

(No Model.)

F. J. CURTIS.
CAR COUPLING.

No. 552,352.

Patented Dec. 31, 1895.

FIG. 1.

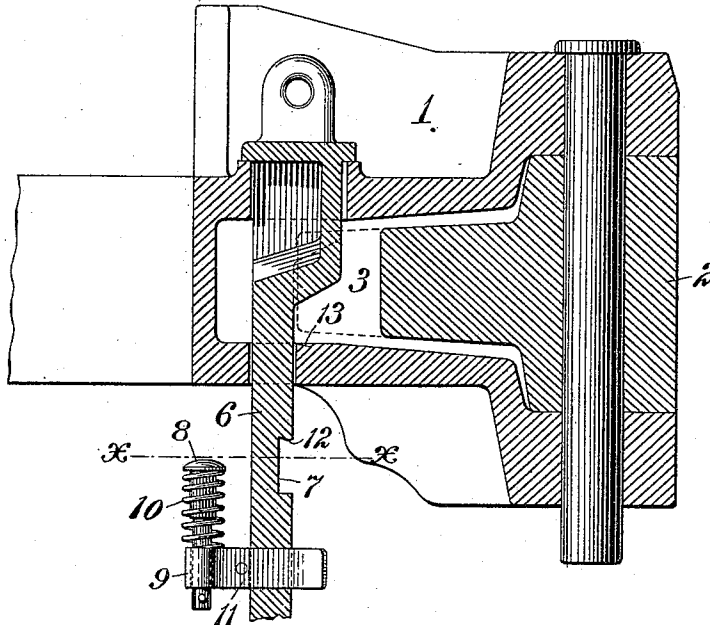


FIG. 2.

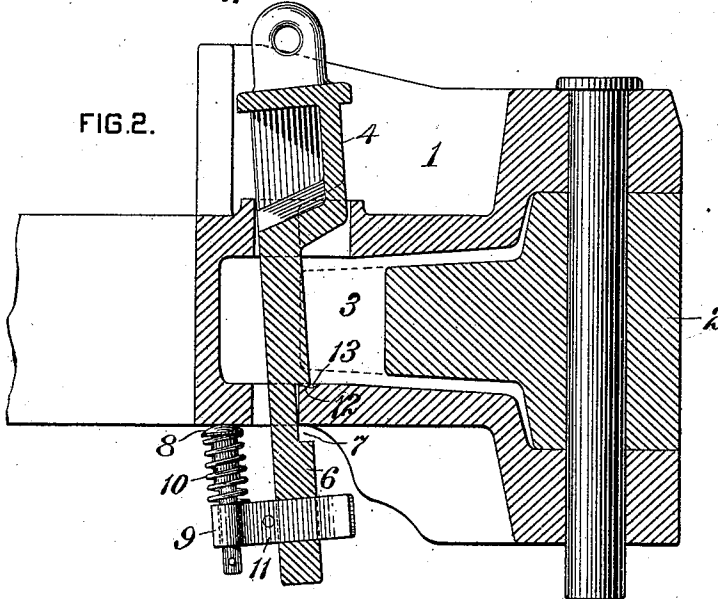
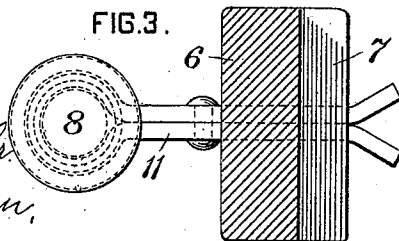


FIG. 3.



WITNESSES:

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INVENTOR,

Frank J. Curtis
by Darwin S. Wolcott

Att'y.

UNITED STATES PATENT OFFICE.

FRANK J. CURTIS, OF BEN AVON, ASSIGNOR TO THE MCCONWAY & TORLEY COMPANY, OF PITTSBURG, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 552,352, dated December 31, 1895.

Application filed October 17, 1895. Serial No. 565,963. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. CURTIS, a citizen of the United States, residing at Ben Avon, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Car-Couplers, of which the following is a specification.

The invention described herein relates to certain improvements in car-couplers of the swinging-hook or Janney type, and has for its object the provision of a stop or support for holding the locking-pin or other device in unlocking position that it may be tripped to drop into locking position by the knuckle when shifted to open or closed position.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a sectional elevation of coupler, showing the locking-pin having my improvement applied thereto in locking position. Fig. 2 is a similar view showing the locking-pin in unlocking position; and Fig. 3 is a sectional plan view, on an enlarged scale, of the locking-pin, the plane of section being indicated by the line *x x*, Fig. 1.

In the practice of my invention the coupler-head 1 and knuckle 2, having the tailpiece 3, are constructed as usual in the Janney or swinging-hook type of coupler.

