

(No Model.)

S. G. TRINE.
CAR COUPLING.

No. 467,839.

Patented Jan. 26, 1892.

Fig 1.

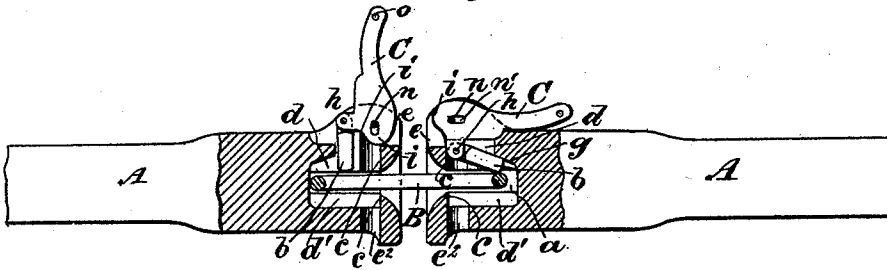


Fig 2.

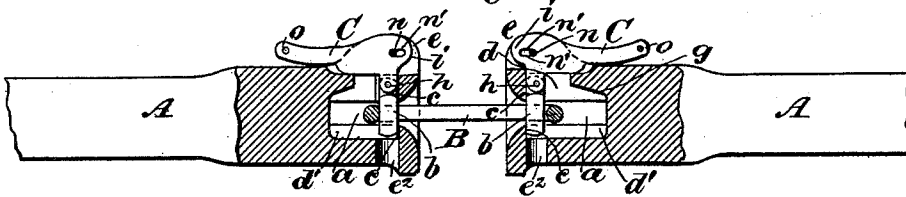


Fig 3.

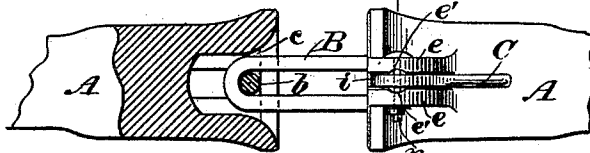


Fig 6.

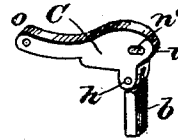


Fig 4.

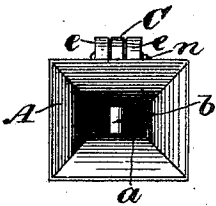


Fig 7.

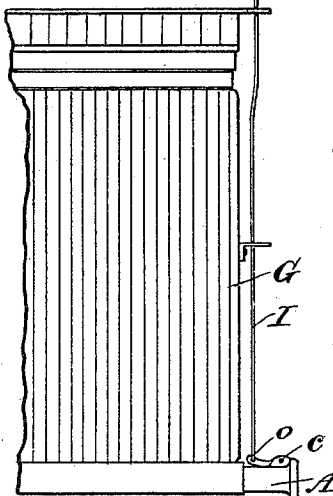
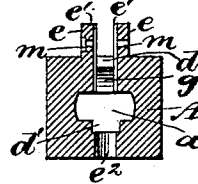


Fig 5.



WITNESSES:

Paul Johnson
C. Sedgwick

INVENTOR:

S. G. Trine
BY *Munn & Co*
ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL G. TRINE, OF PIERRE, SOUTH DAKOTA, ASSIGNOR OF ONE-HALF TO
GEORGE W. BRONG, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,839, dated January 26, 1892.

Application filed May 19, 1891. Serial No. 393,295. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. TRINE, of Pierre, in the county of Hughes and State of South Dakota, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

This invention relates to an improved car-coupling which is safe in its manner of connection with a similar device, the object being to provide a simple, secure, and easily-operated car-coupling that may be coupled automatically and be released from the platform 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 views.

Figure 1 is a broken longitudinal partly sectional side view of two couplings embodying the improvement, showing one coupling supporting a link that is entered within the adjacent coupling and about to be engaged by its pin. Fig. 2 is a longitudinal partly sectional side view of two of the improved couplings in coupled condition. Fig. 3 is a broken plan view of two connected couplings embodying the improvements, one coupling being broken away on its upper side forwardly. Fig. 4 is a front end view of the improved coupling. Fig. 5 is a cross-section of the coupling draw-head on the line 5 5 in Fig. 3. Fig. 6 is a detached perspective view of a coupling-pin and a lever connected therewith that is part of the improvement; and Fig. 7 is a side view of an end portion of a car-body, showing the improvement thereon.

The draw-head A of the improved car-coupling is chambered at its front end a proper width to admit the coupling-link B loosely, said chamber *a* extending longitudinally within the draw-head to allow the link to enter far enough for its engagement with a pendent locking-pin *b*, as will be further explained.

The front edges of the draw-head A are flared to allow of the free introduction of the

coupling-link B, and on the chamber *a* the shoulders *c* are formed by a suitable contraction in vertical width of the throat or entrance to the chamber mentioned, which shoulders are in the same vertical plane.

