

(No Model.)

J. A. ROOSEVELT.  
CAR COUPLING.

No. 520,380.

Patented May 22, 1894.

FIG. 1.

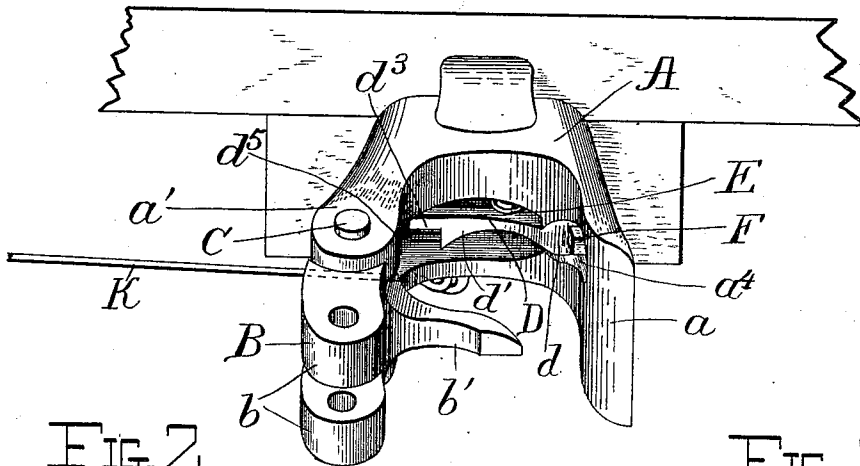


FIG. 2.

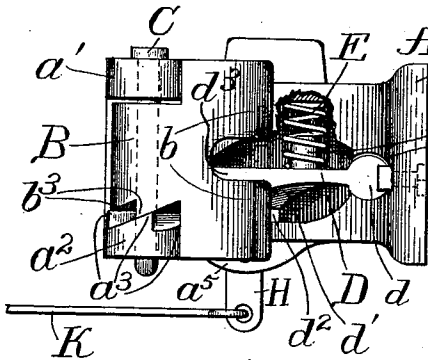


FIG. 3.

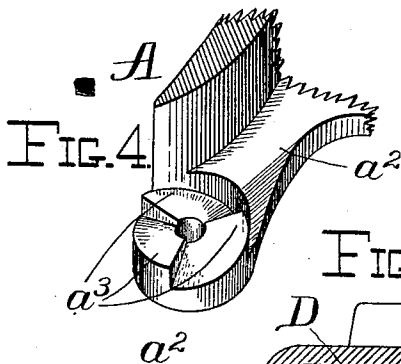
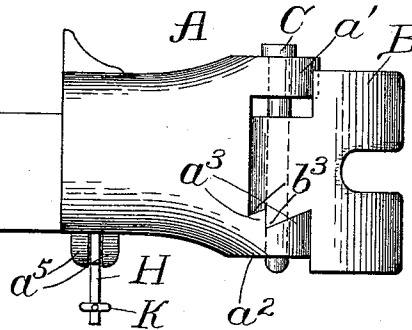


FIG. 6.

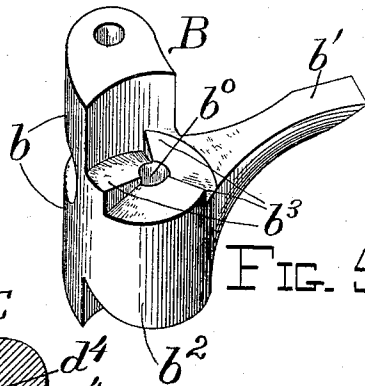
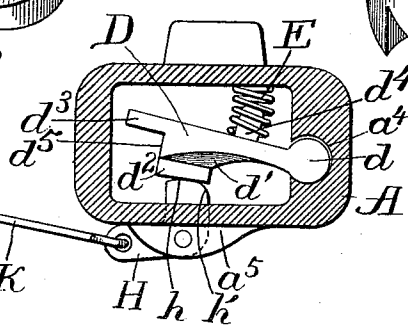


FIG. 5.

Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES A. ROOSEVELT, OF AUSTIN, TEXAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 520,380, dated May 22, 1894.

