

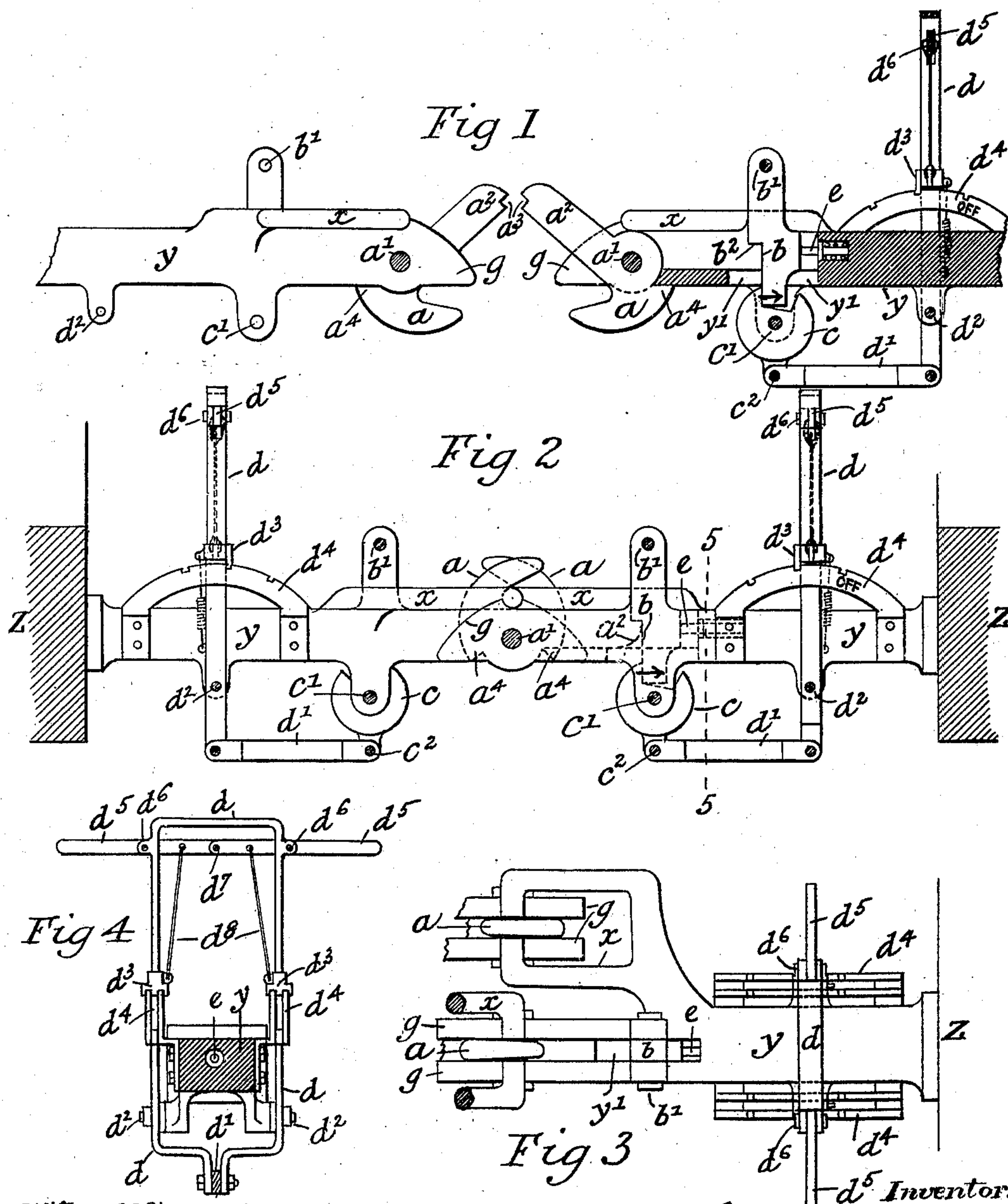
No. 654,507.

Patented July 24, 1900.

A. G. BLACKWELL.  
RAILWAY CAR.

(Application filed Apr. 12, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ARNOLD GEORGE BLACKWELL, OF WYNYARD, TASMANIA.

## RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 654,507, dated July 24, 1900.

Application filed April 12, 1900. Serial No. 12,611. (No model.)

*To all whom it may concern:*

Be it known that I, ARNOLD GEORGE BLACKWELL, a subject of the Queen of Great Britain and Ireland, residing at Wynyard, in the Colony of Tasmania, have invented certain new and useful Improvements in Railway-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.

This invention has for its object the provision of improvements in couplings for railway-carriages or other rolling-stock, enabling the said carriages to be either coupled or uncoupled without necessitating an employee getting between the buffers or rails at any period of the operation. When the carriages come together, the coupling takes place automatically. Then before uncoupling could occur an employee would have to operate a part of the mechanism, which he could do while standing at either side of any carriage. Although I in some cases provide each of my couplings with both a hook and an eye, so that there will be a double coupling whichever ends of the carriages come together, I may also restrict the coupling at one end of a carriage to a hook and that at the other end to an eye in cases where there is no danger of two hooks or two eyes meeting together and producing inconvenience.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side view, partly sectional, of parts of the couplings with carriages separated. Fig. 2 shows a side elevation of parts of the couplings with carriages coupled. Fig. 3 shows a plan of parts of the couplings with the carriages coupled. Fig. 4 is an elevation, in transverse section, of parts of the coupling on line 5 5, Fig. 2.

