

(No Model.)

J. F. TINER.
CAR COUPLING.

No. 506,955.

Patented Oct. 17, 1893.

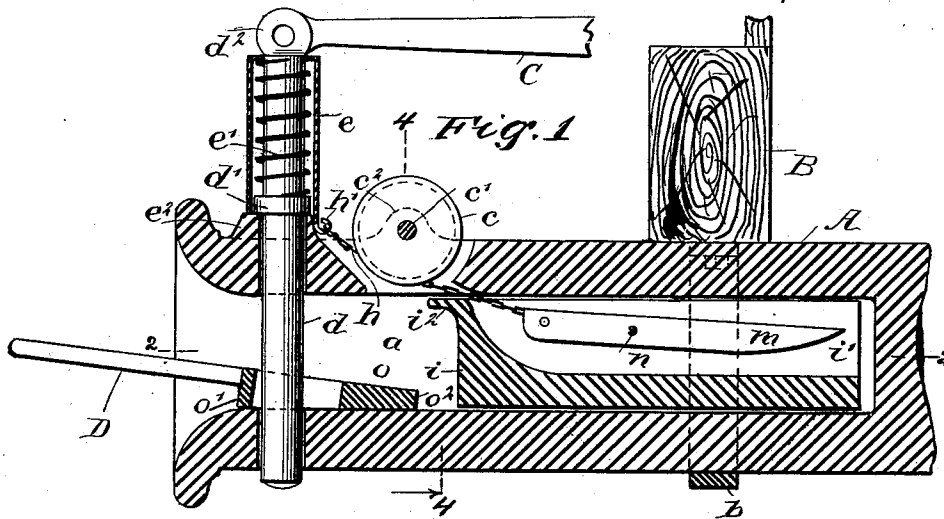
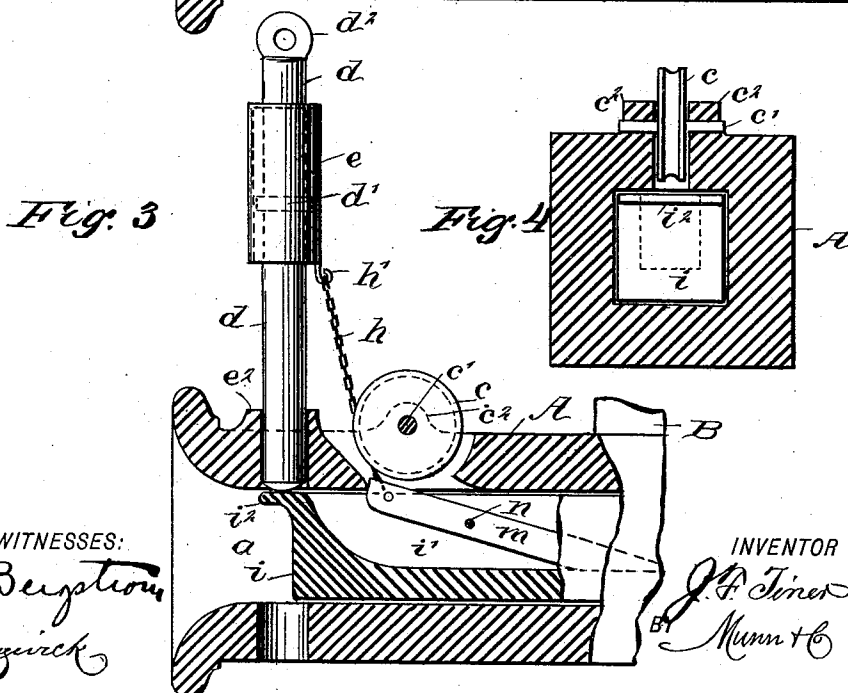
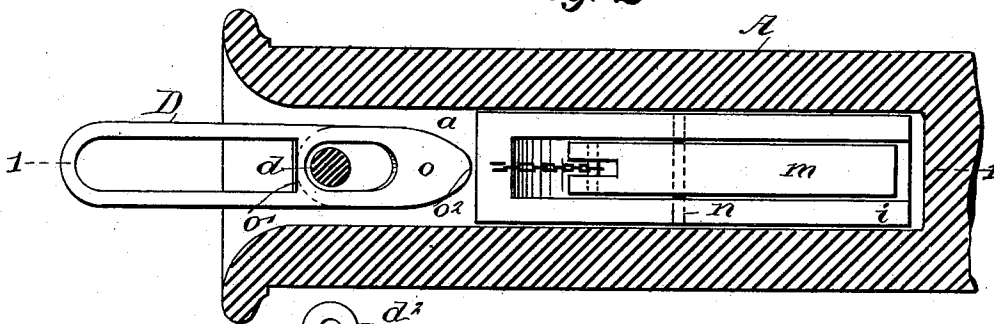


Fig. 2



WITNESSES:

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JOHN F. TINER, OF SUTHERLAND SPRINGS, ASSIGNOR OF ONE-HALF TO JOSEPH B. POLLEY, LEMUEL P. HUGHES, ELMORE D. MAYES, WALTER W. POLLEY, AND EDWARD M. GOLDSTEIN, OF FLORESVILLE, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 506,955, dated October 17, 1893.