Application filed September 26, 1893. Serial No. 486,546. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. ROOSEVELT, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in car-couplings, and it consists of certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a perspective view of my improved car coupling with the knuckle open and ready for coupling on to the next car. Fig. 2 represents a front view of my improved car coupling, when closed, parts being broken away. Fig. 3 represents a side elevation of the drawhead and knuckle in the position shown in Fig. 1, and as seen from the left of the said figure. Fig. 4 represents a detail view of the lower left hand corner of the drawhead, parts being broken away. Fig. 5 represents a perspective view of the knuckle as inverted, and Fig. 6 represents a section across the drawhead in rear of the horns thereof.

A represents the drawhead, B the knuckle, C the pivot-pin, D the locking-latch, E the latch spring, F the stop for holding the latch in position, H the tripping lever, and K the hand rod for operating the same.

The drawhead A is hollow, and is provided with the horns  $a$ ,  $a'$ , and  $a''$ , similar to those of the master car builders' type. The horn  $a''$  is provided with a plurality of inclined faces  $a^3$  about the hole for the pivot pin, preferably three of these faces, as shown in Fig. 4. The opposite horn of the drawhead is provided with a circular groove  $a^4$  adapted to receive the heel  $d$  of the latch D, and the base of the drawhead is provided with two lugs  $a^5$  between which the bell crank lever H is pivoted.

The knuckle B is pivoted in the drawhead in the usual way, and is provided with the lugs  $b$  and pin hole therethrough. The locking arm  $b'$  of the knuckle is adapted to swing

into the drawhead, and the body of the knuckle  $b^2$  is provided with a hole  $b^0$  for the pivot pin, and with inclined faces  $b^3$  adapted to engage the inclined faces  $a^3$  of the drawhead.

The lock or latch D is provided with an enlarged heel  $d$  fitting in the circular groove  $a^4$  in the drawhead, and acting as a pivot to the said lock, and with an inclined face  $d'$ , a flat lug  $d^2$ , a projecting arm  $d^3$ , a catch  $d^5$ , and a lug  $d^4$  on the back of the lock and entering the spiral spring E, all as shown in Fig. 6. The stop F is let into the side of the drawhead to prevent the lock D from being accidentally removed from the drawhead. The back of the lock D is in close proximity to but free from contact with the wall at the rear portion of the hollow part of the drawhead.

The tripping lever H is pivoted between the lugs  $a^5$ , and is provided with a flat face  $h$  rounded at  $h'$  on the tripping arm, as shown in Fig. 6. The operating rod K leads out to the side of the car.

The operation of the device is as follows:— Suppose the knuckle to be open, as shown in Fig. 1, and a car provided with a coupler of the master car builders' type to be backing down to couple on. When the cars come together the knuckle B is swung around, the locking arm  $b'$  strikes the inclined face  $d'$  of the lock D, raising the lock upward against the spring E until the arm  $b'$  passes behind the catch  $d^5$  when the lock springs down again, firmly locking the knuckle in place. Now suppose the two cars to be coupled together, when the coupler will be in the position shown in Fig. 2, and suppose it be desired to uncouple. By pulling on the rod K the tripping lever H will be brought into the position shown in Fig. 6, when the lug  $d^2$  of the lock will rest upon the flat face  $h$  of the bell crank lever H, and the arm  $b'$  will be released from the catch  $d^5$ . The weight of the knuckle will cause the sloping faces  $b^3$  to slide down the sloping faces  $a^3$ , and the knuckle will swing open into the position shown in Fig. 1, in which position it will remain, or to which position it will return unless extraneous pressure be applied. Thus it will be seen that the knuckle will always remain open and ready for locking, and that there will be no necessity for the train hand to pass between the cars for the pur-

pose of opening the knuckle should it become accidentally closed. In order to set the lock, pull on the rod K as shown in Fig. 6, and thus draw the face *h* of the bell crank lever H from beneath the lug  $\bar{d}^2$  at the rear of the lock D. This will allow the lock to fall down into the position shown in Fig. 1, when it will be ready to operate automatically.

