No. 799,446. PATENTED SEPT. 12, 1905.

J. R. CARMER.

UNCOUPLING DEVICE.

APPLICATION FILED MAY 5, 1905.

Fig. 1.

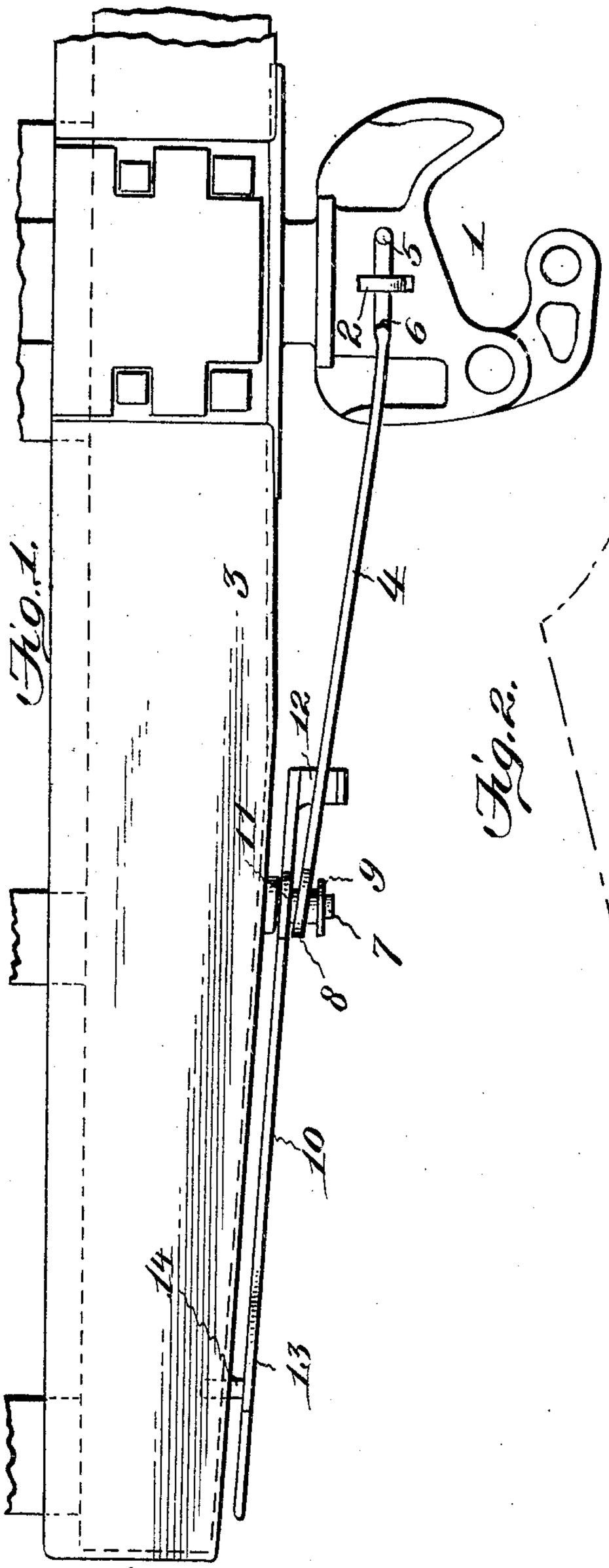
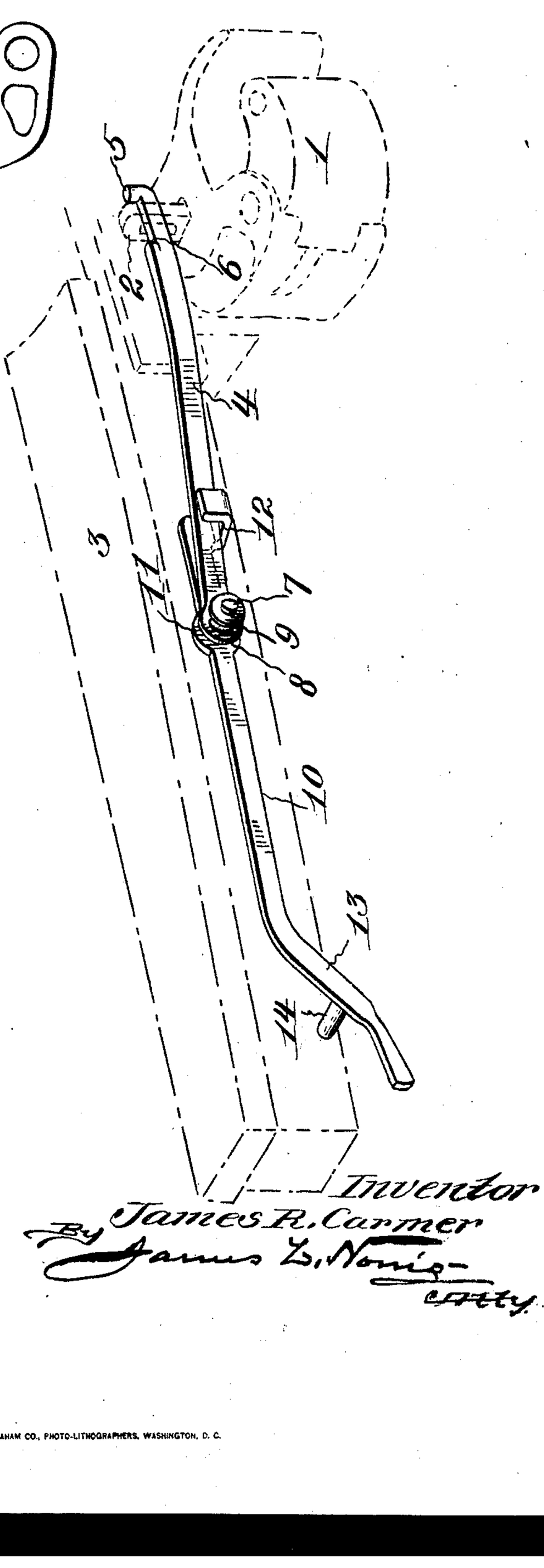


