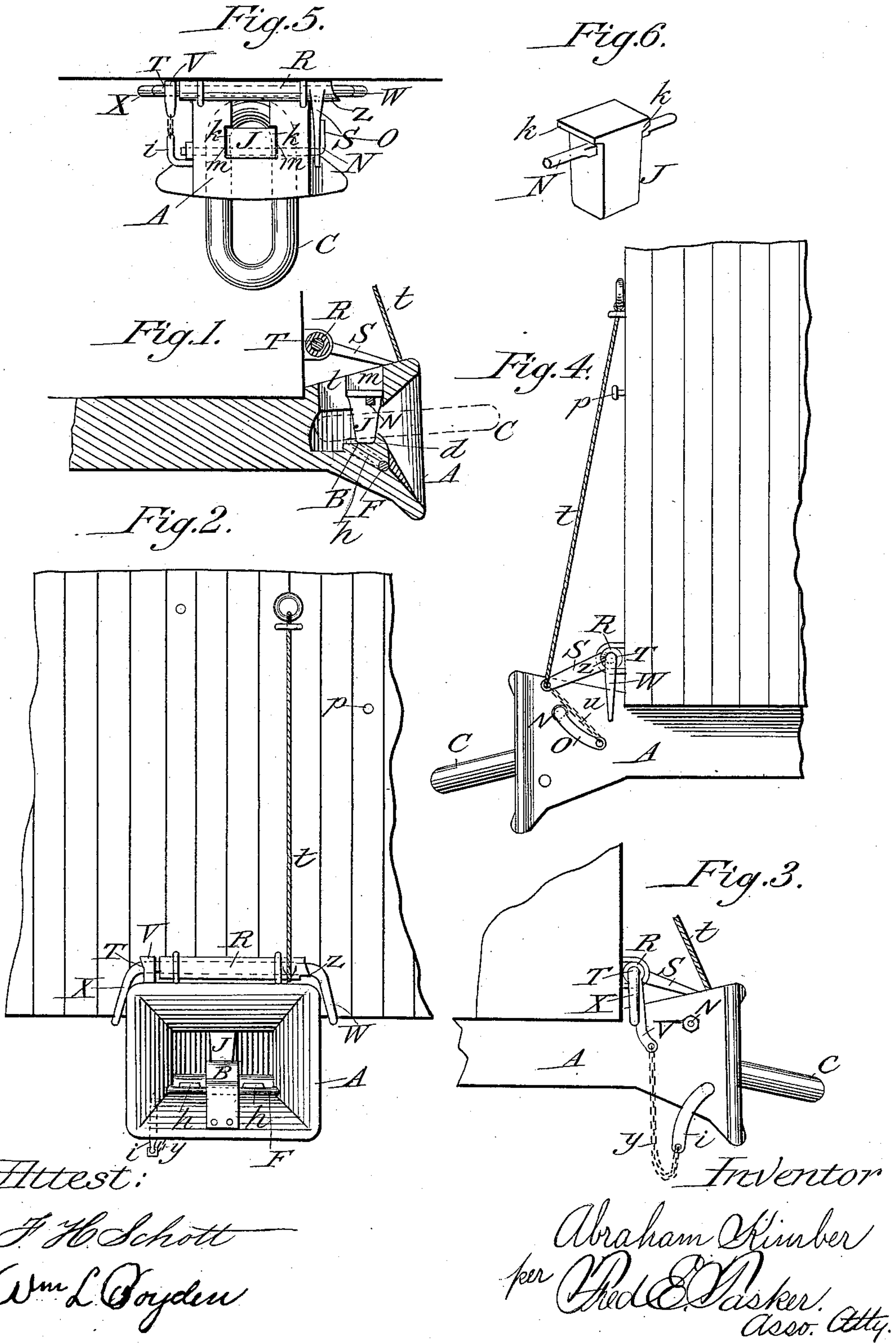


(No Model.)

A. KIMBER.
CAR COUPLING.

No. 422,532.

Patented Mar. 4, 1890.



UNITED STATES PATENT OFFICE.

ABRAHAM KIMBER, OF INDIANAPOLIS, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 422,532, dated March 4, 1890.

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To all whom it may concern:

Be it known that I, ABRAHAM KIMBER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to an improvement in that class of car-couplings in which an ordinary coupling-link is used in connection with a swinging automatic stop or coupling-pin.

The objects of my improvement are, first, to provide improved means for handling the link and the coupling-pin, whereby either the free end of the link may be raised or lowered or the coupling-pin may be raised by means of the same lever, at the will of the operator; and, second, to provide improved means for limiting the outward movement of the coupling-pin, all as hereinafter fully explained.

The accompanying drawings illustrate my invention.

Figure 1 represents a longitudinal vertical section; Fig. 2, a front elevation; Fig. 3, a side elevation; Fig. 4, an elevation showing the opposite sides, and Fig. 5 a plan. Fig. 6 is a view in perspective of the coupling-pin.

