

(No Model.)

3 Sheets—Sheet 1.

J. C. LOOK.
CAR COUPLING.

No. 535,253.

Patented Mar. 5, 1895.

Fig. 1.

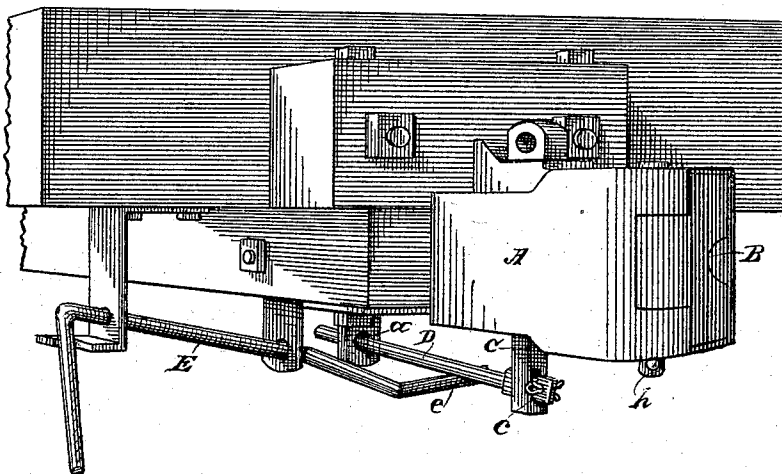
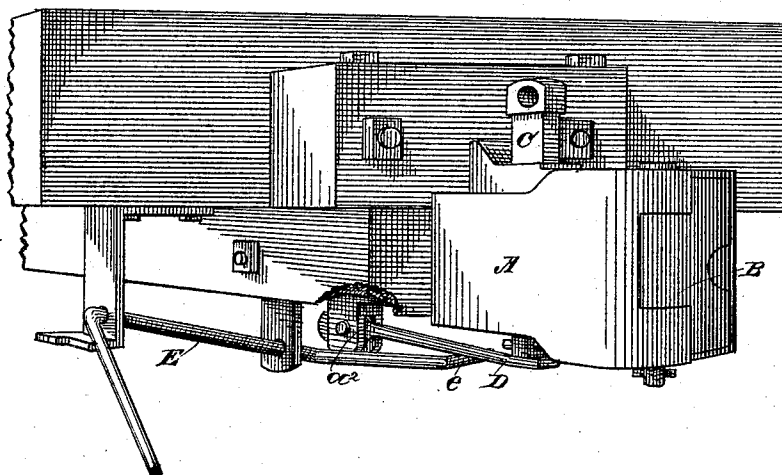


Fig. 2.



Witnesses,

J. H. Nurse
H. F. Alscheck

Inventor,

John C. Look
By Duway Co.
attys

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CAR COUPLING.

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Fig. 3.

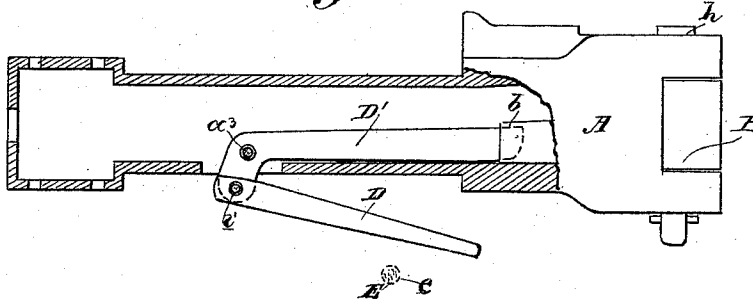


Fig. 4.

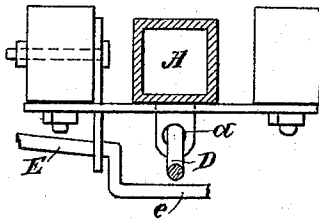


Fig. 5.

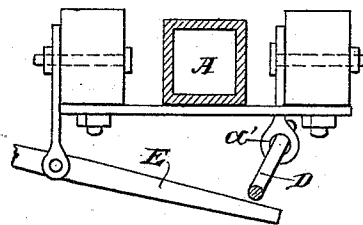


Fig. 6.

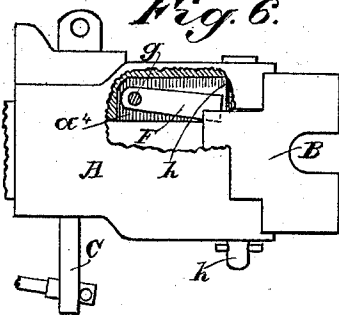


Fig. 7.