A transversely-central longitudinal slot *d* is formed in the top wall of the draw-head, aligning its front terminal with the shoulders *c*, and on the sides of said slot two similar ears *e* are erected of sufficient proportionate size to afford a stable connection for a lever C and locking-pin *b* with the draw-head body. The slot *d* is shorter than the chamber *a* below, which it intersects, thus allowing a part of the top wall of the draw-head to remain, which overhangs forwardly of the rear wall of the chamber, as at *g*. The locking-pin *b* is of such proportionate size as will allow it to vibrate freely in the slot *d*, its length adapting it to engage the overhanging portion or web *g* of the draw-head top wall with its free lower end portion when the pin is swung to give it the position shown in Fig. 1 at the right side of said view, and when pendent said pin is located in a longitudinal groove *d'* in the bottom wall of the draw-head, in which it swings to assume a vertical position. The lever C, (before mentioned,) which affords support for the pin *b*, and means to operate it also, consists of a metal bar that is flattened laterally where it is inserted between the ears *e* of the draw-head, having a knuckle-jointed connection at *h* with the upper end of the locking-pin *b*, which joint is formed on the edge of the lever near the end *i*, that is preferably rounded edgewise.

At a proper distance from the top wall of the draw-head opposite perforations *m* are formed in the ears *e* for the reception of a full-
crum-bolt *n*, which latter may be of any proper form, and in the lever C an elongated hole *n'* is produced transversely at a suitable distance from the curved edge *i* of the lever end to secure a proper action of the connected parts, said hole extending lengthwise of the lever above the joint *h*.

The body of the lever C, when the draw-head is in position on a car-frame, as shown in Fig. 7, projects toward the car front wall

G, and is connected loosely at its inner terminal *o* with an upright rod I, that extends to the car-roof for manipulation therefrom.

In service when two approaching draw-heads having the improvements thereon are to be coupled the link B, of usual form, is held projected from one draw-head by the pin *b*, which is adjusted, as shown in Fig. 1, on the right-hand draw-head, the engagement of said pin with the web *g* of the draw-head and the end of the link B on its upper side holding the link projected, as its body lies upon the lower shoulder *c* of the draw-head A when such an adjustment is effected. The impingement of the projecting end of the link B on a pendent pin *b* of the draw-head to be coupled swings said pin rearwardly until it slides over the link end and falls into locked connection with the shoulders *c* and link end, providing the lever C is prostrate, as shown in Fig. 2. By providing the elongated hole *n'* in the lever-head for its engagement with the fulcrum-bolt *n* the adjustment of the pin end, as shown in Fig. 1, to engage a link end is permitted, and when coupled with a link the draft strain upon the latter will slide the pins *b*, so as to impinge on the shoulders *c*, thus avoiding the necessity for a link of more than ordinary length to effect an attachment of two cars automatically.

When cars having the improvement are to be disconnected, the simple elevation of one of the levers C will draw the pin *b* into the position shown at the left side of Fig. 1 and allow the link B to be freely withdrawn from the draw-head A, which can be effected by a manipulation of the lever directly or through the rod I, as may be most convenient.

Strength, simplicity, practicability, and efficiency in service are claimed as features pertaining to this device, which will couple cars of the same or different heights from the track equally well.

In the ears *e* opposite grooves *e'* are formed of a proper depth laterally in the inner faces of said ears to receive the body of an ordi-

nary coupling-pin, and in the lower wall of the draw-head A a circular hole *e''*, that aligns with the grooves, is formed.

The provision of the grooved ears and apertured lower draw-head wall is for the purpose of allowing an ordinary cylindrical coupling-pin to be used if the pin *b* and lever C should be disabled or broken off by accident, this provision converting the improved draw-head into one of the usual style as far as connection with others is considered.

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

1. The combination, with a forwardly-chambered draw-head having a flared front end and a top and bottom shoulder within the throat of said chamber and also slotted above to align with spaced ears thereon, of a pendent locking-pin and a lever longitudinally slotted and pivoted therein between the ears to which the pin is jointed, substantially as set forth.

2. The combination, with a forwardly-chambered draw-head having a flared front end, two opposite aligning shoulders formed above and below in the throat of the draw-head chamber, a slot longitudinally extended from the shoulders rearward in the top wall of the draw-head chamber, leaving a transverse web therein, and two spaced ears laterally perforated to receive a fulcrum-bolt and located in alignment with the sides of the slot, of a lever having a cam-rounded head and ears on one side to pivotally engage the upper end of a pendent locking-pin and further provided with an elongated hole for engagement with the fulcrum-bolt in the ears, said hole extending in the direction of length of the lever, a locking-pin, and means to manipulate the lever from the roof of a car, substantially as set forth.

SAMUEL G. TRINE.

Witnesses:

BENJ. GOODWIN,
S. C. YARNELL.