Application filed February 15, 1893. Serial No. 462,369. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. TINER, of Sutherland Springs, in the county of Wilson and State of Texas, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

My invention relates to improvements in automatic car couplings of the link and gravity pin type, and has for its objects to provide a novel, simple and practical car coupling of the style mentioned, which may be set to couple two of the improved couplings on approaching cars, when these devices engage each other, and also that may be manipulated by the usual lever or chain attachment to uncouple two connected drawheads, effecting such a detachment from the sides or roof of the car.

To these ends, my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

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

Figure 1 is a broken side view of the improvement, in section on the line 1—1 in Fig. 2, showing a car frame in part and the improved coupling link, the parts being adjusted to retain said link. Fig. 2 is a sectional plan view on the line 2—2 in Fig. 1. Fig. 3 is a longitudinal sectional view of the front portion of the improved coupling, showing the parts adjusted to receive the coupling link; and Fig. 4 is a transverse sectional view on the line 4—4 in Fig. 1.

The drawhead A, is of a suitable length for effective service, and its rearward portion, which is not shown, is furnished with the usual means for spring cushioning the impact that the front end has to sustain in service.

Preferably the body of the drawhead A, is made rectangular in cross section, and from the front end rearwardly is recessed a proper distance. Said recess a, conforms substantially with the external shape of the drawhead, thus producing four walls of a suitable thickness to insure the required strength. The dimensions of the recess a, are propor-

tioned to adapt it to receive and permit the free working therein, of other parts which will presently be described, the forward portion of the drawhead being loosely secured upon and below the transverse car timber B, which represents the front of the car frame whereon the coupling is placed, a loop-shaped strap piece b, which loosely embraces the body of the drawhead, and is affixed by its ends on the cross timber B, serving to retain the coupling at the transverse center of the car, and permit its proper reciprocation in service.

The horizontal upper wall of the drawhead body A, is slotted on a median line, at a proper distance from its flared front end, said slot being provided to receive a grooved idler wheel c, which is of comparatively small dimensions, and is pivoted to rotate in the slot mentioned, on a pin c' that is the axis of the wheel and is located in opposite ears c², projected from the top of the drawhead and aligned on their inner faces with the side walls of the slot.

Between the front edge of the drawhead A, and the grooved wheel c, a vertical perforation of correct diameter is formed, which extends through the upper and lower walls of the drawhead, for the free reciprocation therein, of the coupling pin d. By preference the pin d, is given a cylindrical form and is of such a length as will project it a proper degree above the top wall of the drawhead, said pin having a fixed collar d' located at a correct point on its body to afford support for the pin when the lower end of the latter is slightly below the lower wall of the drawhead, as indicated in Fig. 1.

There is a spring case e, provided, which is of a proper diameter and length for effective service, it being loosely seated with its open lower end upon the upper face of the drawhead concentric with the body of the coupling pin d, the upper portion of said pin extending through a hole in the top wall of the spring case wherein it is loosely fitted. A wire spiral spring e', is introduced within the case e, and bears with its ends upon the collar d', and the top wall of the case, encircling the pin within the case, as indicated in Fig. 1.

The head d^2 , of the pin d , is by preference shaped to form a ring integral therewith, for the loose connection of the pin with an arm C, shown broken away in Fig. 1, but which may be extended to join a rock shaft rigging of ordinary form, (not shown,) which will afford means for the manipulation of the pin from the sides or roof of the car, to elevate said pin and thus release it from a coupled connection with the link D, which will be further mentioned.

The spring case e , is loosely engaged by a hook h' formed at its lower edge, with one end of a chain h , which extends thence rearwardly and below the grooved idler wheel c , its other end being connected to a part presently to be described.

There is a slide block i , furnished, which consists of an elongated piece substantially rectangular, and adapted to conform in cross section with the rectangular cavity in the drawhead, wherein it is designed to reciprocate. An open recess i' of a proper width and depth, is produced in the block i , which extends from a point near the forward end of the block rearward through it, the end wall of said recess being curved upwardly and toward a transverse flange i^2 , that projects beyond the front end of the block at its upper edge, as shown in Figs. 1 and 3.

