

F. L. EAGER.

CAR COUPLING.

No. 282,616.

Patented Aug. 7, 1883.

Fig. I,

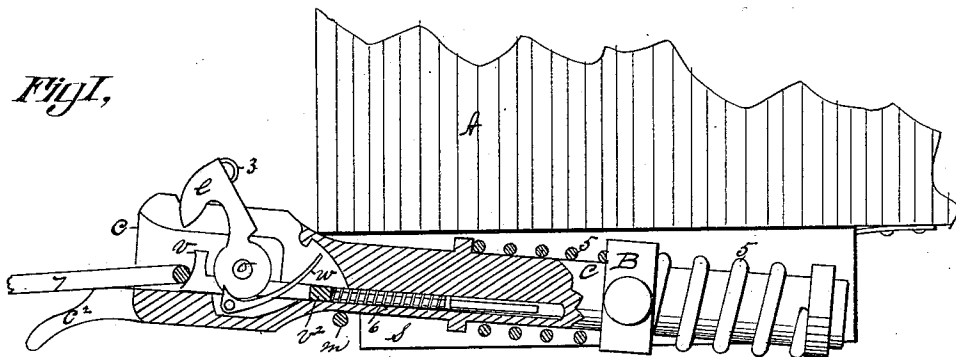
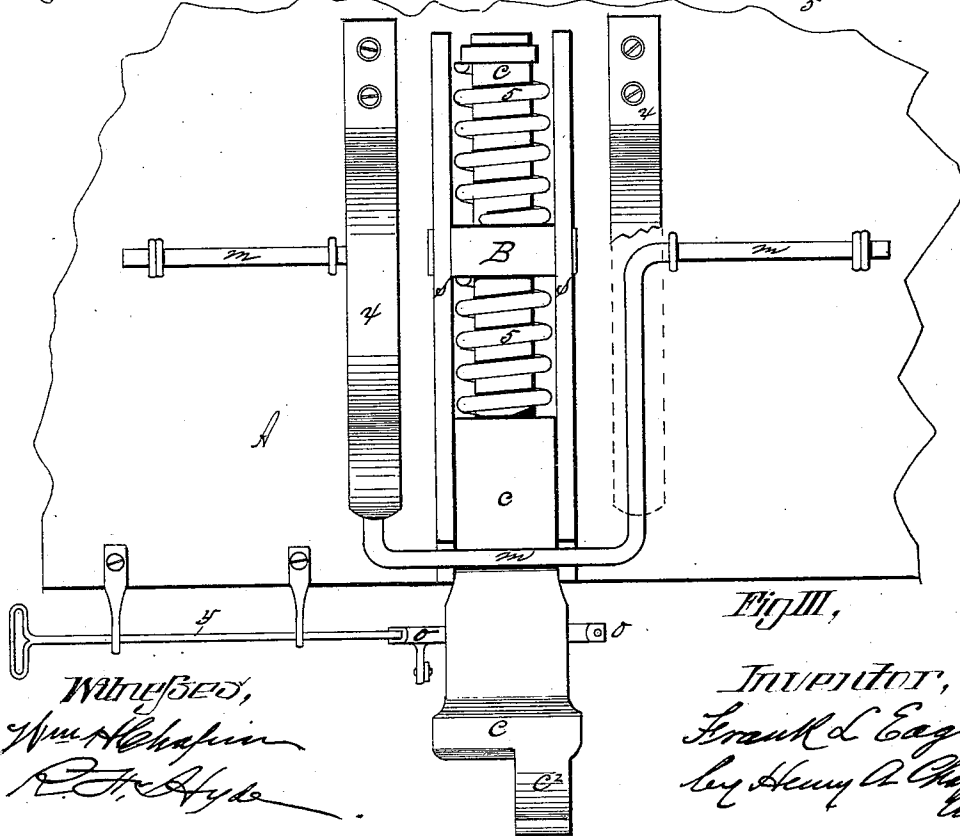
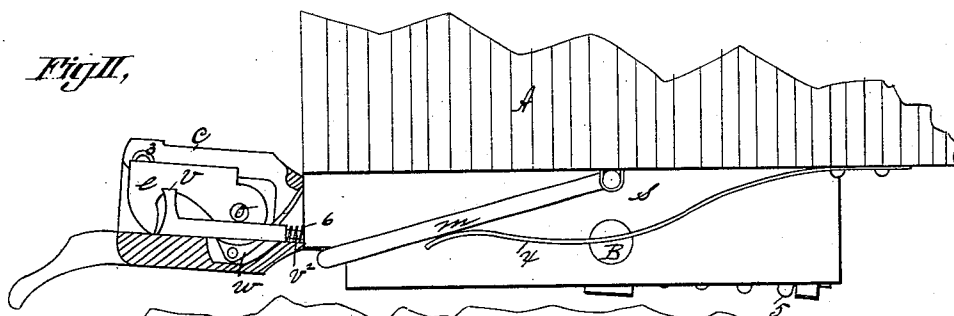


Fig. II,



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Fig. III,
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UNITED STATES PATENT OFFICE.

FRANK L. EAGER, OF PALMER, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 282,616, dated August 7, 1883.

Application filed January 30, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. EAGER, a citizen of the United States, residing at Palmer, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to improvements in automatic car-couplings, the object being to provide improved means for supporting and for governing the motions of a draw-bar capable of vertical vibratory movements, and improved devices for controlling the link-hook either from the ground or from the roof of a car, and by the combined action of the coupling-link and devices operating within the draw-bar. This invention is in the nature of an improvement upon my patent of January 2, 1883, No. 270,032, to which reference may be had.