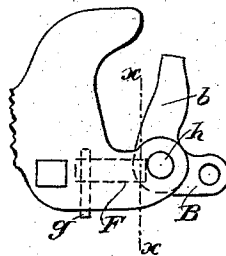


Fig. 8.

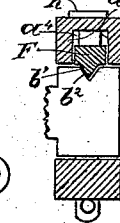
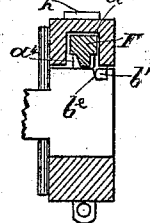


Fig. 9.



Witnesses,

J. F. Ascheck

Inventor,

John C. Look
By Dewey & Co.

(No Model.)

3 Sheets—Sheet 3.

J. C. LOOK.
CAR COUPLING.

No. 535,253.

Patented Mar. 5, 1895.

Fig. 10.

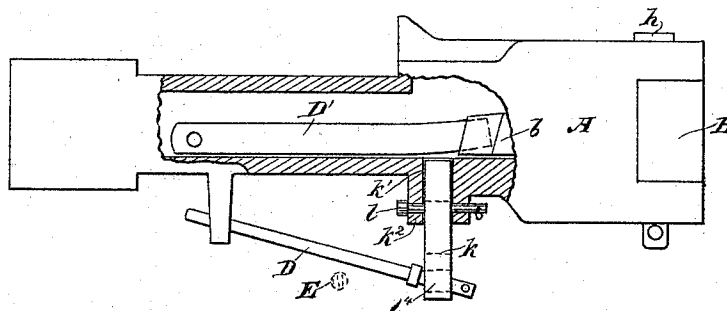


Fig. 11.

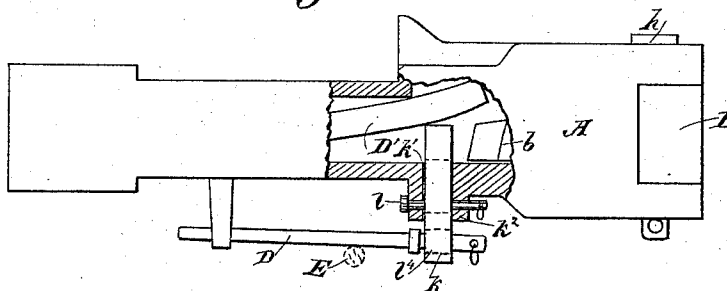


Fig. 12.

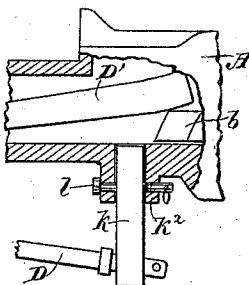


Fig. 13.

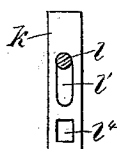
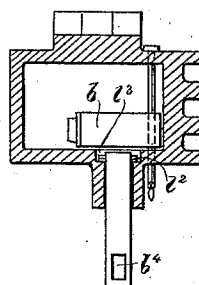


Fig. 14.



Witnesses,
B. H. Hourse
H. F. Aschbeck

Inventor
John C. Look
By D. W. Dwyer, atty.

UNITED STATES PATENT OFFICE.

JOHN C. LOOK, OF SAN JOSÉ, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 535,253, dated March 5, 1895.

Application filed September 10, 1894. Serial No. 522,626. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. LOOK, a citizen of the United States, residing in San José, county of Santa Clara, State of California, have invented an Improvement in Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of car couplings having a pivoted hook-head, with locking device or pin for locking the hook.

It consists of means or devices whereby said locking device can be operated by a lever from the side of the car.

It consists also of a device or means for holding open the pivoted hook-head, preparatory to coupling.

The object of my invention is to make the coupling more efficient, by providing a means on the car for operating the lock, that shall be disconnected from the coupling, or of such limited contact that the coupling may be free to perform its required movements without interfering with the said lock operating means; and to provide means for automatically holding open the pivoted hook-head when the same has been opened, and also to provide means, by a short plunger, for operating from beneath the coupling those locking devices that do not extend through beneath the draw-head.