Fig. 2.



Witnesses
C. D. Kesler
James L. Norris, Jr.

Inventor
James R. Carmer
By James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

JAMES R. CARMER, OF WASHINGTON, DISTRICT OF COLUMBIA.

UNCOUPLING DEVICE.

No. 799,446. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed May 5, 1905. Serial No. 259,043.

To all whom it may concern:

Be it known that I, JAMES R. CARMER, a citizen of the United States, residing at Washington city, District of Columbia, have invented new and useful Improvements in Uncoupling Devices, of which the following is a specification.

This invention relates to uncoupling devices for car-couplers.

Primarily, the invention aims to provide an uncoupling device for car-couplers which can be operated by means of the foot or hand when a trainman is standing on the corner-step of the platform without liability of injury by being caught between the end sills of the car when taking slack, and, furthermore, enabling the trainman to use his signaling-lantern or hand during the operation of uncoupling and immediately after the uncoupling operation, or, in other words, enabling the trainman to operate the uncoupling device by his foot and at the same time permitting of the use of his hands for other purposes.

The invention further aims to provide an uncoupling device for car-couplers which can be operated by hand at the center or at the end of the car-sill when occasion so requires.

The invention further aims to provide an uncoupling device for car-couplers which is adapted to act as a means for suspending a coupling-head or coupler if the draw-bar should become broken or detached from the car, thereby preventing the falling thereof upon or between the rails of the track, so that the detached coupler or coupler-head will not present an obstacle to the passage of the following cars, which would otherwire result in damage or derailment or oftentimes in loss of life.

A further object of the invention is to provide an uncoupling device for car-couplers which when in its inoperative position will tend to assist in retaining the locking-pin in position, thereby preventing the separation of the knuckle.

A further object of the invention is to provide an uncoupling device for car-couplers which when set up will not interfere in any manner with the play or movement of the coupler necessary during the travel of the cars.

The invention further aims to provide an uncoupling device for car-couplers which shall be simple in its construction, strong, durable, efficient in its use, operated by the foot or hand, and comparatively inexpensive to set up.

With the foregoing and other objects in view the invention consists of the novel construction, combination, and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, which form a part of this specification, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, in which—

Figure 1 is a top plan view showing a portion of a car-coupler and the uncoupling device in position; and Fig. 2 is a perspective view of the uncoupling device detached from the car, the car-sill being shown in dotted lines, so that the position of the free end of the shifting-lever with respect to the underneath face of the car-sill will be illustrated.

Referring to the drawings by reference characters, 1 denotes the coupler, 2 the locking-pin, having an opening in the top thereof, and 3 the car-sill.