In the embodiment of my invention shown in the drawings the knuckle is locked in closed position by a block or pin 4, so arranged in the coupler-head that the block or pin will stand in front of the tail of the knuckle when the latter is closed, thereby locking it in such position. The block or pin is so constructed as to be moved aside by the tail of the knuckle when being closed to allow the tail to pass behind the block or pin, whereupon the block or pin will automatically move in front of the tailpiece and lock the knuckle in closed position. The block or pin is provided with a catch or detent operative on a movement of the block or pin other than its normal movement into and out of a locking position to hold the block or pin in unlocking position and also operative to release the locking block or pin and permit it to assume a locking position

by the tail of the knuckle when the latter is moved to an open or closed position.

In applying my improvement to the Janney locking-pin the stem 6 of the pin is provided with a notch or recess 7 of a length somewhat greater than the thickness of the lower wall of the coupler-head and is so located on the stem that if the pin be raised to unlocking position and shifted laterally the upper wall of the notch or recess will overlap the lower wall of the coupler-head and thereby support the pin in its raised or unlocking position, as shown in Fig. 2. The notch or recess 7 is formed on the front side of the stem, so that when the latter is shifted laterally to support the pin in unlocking position a portion of the stem will project into the path of movement of the tail of the knuckle. It results from this construction and arrangement that the stem will be dislodged by the tail of the knuckle when moved to or from closed position, allowing the pin to drop to locking position.

The lateral movement of the pin to supported position can be conveniently effected in many ways—as, for example, by a shoulder or abutment so arranged on the side of the pin opposite the notch or recess 7 that when the pin has reached or nearly reached unlocking position the shoulder or abutment will strike against the coupler-head and thereby shift the pin laterally, so that the upper wall of the notch or recess will overlap the lower wall of the coupler. This shoulder or abutment is preferably constructed so as to spring or yield when striking and thereby prevent any shock or jar.

In the construction shown in the drawings this abutment or shoulder consists of a pin 8, mounted in a socket 9, and supported by a spring 10, arranged around the pin between its head and the socket. The socket is preferably attached to the locking-pin by an arm 11, the split end of which is passed through a slot in the locking-pin, and the portions of the projecting end spread apart, thereby preventing an accidental removal of the arm.

The socket is preferably so located on the locking-pin that the head of the pin 8 will strike against the coupler-head before the locking-pin has been raised to unlocking po-

sition, thereby necessitating a compression of the spring 10 in raising the locking-pin sufficiently far to move laterally to supported position. This compression of the spring will
 5 prevent any accidental dislodgement of the locking-pin from its support. In order to more surely prevent any accidental dislodgement of the locking-pin from its support, the upper wall of the notch or recess 7 may be undercut, thereby forming a shoulder 12, adapted to engage a shallow recess 13 in the coupler-head. The shoulder 12 is yieldingly held in engagement with the recess 13 by the spring 10. In addition to its function of shifting the
 10 pin laterally and holding it in that position, the spring 10 will cause the locking-pin to return to its normal position when accidentally raised by a jar or shock to the coupler-head, as the head of the pin 8 will strike against the coupler-head before the locking-pin has been raised far enough for the upper wall of the recess 7 to be pressed over the lower wall of the coupler-head.

I claim herein as my invention—

25 1. In a car coupler the combination of a pivoted knuckle provided with a tail piece, a locking block or pin for holding the knuckle in closed position and movable laterally into and out of the path of movement of the tail
 30 of the knuckle, when in unlocking position, and means operated by the block or pin to shift and hold the block or pin, when in unlocking position, in the path of movement of the tail or knuckle, and capable of being
 35 shifted to release the block or pin by the tail or knuckle when swung to open or closed position, substantially as set forth.

2. In a car coupler the combination of a pivoted knuckle provided with a tail piece, a
 40 locking block or pin movable laterally when in unlocking position, and provided with a

notch or recess adapted to engage a stationary portion of the coupler when in such position, and means operated by the block or pin to shift and hold the block or pin, when in un-
 45 locking position, in the path of movement of the tail or knuckle, and capable of being shifted to release the block or pin by the tail or knuckle when swung to open or closed position, substantially as set forth. 50

3. In a car coupler, the combination of a pivoted knuckle provided with a tail piece, a locking block or pin movable laterally when raised, into or out of the path of movement of the tail of the knuckle and provided with a
 55 notch or recess adapted to engage a stationary portion of the coupler, and an abutment or shoulder on the pin adapted by impact with the coupler head to force the locking block or pin laterally so that the notch or recess will engage the portion of the coupler and hold
 60 the pin or block in unlocking position, substantially as set forth.

4. In a car coupler, the combination of a pivoted knuckle provided with a tail piece, a
 65 locking block or pin movable laterally when raised, into and out of the path of movement of the tail of the knuckle and provided with a notch or recess adapted to engage a stationary portion of the coupler and a spring or
 70 yielding abutment or shoulder adapted by impact with the coupler to force the locking block or pin laterally so that the notch or recess will engage the portion of the coupler and hold the block or pin in unlocking position, 75
 substantially as set forth.

In testimony whereof I have hereunto set my hand.

FRANK J. CURTIS.

Witnesses:

E. G. FERGUSON,
 DARWIN S. WOLCOTT.