It will be seen that not only is the necessity for going between the cars obviated by the herein described device, but that it would be extremely difficult to open the coupler from anywhere but the outside of the car, and thus any temptation to go between the cars for the purpose of opening the knuckle by hand will be removed. These, and various other advantages of the herein described construction will be appreciated by any one skilled in the art.

The spring E is intended to give a positive motion to the lock D, but it is evident that the said lock will fall by gravity alone, and thus operate without the assistance of the said spring.

It will be obvious that many modifications of the herein described device might be made, which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a twin jaw coupling, the combination with a hollow drawhead, of a knuckle pivoted in said drawhead and provided with a locking arm adapted to enter into the hollow portion of said drawhead, a lock pivoted across said drawhead and provided with an inclined face, and a catch on one side thereof, a spring normally pressing on the opposite side of said lock, a lever pivoted in said drawhead and having one arm adapted to trip said lock and release said arm; and a hand rod connected to the other arm of said lever and leading to the side of the car, substantially as described.

2. In a twin jaw coupling, the combination with a hollow drawhead, of a knuckle pivoted in said drawhead and provided with a locking arm adapted to enter into the hollow portion of said drawhead, a lock D pivoted across said drawhead and provided with an inclined face  $\bar{d}'$ ; a catch  $\bar{d}^5$  and a lug  $\bar{d}^2$  on the lower side thereof, the said lock being adapted to fall by gravity and engage said locking arm of said knuckle, a bell crank lever H pivoted in said drawhead and having one arm adapted to trip said lock and release said locking arm of the knuckle and to support said lock when open; and a hand rod connected to the other arm of said lever and leading to the side of the car, substantially as described.

3. In a twin jaw coupling, the combination

with a hollow drawhead, of a knuckle pivoted in said drawhead and provided with a locking arm  $\bar{b}'$  adapted to enter into the hollow portion of said drawhead, a lock D pivoted across said drawhead and provided with an inclined face  $\bar{d}'$ ; a catch  $\bar{d}^5$ , a lug  $\bar{d}^2$ , and a projecting arm  $\bar{d}^3$  on the lower side thereof, and a lug on the upper side thereof, a spiral spring engaging said lug and interposed between said lock and the inner wall of the drawhead, a lever pivoted in said drawhead and having one arm adapted to trip said lock and release said arm; and a hand rod connected to the other arm of said lever and leading to the side of the car, substantially as described.

4. In a twin jaw coupling, the combination with a hollow drawhead provided with horns *a*, *a'* and  $\bar{a}^2$  and a plurality of inclined faces  $\bar{a}^3$  about the pivot pin through the lower horn  $\bar{a}^2$ , of a knuckle pivoted in said drawhead and provided with a locking arm adapted to enter into the hollow portion of said drawhead, and a plurality of inclined faces  $\bar{b}^3$  about the pivot hole on the lower side of said knuckle and adapted to engage said faces  $\bar{a}^3$ ; a lock pivoted across said drawhead and provided with an inclined face, and a catch on one side thereof, a spring normally pressing on the opposite side of said lock; a bell crank lever pivoted in said drawhead; and a hand rod connected thereto for tripping said lock and releasing said arm, substantially as described.

5. In a twin jaw coupling, the combination with a hollow drawhead provided with the horns *a*, *a'* and  $\bar{a}^2$ , and a plurality of inclined faces  $\bar{a}^3$  on the upper side of said horn  $\bar{a}^2$  about the pivot hole, of a knuckle pivoted in said drawhead and provided with a locking arm adapted to enter into the hollow portion of said drawhead, and a plurality of inclined faces  $\bar{b}^3$  about the pivot hole, adapted to engage said faces  $\bar{a}^3$ , a lock pivoted across said drawhead and provided with an inclined face  $\bar{d}'$ ; a catch  $\bar{d}^5$  and a lug  $\bar{d}^2$  on the lower side thereof, the said lock being adapted to fall by gravity and engage said locking arm of said knuckle, a bell crank lever H pivoted in said drawhead and having one arm adapted to trip said lock and release said locking arm of the knuckle and to support said lock when open; and a hand rod connected to the other arm of said lever and leading to the side of the car, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES A. ROOSEVELT.

Witnesses:

PERCY C. BOWEN,  
WM. C. PRENTISS.