Heretofore, the connection between the lever and the lock pin has been a flexible chain, or loosely pivoted link, vertically disposed, which would become chafed and broken; or the lever would be connected in other ways, whereby it would take the movements of the coupling. A crank shaft has also been suggested, to operate under a somewhat enlarged base of the pin; but in my improvement, an elongated movable base is formed under and rearwardly of the lock; the said base being produced by a rod, bar, or plate fulcrumed rearwardly, and extending forwardly to the lock; and the base of operation for the lever on the car, may be any part of the said rod, bar, or plate; and also a great number of locking devices have required the use of overhanging releasing levers to lift by chain or link from the top of the coupling, to which my elongated movable base would not be applicable, but the use of which can be had by the adoption of my plunger.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective view of the coupling, showing the levers for uncoupling. Fig. 2 is a perspective view showing the lock released. Fig. 3 is a side elevation of a draw bar having another form of lock, a part being broken out, showing the lock inside of the bar stem. Fig. 4 is a partial cross section of the end of the car. Fig. 5 is also a partial cross section of the end of the car. Fig. 6 is a side view of a draw-head, a section being broken out showing the device for holding the hook open. Fig. 7 is a top view of the draw-head with the holding block in dotted lines. Fig. 8 is a sectional part taken on line $x-x$ of Fig. 7, showing the holding block in position. Fig. 9 is also a sectional part taken on line $x-x$ of Fig. 7, showing the holding block out of position. Fig. 10 is a side elevation of a draw bar, a section being broken out, showing a form of lock with a plunger for operating from beneath. Fig. 11 shows the same form of lock as Fig. 10, but in a raised position. Fig. 12 shows the same form of lock as Fig. 11; the position of the lock showing the coupling operation. Fig. 13 is a front view of the plunger for raising the lock. Fig. 14 is a cross section taken on line $x-x$ of Fig. 10 showing a different way of retaining the plunger in the draw-head, and also a different but well known form of lock.

A represents a form of coupling, of which B is the pivoted hook head; C, the locking pin for the hook head; D, the rod, bar, or plate on the draw bar and forming the movable base under which the lever E on the car acts.

F is the holding block for the hook head.

Referring to Fig. 1, the rod, bar or plate D is attached loosely to the lower portion of the pin C at c , and is held rearwardly in an eye a which is connected with the draw bar or as hereinafter mentioned. Now, this rod, it will be seen, follows the movement of the draw bar, and by being loosely held at both ends, it will also follow the movements of the lock. The lever E is journaled on the car, with its inner end e cranked in such a manner that it comes under the rod D.

The operation is as follows:—The lever E is twisted, causing the crank arm e to bear

up against the rod D. This raises the rod D, which bears up in the eye *a* on the draw bar, and eye *c* in the locking pin, and the pin C being the movable part is raised, thus releasing the lock. By this arrangement, it will be seen, that *a* is the fulcrum, *e* the power and *c* the weight to be raised. When the lever and rod are raised the coupling still has its required movements laterally and longitudinally; the rod D sliding over the crank arm *e* as only the locking pin has the vertical movement. The rod D may be held in an eye attached to the car sill, as shown at *a'*, Fig. 5, or it may hang loosely, and anything that serves as a fulcrum when power is applied may be used. The power may also be applied by a straight lever, as E in Fig. 5.

Referring to Fig. 2, it will be seen, that the rod D may be held more securely in a fulcrum *a*² on the draw bar, and not attached to the locking pin, but disposed beneath it; the same result being accomplished as in Fig. 1, namely, that of having the rod D follow the draw bar to have its end act on the locking device when power is applied.

In Fig. 3, I have shown a different form of coupling to which my device is also applicable. A bar D' is shown inside of the draw-bar with the forward end employed as the lock, the rearward end being fulcrumed at *a*³, and the rod D attached rigidly to the said bar D' at *i*, and extending forward, furnishes the base for the lever E. The base rod D may also be attached to any other part of the bar D' and furnish the base for the lever E by being extended to any suitable place sufficiently forward of the fulcrum. This combination of levers may be used also for other styles of couplings than those here shown.

The means for holding open the pivoted hook head are shown in Figs. 6, 7, 8 and 9. It consists of a block F, contained in a recess *a'* in the draw head. This recess has vertical walls *a*⁵ to keep the block in position. The block is swung at one end on a rod *g*, and the other end is free to rest on a part of the pivoted hook head near the pivot pin *h*. This free end is so arranged that it is above the locking lever *b* which is free to move in and out. A notch *b'* is provided in the hook head that comes under the block F when the hook is turned open, into which the block falls by gravity, as shown in Figs. 6 and 8; but the condition of this notch must be such that the block can be raised by the operation of coupling. For this purpose the notch is made with an inclined face *b*², shown in Figs. 8 and 9, of such a slant that the sway of the car will not throw the block out, as that is the object to be overcome; but in a coupling operation, the pressure on the lever arm *b* by the opposite coupling, throws the block F against the wall *a*⁵ and forces it up the incline and leaves it as shown in Fig. 9. Either the block or the notch can be inclined, or both may be inclined.

