(No Model.)

2 Sheets—Sheet 1.

# B. F. TEAL.

## CAR COUPLING.

No. 279,614.

Patented June 19, 1883.

Fig 1

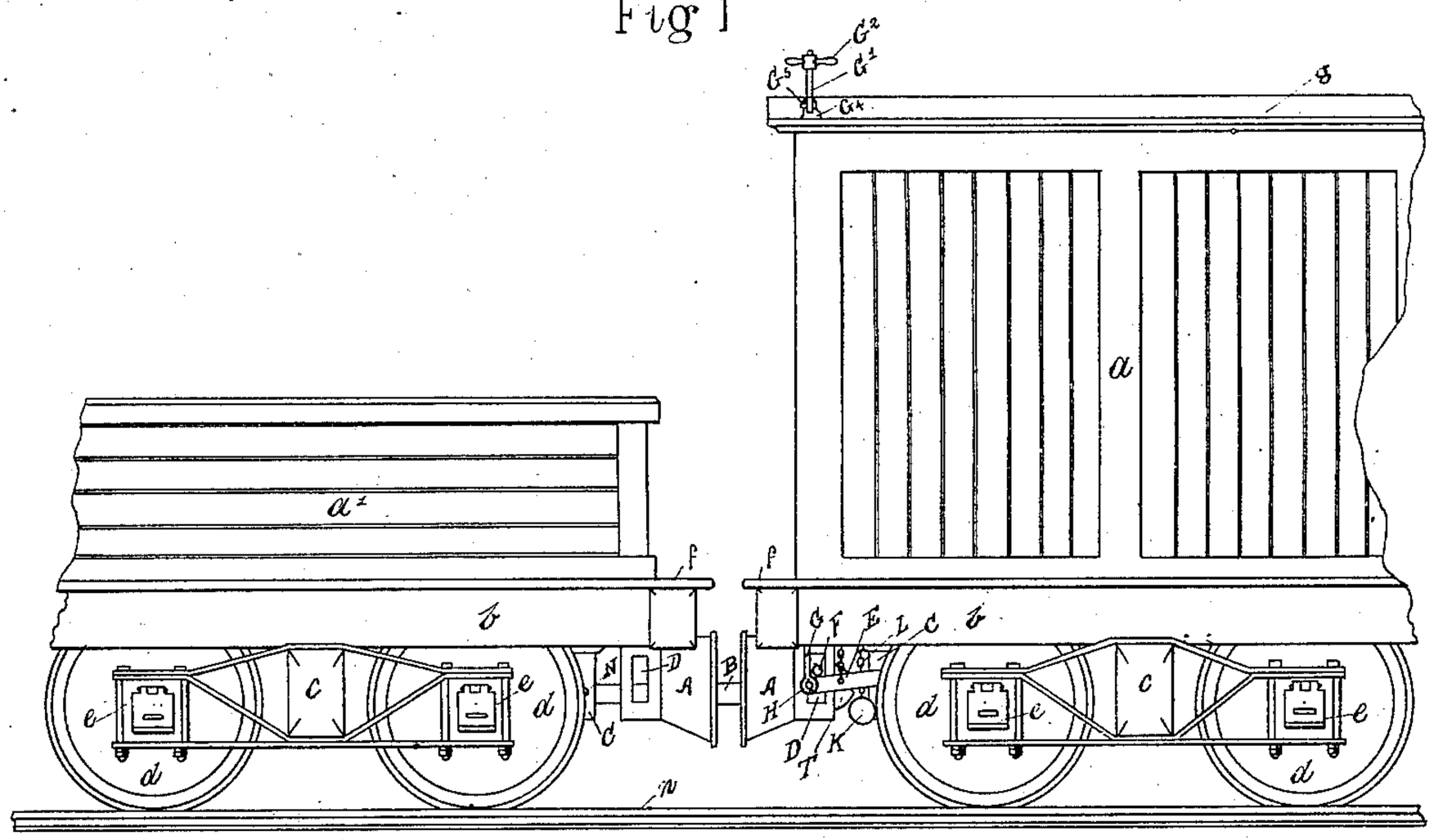



Fig 2

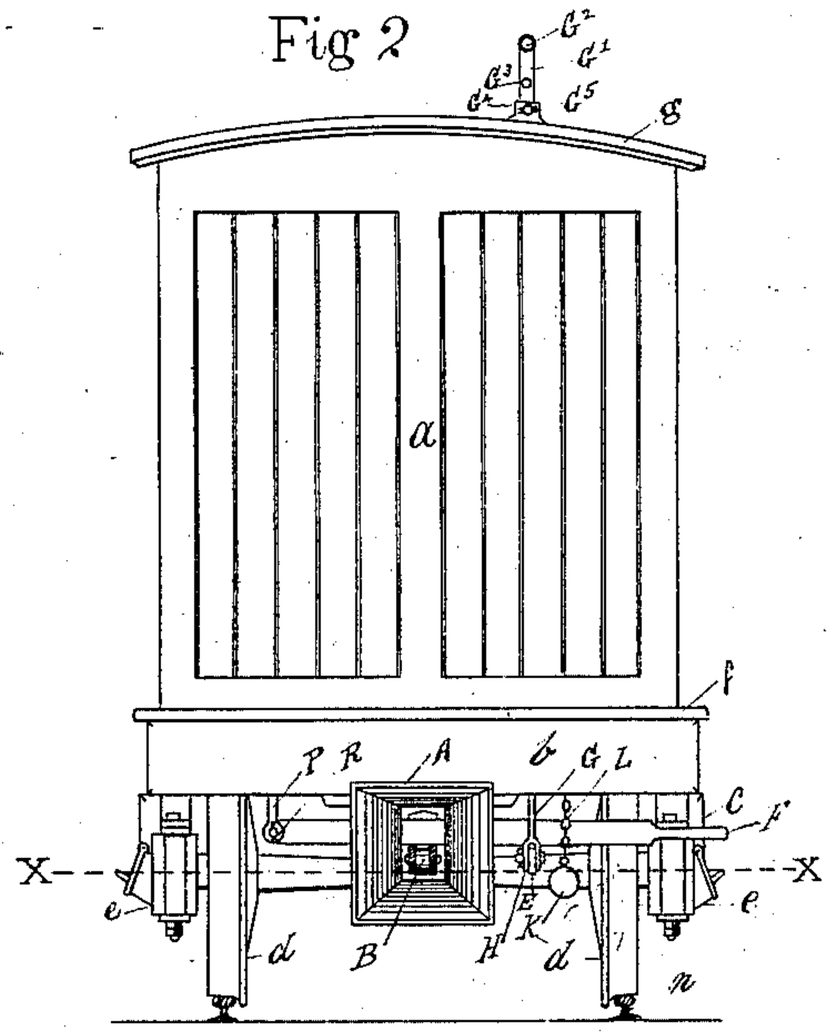
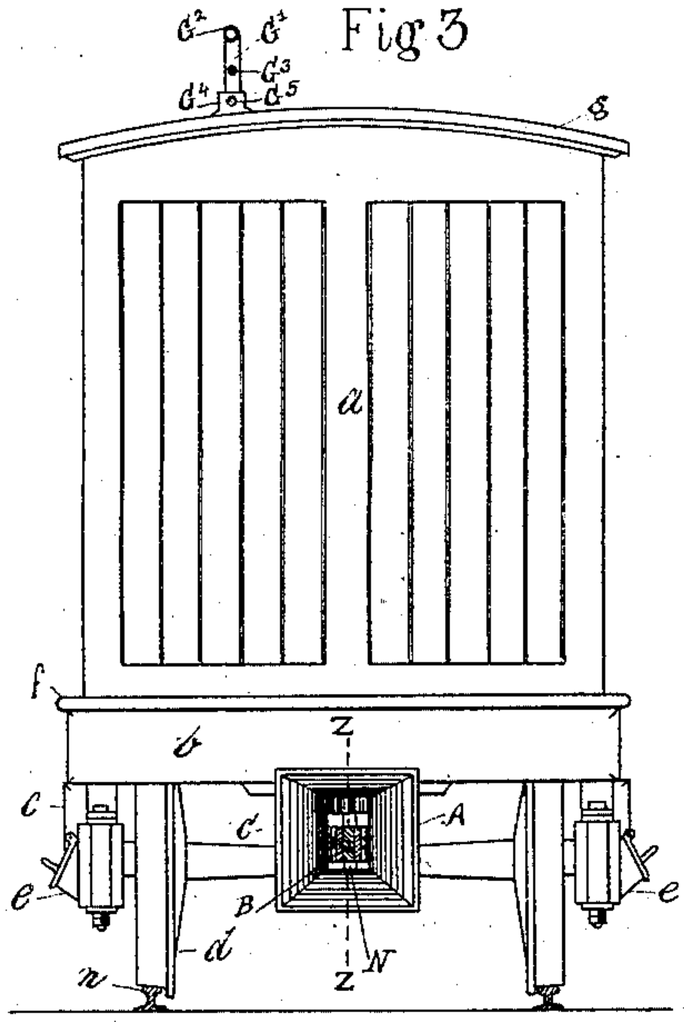