A is the draw-bar, having in the under side of the throat a central rib B, adapted to pass between the sides of the ordinary coupling-link C, and having on its upper side and outer end an upwardly-projecting lip *d*.

F is a shaft arranged across the throat of the draw-bar at its entrance and flush with its floor. Shaft F is provided with a pair of flat arms *h h*, which extend backward from the shaft along the floor of the draw-bar on each side of the rib B. One end of the shaft F projects through one side of the draw-bar and is provided with a crank *i*, Fig. 3.

J is the coupling-pin, which is substantially rectangular in section at its upper end, and is provided on two opposite sides with projecting shoulders *k k*. Coupling-pin J is mounted in a mortise *l* in the upper side of the draw-bar and projects downward across the throat, the shoulders *k k* resting in corresponding recesses *m m* in opposite sides of the mortise. Pin J is pivoted at its upper forward corner to the draw-bar by means of a shaft N, which rests in bearings in the sides of the draw-bar, and projects through on

one side and terminates in a crank O, Fig. 4, the arrangement being such that the shaft passes through the coupling-pin and the pin turns with the shaft.

Mounted on the front end P of the car, above the draw-bar, is a hollow shaft R, having an arm S, which is sustained in a substantially horizontal position by a cord or chain *t*, which is attached at its upper end to the car. Arm S is connected with crank O by a short chain *u*, the arrangement being such that when arm S is turned upward by the rotation of the hollow shaft R the coupling-pin is swung upward and backward out of the throat of the draw-bar. Passing through shaft R, so as to turn easily therein, is a shaft T, having an arm V secured thereon. Both ends of shaft T are bent downward to form cranks W and X, and the arrangement of arm V and crank W is such that the shaft is free to move longitudinally in shaft R, said movement being limited by the contact of arm V and crank W, respectively, with the ends of the hollow shaft. Arm V is connected at its free end with crank *i* of shaft F by a chain *y*, the arrangement being such that the chain hangs slack, as shown in Fig. 3, so that crank *i* is not affected by the upward movement of the arm until the arm has moved through nearly a quarter-circle. That end of hollow shaft R which is next to crank W is cut away, so as to leave on one side a projecting point *z*, adapted to engage one side of crank W.

In operation, the parts being in their normal position, arms *h* of shaft F lying along the interior bottom of the draw-bar, and the coupling-pin standing vertically across the throat, its free end engaging the lip *d* of rib B, one end of link C is introduced into the throat, the free end of the pin is pushed backward by the end of the link, and then drops back to its normal position and within the link. On pulling link C outward it is held by the pin, and the pin is prevented from swinging outward both by its engagement with the lip *d* of rib B and by the engagement of the shoulders *k k* on the pin with the bottoms of recesses *m m* in the draw-bar. The outer or free end of the link is normally depressed when not coupled with another draw-bar, and is raised, as indicated in dotted lines in Fig.

1, by the operator sliding shaft T lengthwise in shaft R until crank W therein is clear of engagement with the projection *z* on shaft R, and then turning shaft T in shaft R, thus raising the free end of arm V, thus turning shaft F outward and raising arms *h h* thereon, on which arms the link rests in such a manner that its outer end is tilted upward. For the purpose of swinging the coupling-pin backward, and thus releasing the link, shaft T is slid lengthwise in shaft R until crank W on shaft T engages the point *z* on shaft R. Then by the turning of shaft R shaft T is also turned and its arm S is raised, thus by means of chain *u* and crank O turning shaft N and swinging the coupling-pin backward and upward out of the path of the link. The coupling-pin may be secured in its raised position, so as to avoid catching the link, by securing the end of cord *t* to a stud *p*, projecting from the car-body.

I claim as my invention—

1. In a car-coupling, the combination, with the draw-bar, the shaft F, having arms *h h* and crank *i*, the shaft N, having pin J mounted thereon so as to turn therewith, and crank O, of the hollow shaft R, having arm S, shaft T, mounted in shaft R, adapted to slide

longitudinally and to turn therein, and having arm V and cranks W and X, means for detachably connecting shafts R and T, so as to turn in unison or separately, and chains *y* and *u*, whereby the coupling-link is tilted by means of shaft R when disconnected from shaft T, and the coupling-link is released when shafts R and T are connected, as set forth.

2. In a car-coupling, the combination of the draw-bar, having mortise *l* and recesses *m m*, and the coupling-pin J, pivoted to the draw-bar, as shown and described, and provided with shoulders *k k*, arranged to engage the bottoms of recesses *m*, as and for the purpose specified.

3. In a car-coupling, the combination, with the draw-bar having rib B and the coupling-link C, of the shaft F, arranged across the front lower edge of the throat of the draw-bar and having arms *h h* extending within the throat beneath the link, and the crank *i*, whereby the coupling-link may be tilted, as and for the purpose set forth.

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Witnesses:

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