As shown in the drawings herewith, at each end  $z$  of each carriage or car is a draw-bar having any suitable shank  $y$ , having its outer end provided with any suitable eye, as  $x$ , and with a bifurcation consisting of members having beveled ends  $g$ , between which members is pivoted at  $a'$  a hook  $a$ . This hook has a tail  $a^2$  of such weight as to allow the position in Fig. 1 where the tail is tilted upward and forwardly to be maintained by gravity when

attained, and the said tail is provided with a notch or shoulder  $a^3$  for the purpose of enabling the said hook to be locked in the coupled position, Fig. 2, by a lock-bar  $b$ , which hangs by a pivot  $b'$ , supported by suitable side lugs or cheeks. Engaging the base of the bar  $b$ , so as to be able to push said base either forward or backward and retain the same in such position, is a cam, recessed plate, or the like, pivoted as at  $c'$ . Connected pivotally, as at  $c^2$ , to the cam or the like  $c$  by a link  $d'$  is a lever  $d$ , which, as shown, is made of one piece of metal bent into a quadrangular or link form, as seen clearly in Fig. 4. This lever  $d$  is at each side pivoted or fulcrumed, as at  $d^2$ , and has respective spring-catches  $d^3$ , adapted to engage any suitable racks  $d^4$ , and thereby locking the lever  $d$ , and consequently the cam  $c$ , in a predetermined position. The position of cam-recess shown in Fig. 1, however, allows the bar  $b$  to move backward, owing to the width of said recess. In order that the lever  $d$  may be easily actuated from the side of the truck, each side of the lever has a handle, as  $d^5$ , pivoted between its ends, as at  $d^6$ , and both handles are pivoted together, as at  $d^7$ .  $d^8$  shows a connection from each handle to the tooth of the spring-catch  $d^3$ , which engages the rack  $d^4$ . By depressing either of the handles both of the catches  $d^3$  are therefore released from the racks  $d^4$ . At the back of lock-bar  $b$  is a means of pressing thereon forwardly, as pin  $e$ , which is pressed forward by a spiral spring suitably set, as in a recess in shank  $y$ . This pressure is to keep the lock-bar  $b$  normally in its forward position. The draw-bar (at the back of the bifurcation which begins at  $g$ ) acts as a stop, limiting the movement of the pivoted hook  $a$ , which has a shoulder  $a^4$ , and when it is turned in the position shown in Fig. 1 it consequently rests there by gravity. There is also a slot  $y$  in the draw-bar  $y$ , into or through which the foot of  $b$  passes.

The coupling and uncoupling operations are as follows: Each cam  $c$  being left in the position shown in Fig. 1 and also each hook  $a$  and the carriages, or rather the couplings, being then allowed to meet, the tail of each hook  $a$  will be struck by the eye  $x$  of the coupling on the opposite car, and by the pressure of said eye in each case the hooks will



be turned over until each tail  $a^2$  takes the position illustrated in Fig. 2. When the tail  $a^2$  is thus in motion, it strikes against its lock-bar  $b$  and pushes it back until notch  $a^3$  is  
 5 under the shoulder  $b$ , whereupon the spring, which acts upon the pin  $e$ , causes the lock-bar to resume its normal position, thus securely coupling the parts. In order to further lock the coupling, if desired, either handle  $d^5$  may be operated until the cam  $c$  is so  
 10 locked in position that lock-bar  $b$  cannot be pushed back. Then in order to unlock the coupling and enable the carriages to be drawn apart an employee should take hold of either  
 15 of the handles  $d^5$  and depress same. Then he can move the said handle and lever  $d$  and cause cam  $c$  to move in the direction shown by the arrows in Figs. 1 and 2, thus forcing lock-bar  $b$  out of contact with the tail  $a^2$ . By  
 20 engaging the tooth of spring-catch  $d^3$  in the notch in  $d^4$  marked "Off" the cam can be made to keep the lock-bar  $b$  permanently back. As soon, however, as the lock-bar is held back either temporarily or otherwise the  
 25 mere movement of the carriages asunder causes the couplings to separate, the hooks being pulled automatically over into the position seen in Fig. 1.

As will be readily observed, the means employed to move as occasion requires the cam or plate  $c$  to push back, lock, or release lock-bar  $b$  may differ from the construction illustrated, and sundry other minor details may also be modified without departing from the  
 30 spirit of the invention. Thus the notch at  $a^3$  might be dispensed with and a plain shoulder be left.

What I claim as my invention, and desire

to secure by Letters Patent of the United States, is—

1. In a railway-coupling, the combination of the draw-bar provided at one side with an eye; a hook pivoted in a slot in the end of said draw-bar, said hook having at its rear an elongated arm provided at its end with a  
 45 recess; a locking-bar pivotally supported within said draw-bar, said locking-bar having a shoulder adapted to engage the recess upon said hook; a spring tending to hold said locking-bar in its forward position; and means  
 50 for positively holding said locking-bar in engagement with said hook and withdrawing same from engagement, substantially as described.

2. In a railway-coupling, the combination of the draw-bar provided at one side with an eye; a hook pivoted in a slot in the end of said draw-bar, said hook having a rearward extension provided at its end with a recess; a locking-bar pivotally supported within said  
 60 draw-bar, said locking-bar having a shoulder adapted to engage with the recess upon said hook; a spring tending to hold said bar in its forward position; a cam pivotally supported beneath said locking-bar, the free end of said  
 65 locking-bar being adapted to engage with a recess in said cam; and means for operating said cam, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ARNOLD GEORGE BLACKWELL.

Witnesses:

G. G. TURRI,  
 W. H. CUBLEY.