In the drawings forming part of this specification, Figures I and II are side elevations, partly in section, of portions of a car having applied thereto improved car-couplings embodying my invention. Fig. III is a bottom plan view of a part of a car having said improved coupling attached thereto. Fig. IV is an end view of a car with said coupling thereon, and Fig. V is a detail view.

In the drawings, A indicates a portion of a car.

s s are the usual draw-bar supports secured under a car. B is a draw-bar yoke pivoted between said supports *s s*, and perforated to allow the shank of the draw-bar to pass through it. *c* is the draw-bar. 5 5 are springs on the latter. *e* is the link-hook. *o* is the link-hook pivot-shaft. *w* is a link-hook pawl. *v²* is a pawl-bar. *v v* are two arms on the latter. 6 is a spring. 7 is the link. *c²* is a guide-arm on the draw-bar. *n* is an arm on shaft *o*. *h* is a link-hook rod. *y* is a link-hook key. *m* is a draw-bar lifter, and *x x* are lifter-springs.

Like letters refer to like parts in the several figures.

The parallel supports *s s* are secured to the car A in the usual manner, leaving space between them for the draw-bar *c*, the cylindrically-shaped shank of which passes through the yoke B, having trunnions on opposite ends, whereby it is hung between and in the said

supports *s s*. Springs 5 5 are placed on the said shank of the draw-bar, each side of said yoke B, and suitably secured so as to act in the ordinary way for bunter and draw-springs.

A draw-bar lifter, *m*, of crank form, is hung under the draw-bar *c*, and suitably secured to the bottom of car A, as shown, whereby it may swing up and down, springs *x x* serving to swing that portion of it which is in contact with said draw-bar upward, and hold the latter in the position shown in Figs. I, II, and IV.

A guide-arm, *c²*, projects in an inclined direction from the outer end of the draw-bar, and when the ends of two couplings meet, the impact of said arm and the said end causes the mouths of the draw-bars to be brought opposite each other.

The link-hook *e* is rigidly secured to the shaft *o*, on which it swings in the draw-bar. Said link-hook is provided with a notch on its under edge, in which the pawl *w* engages when the latter is free, as hereinafter set forth, and when said hook is swung up to the position shown in Fig. I, and with a staple, 3, to which may be attached a lifting-chain, if need be.

A pawl-bar, *v²*, is located in the draw-bar, having a shank on which is a spring, 6, to give said bar a movement toward the draw-bar mouth. Said pawl-bar is provided with two arms, *v v*, reaching forward, one each side of the link-hook *e*, and between which and in the rear of said hook the end of the pawl *w* curves upward, as shown. When said pawl-bar stands in the position shown in Fig. II, it strikes said end of the pawl *w*, swinging it up and carrying the opposite end of said pawl down, so that it cannot engage with said link-hook; but when it is pushed back by the link 7, as shown in Fig. I, said pawl is free to swing on its pivot and its short end to engage with said hook.

An arm, *n*, is provided on shaft *o*, or on the key-rod *y*, to the end of which is pivoted the rod *b*, by which the link-hook may be operated from the car-roof.

The key-rod *y*, suitably hung on the end of the car A, so that it can be easily turned with the hand, engages with the end of the shaft *o*, as shown, and provides means for lifting up the link-hook *e* without going between the cars.

The operation of my improvements is as follows:

lows: The draw-bar *c*, being hung in the yoke B, is free to have its outer end swung up, as in Fig. II, by the lifter *m* and springs *x x*, and to have its said end depressed, when, by coming
 5 against another coupling, the arm *c*² encounters the latter and slides under it, if it be the lowest, thereby bringing the mouth of each coupling oppositethe other. The link-hook *e* will, when
 10 in the position shown in Fig. II, be lifted up and automatically engaged with a coupling-link, 7, when the latter is pushed into the mouth of the coupling, either by hand or by an approaching coupling on another car. When a
 15 flying switch is to be made, the coupling of the car to be switched has ordinarily the link 7 pushed into it by the adjoining car, and said link is driven against the ends of the arms *v v* of the pawl-bar *v*², thereby pushing the latter backward away from the upwardly-curved end
 20 of the pawl *w*, and letting the short arm of the latter swing up against the link-hook *e*, and then by seizing the key-rod *y* or by rod *b* said link-hook may be swung up, as in Fig. I, and engaged with pawl *w*, and thereby be held free
 25 from the link 7, so that the car will freely de-

tach itself from the others when desired; but as soon as the link 7 is thereby drawn away from the ends of said pawl-bar the latter is driven forward by spring 6, and swinging pawl
 30 *w* disengages the latter from hook *e*, letting the latter again fall down, as in Fig. II, ready to engage with another link. The weight of rod *b*, acting on shaft *o* through arm *n*, tends to assist in throwing hook *e* down. Should said
 35 hook be hung in the under side of the draw-bar, as it may be, arm *n* would be on the opposite side of shaft *o*.

What I claim as my invention is—

1. In combination, the oscillating yoke B, hung between the supports *s s*, the draw-bar
 40 *c*, having the inclined arm *c*² thereon, the lifter *m*, and the springs *x x*, substantially as set forth.

2. In combination, the draw-bar *c*, the link-hook *e*, shaft *o*, the pawl *w*, and the pawl-bar
 45 *v*², substantially as set forth.

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Witnesses:

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 R. F. HYDE.