In Figs. 10, 11, 12, 13 and 14, I have shown

a different way of reaching the locking device D' from beneath the draw-head. It consists of the pin or plunger *k* held in the draw-head under the lock rearwardly of the part occupied by the lever arm *b* of the pivoted hook head. This plunger is held in an aperture *k'* in the draw bar. The aperture may be extended by the walls *k*² *k*² to give the pin an upright position; and is retained in the aperture by the pin *l* passing through the walls *k*² *k*² and through an elongated eye or slot *l'* in the pin *k*, shown in Fig. 13. The normal position of the plunger and lock is shown in Fig. 10, the uncoupled position is shown in Fig. 11, and the normal position of the plunger and coupling operation of the lock is shown in Fig. 12.

Fig. 14 shows a different way of retaining the plunger *k*, which consists of lugs *l*² *l*² resting in recesses *l*³ *l*³ in the draw head; and also another but well known kind of lock. Other styles of lock may also be operated by this plunger.

The movable rod D is attached to the plunger at *l*³.

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

1. In a car coupling, a means for releasing the lock, consisting of a movable rod, bar or plate having a fulcrum in a fixed plane, and adapted by its movement to actuate the lock, and a lever on the car freely movable along said rod, bar or plate to move it and release the lock, substantially as herein described.

2. In a car coupling, a means for releasing the lock consisting of a movable rod, bar or plate disposed beneath the draw bar, said rod, bar or plate having a fulcrum rearwardly in a fixed plane, and adapted by its movement to actuate the lock, and a lever on the car to operate the said rod, bar or plate whereby the lock will be released, substantially as herein described.

3. In a car coupling, a means for releasing the lock consisting of a movable rod, bar or plate disposed beneath the draw bar, said rod, bar or plate having a fulcrum rearwardly in a fixed plane, and adapted by its movement to actuate the lock, and a lever on the car to operate against the said rod, bar or plate forward of the fulcrum thereof whereby the lock will be released, substantially as herein described.

4. In a car coupling, a means for releasing the lock consisting of a rod, bar, or plate, disposed beneath the draw-bar, one end being fulcrumed rearwardly in an eye, and the other end being disposed to operate the lock, and a lever on the car separate from the rod, bar, or plate, and disposed to operate against the said rod, bar, or plate forward of the fulcrum thereof whereby the lock will be released, substantially as herein described.

5. In a car coupling, a means for releasing the lock consisting of a rod, bar, or plate disposed beneath the draw-bar, one end being

fulcrumed rearwardly in an eye in a fixed plane, and the other end being disposed to operate the lock, and a lever on the car to operate against the said rod, bar, or plate forwardly of the fulcrum thereof whereby the lock will be released substantially as herein described.

6. In a car coupling, a means for releasing the lock consisting of a rod, bar, or plate disposed beneath the draw-bar and adapted by its movement to actuate the lock, said rod, bar or plate being controlled rearwardly by a fulcrum which is connected with the draw-bar, and a lever on the car to operate against the said rod, bar, or plate, forwardly of the fulcrum thereof whereby the lock will be released.

7. In a car coupling, a means for releasing the lock, consisting of a rod, bar, or plate disposed beneath the draw bar, one end being fulcrumed rearwardly in an eye which is connected with the draw bar, and the other end being disposed to operate the lock, and a lever on the car to operate against the said rod, bar, or plate forwardly of the fulcrum whereby the lock will be released, substantially as herein described.

8. In a car coupling having a pivoted hook head, the block F to operate in a guide recess in the draw head and on inclines in a notch

on the hook head for the purpose of holding the hook open preparatory to coupling, substantially as herein described.

9. In a car coupling having a locking device situated in the draw-head, a plunger disposed and retained in a substantially vertical position in the draw-head beneath the locking device, and a means for actuating the said plunger whereby the lock will be released consisting of a movable rod, bar or plate having a fulcrum in a fixed plane and a lever on the car freely movable along said rod, bar or plate for operating it, substantially as described.

10. In a car coupling having a locking device situated in the draw-head, a plunger disposed and retained in a substantially vertical position in the draw-head beneath the locking device, a movable rod, bar or plate having a fulcrum in a fixed plane for actuating the said plunger from beneath the draw bar whereby the lock will be released, and a lever for operating the rod, bar or plate, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN C. LOOK.

Witnesses:

S. H. NOURSE,
H. F. ASCHECK.