The uncoupling device is adapted for use in connection with any form of car-coupler for which it is found applicable and comprises an uncoupling-lever 4, having a portion thereof extending above the coupler-head and in parallelism with the front of the car, or, in other words, the uncoupling-lever 4 is formed with an inclined portion and a straight portion, said straight portion being arranged to extend over the top of the coupler-head, and is cut away so as to form a protuberance 5 and a shoulder 6. Said straight portion of the uncoupling-lever 4 is adapted to extend through the opening of the locking-pin 2, so that when the said lever 4 is operated in one direction the locking-pin will be elevated, thereby permitting of the uncoupling of the knuckles. The connection between the straight portion of the uncoupling-lever 4 and the locking-pin 2 is what may be termed a "slip-joint," so as to allow of the necessary play of the coupler, the length of the cut-away portion which forms the protuberance and shoulder being sufficient for such purpose. The inclined portion of the uncoupling-lever extends downwardly and toward the sill 3 and is loosely connected upon a fixed pivot 7, secured to the car-sill. The length of the pivot 7 is such as to allow the end 8 of the uncoup-

ling-lever 4 to have a lateral play thereof, so as to compensate for the movement of the coupler when occasion so requires. The pivot 7 is formed with a head 9, so as to retain the end 8 of the lever 4 thereon.

The uncoupling-lever 4 is operated through the medium of a shifting-lever 10, which is loosely mounted intermediate its ends (as at 11) upon the pivot 7 and arranged at the rear of the end 8 of the lever 4. The shifting-lever 10 projects past the pivot 7 and has its free end provided with a forwardly-extending hook-shaped protuberance 12, upon which rests the uncoupling-lever 4. The said protuberance 12 when the shifting-lever 10 is operated is adapted to engage and elevate the uncoupling-lever 4, so as to cause the said uncoupling-lever 4 to vertically move the locking-pin 2 so that the knuckles of the couplers will be released. The other end of the shifting-lever 10 sags downwardly in a curvilinear manner to a point below the car-sill 3. Said sagging end is indicated by the reference character 13 and is provided with an inwardly-extending lug 14, which is adapted to engage the underneath face of the car-sill and arrest the movement of the sagging end 13 of the lever 12. The lug 14 also performs another function and which will be hereinafter referred to. The sagging end 13 of the lever 10 is arranged in such relation with respect to the end of the car-sill or the corner-step as to enable the operation of the shifting-lever 10 through the medium of the foot of the trainman, so that the trainman can use his lantern or hand while uncoupling or immediately after the uncoupling operation. The uncoupling-lever 4 is also adapted to arrest the movement of the shifting-lever 10 in this particular: If the protuberance 12 did not engage the uncoupling-lever 4, then there would be nothing to arrest the upward movement of the inner end of the shifting-lever 10. The lever 4 performs this function. The other function performed by the lug 14 is that it acts as a means for causing the uncoupling device to suspend the coupler if it should be detached from the car or to suspend the coupler-head if the same was broken away from the draw-head, and in this connection it will be stated that if the coupler or coupler-head is detached it will have a tendency to pull down on the locking-pin. Consequently the weight will lower the uncoupling-lever 4. The latter bearing upon the protuberance 12 will cause the sagging end 13 of the lever 10 to be elevated; but its movement will be arrested by the lug 14. Consequently the lug 14 acts as an abutment to sustain the uncoupling device in position, so as to suspend the coupler or coupler-head if the same should become detached. Owing to the manner of pivoting the end of the uncoupling-lever, it is evident that the trainman could stand upon the car-sill at the center thereof and with his hand grasp the uncoupling-lever 4 and elevate the locking-pin 2, so that the knuckles can be released. It will also be evident that the shifting-lever 10 can not only be operated through the means of the trainman's foot, but can also be hand-operated, and owing to the position of the sagging end of the lever there would be no danger of injury to the trainman when hand-operating the uncoupling device, as the trainman's hand or arm would be below the sills 3, so that there would be no liability of the hand or arm being caught between the sills.

The constructing of the device with two separate and independent levers and the loose mounting of the uncoupling-lever upon the pivot 7, as well as the slip connection between the uncoupling-lever and the locking-pin, permit both side and longitudinal motion of the coupler when occasion so requires, as will be evident.

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

1. An uncoupling device for car-couplers comprising a shifting-lever having a portion thereof out of the plane of the remaining portion, sagging downwardly, and permanently arranged at a point below the underneath face of the car-sill and adapted to be engaged and operated by the hand or foot of a trainman.

2. An uncoupling device for car-couplers, comprising a shifting-lever pivoted intermediate its ends to a car-sill and having its outer end out of the plane of the remaining portion thereof, said outer end sagging downwardly and permanently arranged at a point below the plane of the underneath face of the car-sill and adapted to be engaged and operated by the hand or foot of a trainman.