Within the recessed portion of the slide block i , a brake bar m , is pivotally connected therewith, as at n , and said pivot which passes through the walls of the slide block and also through the brake bar, is located at such a point intermediately of the ends of the latter when the front end of the bar is elevated, that the bar will be permitted to vibrate from a horizontal plane, and engage the sloped lower edge of its rear end with the level surface of the recess i .

The rear end of the chain h , is connected to the front end of the brake bar m , said chain being drawn taut when the slide block i , is slid rearwardly a proper distance to permit a sufficient introduction of the link D, for its coupled connection with the drawhead, by the pin d , which movement is adapted to elevate the rear end of the brake bar, and draw the spring case e downwardly until it is seated upon the boss e^2 , formed on the upper surface of the draw-head around the pin-hole, and of such a thickness, as will, in connection with the thickness of the top wall of the drawhead, afford a suitable guideway for the coupling pin, to insure its vertical descent and positive entrance into the continuation of the pin-hole in the lower wall of the drawhead.

The coupling link D is of a peculiar and advantageous form for its service, in connection with the improved coupling that has been described, and as represented in Figs. 1 and 2, consists of a plate of proper length one end o , being made wedge-shaped to a certain degree, by sloping its top face from a shoulder o' , to the terminal o^2 , where there is still a proper thickness provided for the link, to

afford necessary strength therefor, the part of the link between the shoulder o' and end o^2 , being slotted longitudinally at the transverse center of a proper length to freely receive the pin d , when it is dropped.

The portion of the link D that has been described is preferably given a substantially oval form edgewise near and at the rear end, so as to facilitate its introduction within the cavity of the drawhead at its open front end.

From the shoulder o' , the link D, is completed by the provision of two parallel bars, integral with the wedge-shaped portion o , and projecting therefrom in alignment with the side edges of said part, their opposite ends being integrally joined in half circular form as represented in Fig. 2; this part of the link being available to connect the improved coupling with another of the same construction or with an ordinary car coupling of the link and pin type.

When two cars having the improved coupling thereon, are to be coupled, the link D of one coupling is placed in the recess a of the drawhead A, the part o of the link resting on the bottom wall of said recess, the gravity of said part o being sufficient to hold the lighter part of the link elevated as shown in Fig. 1. The pin d is then dropped through the slot in the part o of the link so as to retain the link in the drawhead, the lighter part of the link projecting outward and upward to engage with the approaching drawhead. When the link strikes the slide block in the approaching drawhead, the parts therein being in the position shown in Fig. 3, said block will be forced rearwardly, and the pin d actuated by gravity and aided by the re-action of the spring e' , drops through the link D thus effecting a coupling of the two drawheads. The elevation of the pin d being produced by proper mechanism, acting to vibrate the lever C, it will be evident from the connection of the spring case e with the brake bar m , that the block i will be caused to slide forwardly in the drawhead as the pin is elevated, whereby the flange i^2 of the block will be carried beneath the pin, as shown in Fig. 3, and thus sustain it ready for a coupled engagement with another coupling of the improved construction.

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

1. The combination with a drawhead, a longitudinal central recess in said drawhead, a slide block fitting said recess, and longitudinally recessed on its top from near the front end rearwardly, and a vibratable brake bar in the recess of the block, of an incased spring-pressed coupling pin adapted to vertically slide in the drawhead in front of the slide block, and a flexible connection between the pin case and the brake bar and passing through a slot in the drawhead, substantially as described.

2. The combination with a drawhead lon-

10 longitudinally and centrally recessed from its front rearwardly, an elongated slide block in said recess and recessed on the top from near the front end rearwardly, and a transverse
5 flange on the block at its front end, of a brake bar pivoted in the slide-block, a vertically sliding pin in the drawhead in advance of the slide-block, a cylindrical spring-case on the pin above the drawhead, a spring within the case adapted to press between the case and pin, and a
10 flexible connection between the case and brake bar and passing through a slot in the drawhead, substantially as described.

15 3. The combination with a drawhead longitudinally recessed from its front rearwardly, an elongated slide block in said recess and recessed on its top from near the front end

rearwardly, a transverse flange on the block above its front end, and a grooved idler wheel pivoted in a slot in the top wall of the draw- 20 head, of a brake bar pivoted in the recess in the slide block, a vertically sliding pin in the drawhead in advance of the slide-block, a cylindrical spring-case on the pin above the drawhead, a spiral spring in the case engag- 25 ing a collar on the pin and the top wall of said case, a chain connection between the casing and brake bar, and a coupling link adapted to be engaged by said pin, substantially as described.

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Witnesses:

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J. MURRAY.