaped upper portion, 27, located on the top of the draw-head and projecting past the outer end of block 3, and an extended lower portion, 28, projecting into the recess 29 of draw-head 1, and formed with a shouldered end, 30, and a hole, 31, adapted to register with holes 32, for the coupling-pin in draw-head 1.

The U-shaped upper portion, 27, of sliding piece 26 is movable on guide-rods 33, mounted in cross-piece 9, and has located between it and the cross-piece 9 coiled springs 34, which serve to hold the sliding piece 26 outward on draw-head 1, as shown in Figs. 1 and 2.

The block 3 is provided with a hole, 35, which coincides with holes 32 and opens into a circular recess, 36, in block 3, adapted to

receive the circular head 20 of pin 18. The coupling-link 37 consists of the flat strip 38, formed with oblong slots 39, for the coupling-pin, and pieces 40, pivoted in brackets 41 on the top of the strip 38, and resting at their outer end on a coiled spring, 42. The pivoted pieces 40 are formed with an oblong slot, 43, corresponding with slot 39 in strip 38. The coupling-link 37 is also constructed with elastic metallic bow-shaped strips 44, which extend about the ends of the strip 38, and are secured thereto at its ends, the ends of the strips 44 being formed with oblong slots 45, engaging screws or pins 46, and adapted to move freely thereon. The sides of the strips 44, being bowed and extending out from strip 38, engage the sides of the recess 29 of draw-head 1, when the end of the coupling-link 37 enters recess 29, and by means of their sliding end connection with pins 46 yield to the pressure against the sides of recess 29, and both guide the coupling-link steadily into place and hold it from rattling laterally. One end of link 37 being pushed into a draw-head, 1, and engaged with a coupling-pin, 18, the pivoted piece 40, pressing up against the extended portion 28 of sliding piece 26 by means of spring 42, holds the link in position for its opposite end to enter the recess 29 of the opposite draw-head, bringing the end of the other pivoted piece 40 against the shouldered end 30 of sliding piece 26.

The coupling operates as follows: When the parts are uncoupled, the sliding piece 26 is held outward by the springs 34, and the coupling-pin rests against the top of the portion 28 of sliding piece 26, adjacent to hole 31, as shown in Fig. 1, the spring 19 being held under tension by the pin 18. The end of the coupling-link 37 entering the recess 29 of draw-head 1, as shown in Fig. 1, the pivoted piece bears against the shouldered end 30 of sliding piece 26 and forces it back, bringing the hole 31 in line with the holes 32. The pin 18 is thereupon forced downward by spring 19 and passes through hole 31, slots 39 and 43, and lower hole, 32, in draw-head 1, as shown in Fig. 3, thereby effecting the coupling of the link.

To uncouple the link, it is simply necessary to wind the rope 21 upon the drum 23 until the end of the pin 18 is drawn above the portion 28 of piece 26. The pin 18 being now out of engagement with the link 37, upon withdrawing the link from recess 29 the springs 34, by their tension, will force out sliding piece 26 and bring the solid part of its portion 28 beneath pin 18, thereby holding the latter in position to be automatically thrown into engagement with link 37.

By means of this invention cars may be easily and effectively coupled and uncoupled without causing of loss of life or injury. The coupling-pin will always be in position to be automatically engaged with the link, and there will be no chance for the coupling-pin to be lost.

I do not intend to limit myself to the exact construction and arrangement of parts as set forth, as the details thereof may be varied without departing from the essential features of the invention.

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

1. A car-coupling consisting of a draw-head having a spring-actuated sliding piece projecting into the draw-head, with a shouldered end therein, and a hole adapted to register with the coupling holes in the draw-head, a coupling-link having yielding slotted pieces pivoted at its ends above slots in the ends of the link, and a coupling-pin with reacting spring mounted in a frame having a winding-drum, and a rope connected with the coupling-pin, the latter projecting through and engaging the sliding piece and link, substantially as shown and described.

2. In a car coupling, a draw head having a sliding piece projecting into the draw-head with an inner shouldered end and a hole adapted to register with the coupling-pin holes in the draw-head, and normally held out of line therewith by retracting-springs, and a coupling-pin connected by a cord with a winding-drum mounted in a frame, and a spring pressing the coupling-pin against the sliding piece in the draw-head, substantially as shown and described.

3. The car-coupling link 37, consisting of a flat strip, 38, having oblong slots 39, end pieces, 40, with slots 43, pivoted in brackets 41, and resting on coiled springs 42, and the bowed strips 44, extending about the ends of strip 38, and connected thereto by oblong slots 45, at their ends engaging pins 46, substantially as shown and described.

4. A car-coupling link consisting of a flat strip having oblong slots at its ends, and spring-actuated pivoted pieces with oblong slots extending over the slotted ends of the link, substantially as shown and described.

5. A car-coupling consisting of draw-head 1, having sliding piece 26 extending into recess 29 of the draw-head, and having a shouldered end, 30, perforation 31, and retracting springs 34, and a frame consisting of posts 2, with drum 23, crank 25, and rope 21, and central socket-piece, 12, having coupling-pin 18, secured to rope 21, and a reacting-spring, 19, in combination with coupling-link 37, having oblong slots 39 at its ends, and bowed elastic strips 44, with slots 45 at their ends engaging pins 46, and pieces 40 with slots 43, pivoted in brackets 41 and resting on springs 42, substantially as shown and described.

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