3. An uncoupling device for car-couplers comprising a shifting-lever having a portion thereof out of the plane of the remaining portion, sagging downwardly, and permanently arranged in a point below the underneath face of the car-sill and adapted to be engaged and operated by the hand or foot of a trainman, said sagging end of said lever provided with an inwardly-extending protuberance adapted to engage the underneath face of the car-sill to arrest the vertical movement in one direction of said end.

4. An uncoupling device for car-couplers, comprising a shifting-lever pivoted intermediate its ends to a car-sill and having its outer end out of the plane of the remaining portion thereof, said outer end sagging downwardly and permanently arranged at a point below the plane of the underneath face of the car-sill and adapted to be engaged and operated by the hand or foot of a trainman, said lever having its upper end provided with an outwardly-extending protuberance and its outer end with an inwardly-extending protuberance, for the purpose set forth.

5. An uncoupling device for car-couplers

comprising an operable and laterally-displaceable uncoupling-lever pivoted at one end and having its other end cut away to provide a shoulder and a protuberance suitably spaced apart to form a slip connection between said cut-away end and a locking-pin.

6. An uncoupling device for car-couplers comprising an operable and laterally-displaceable uncoupling-lever loosely pivoted at one end and having its other end cut away to provide a shoulder and a protuberance suitably spaced apart to form a slip connection between said cut-away end and a locking-pin.

7. An uncoupling device for car-couplers comprising an operable uncoupling-lever having an inclined and a straight portion, said inclined portion pivoted at one end and its other end terminating in said straight portion, said straight portion cut away to provide a shoulder and a protuberance suitably spaced apart to form a slip connection between said straight portion and a locking-pin.

8. An uncoupling device for car-couplers having an uncoupling-lever pivoted at one end and its other end adapted to be connected to a locking-pin for vertically moving it when the said lever is operated, a shifting-lever pivoted intermediate its ends and having one end adapted to engage the uncoupling-lever for operating it, and a common pivot for said levers.

9. An uncoupling device for car-couplers having an uncoupling-lever loosely pivoted at one end and its other end adapted to be connected to a locking-pin for vertically moving it when the said lever is pivoted, a shifting-lever pivoted intermediate its ends and having one end adapted to engage the uncoupling-lever for operating it, and a common pivot for said levers.

10. An uncoupling device for car-couplers comprising a pivot adapted to be connected to the car-sill, an uncoupling-lever loosely mounted at one end upon said pivot and adapted to be loosely connected at its other end to a locking-pin for vertically moving the pin when the lever is operated, a shifting-lever mounted intermediate its ends upon said pivot and having one end adapted to engage the uncoupling-lever for operating it and a common pivot for both levers.

11. An uncoupling device for car-couplers comprising a pivot adapted to be connected to the car-sill, an uncoupling-lever loosely mounted at one end upon said pivot and adapted to be loosely connected at its other end to a locking-pin for vertically moving the pin when the lever is operated, and a shifting-lever mounted intermediate its ends upon said pivot and having one end adapted to engage the uncoupling-lever for operating it, and having the other end thereof sagging downwardly below the bottom of the car-sill and adapted to be operated by the hand or foot of the trainman.

12. An uncoupling device for car-couplers having a loosely-mounted and laterally-displaceable uncoupling-lever adapted to be loosely connected with a locking-pin to permit of lateral and longitudinal play of the coupler, and a shifting-lever independent of said uncoupling-lever and having one end thereof adapted to engage and operate the uncoupling-lever when the shifting-lever is operated.

13. An uncoupling device for car-couplers having a shifting-lever provided with a sagging end extending below the car-sill and adapted to be engaged and operated by the hand or foot of a trainman, said end having an inwardly-extending lug forming a stop.

14. An uncoupling device for car-couplers having a shifting-lever provided with a sagging end extending below the car-sill and adapted to be engaged and operated by the hand or foot of a trainman, said end having an inwardly-extending lug forming a stop, and the other end of said lever provided with an outwardly-extending protuberance.

15. An uncoupling device for car-couplers having an uncoupling-lever loosely pivoted at one end and adapted to be loosely connected at its other end to a locking-pin, and a shifting-lever having one end provided with a protuberance adapted to engage the uncoupling-lever for operating it and at its other end provided with a lug forming a stop.

16. An uncoupling device for car-couplers having an uncoupling-lever loosely pivoted at one end and adapted to have its other end loosely connected to a locking-pin, and a shifting-lever independent of said uncoupling-lever and provided at one end with a protuberance adapted to engage the uncoupling-lever and operate when the shifting-lever is operated, and said shifting-lever having its other end sagging downwardly and provided with a lug acting as a stop.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES R. CARMER.

Witnesses:
N. L. BOGAN,
GEO. W. REA.