Fig 3




Witnesses

Richard A. Hefty

Samuel S. Sherrard

Inventor

Benjamin F. Teal

John Wylie atty

(No Model.) 2 Sheets—Sheet 2.

# B. F. TEAL.

## CAR COUPLING.

No. 279,614. Patented June 19, 1883.

Fig 4

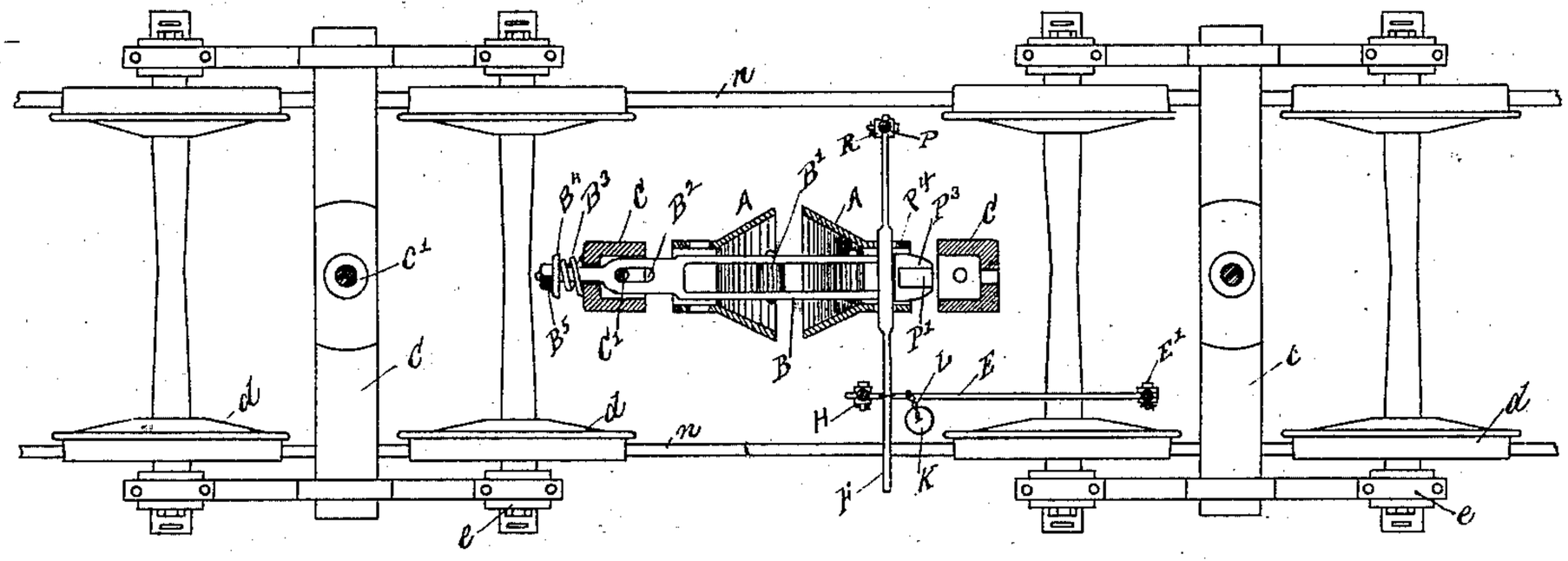



Fig 5

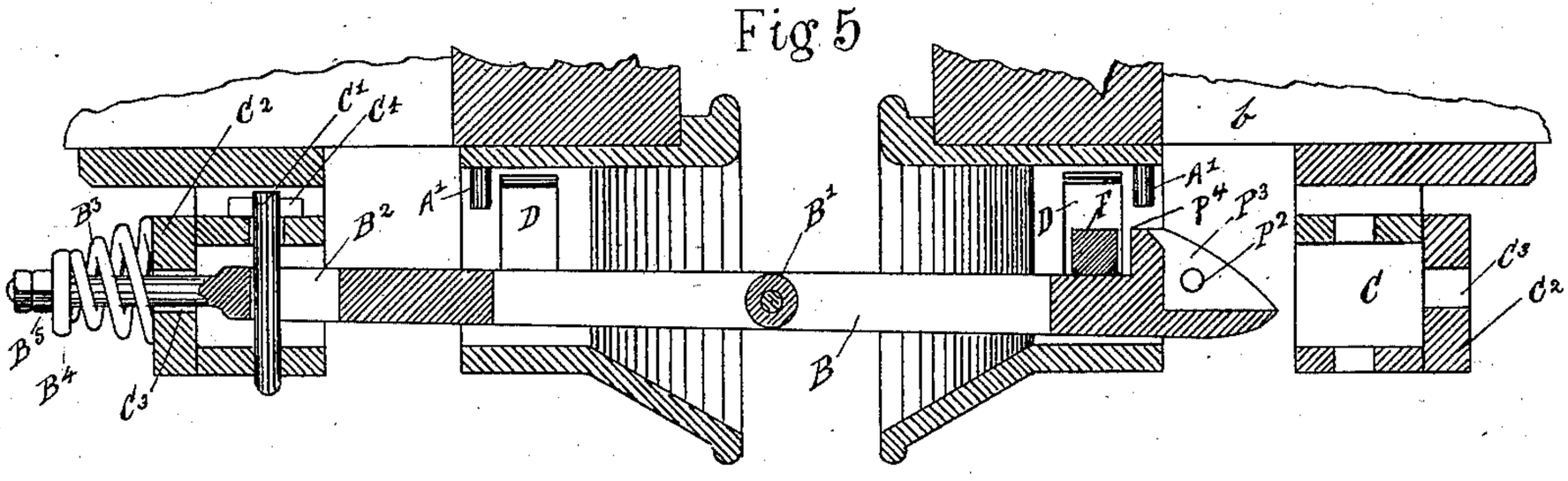



Fig 7

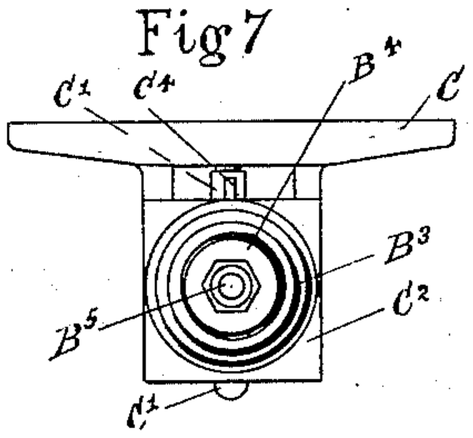
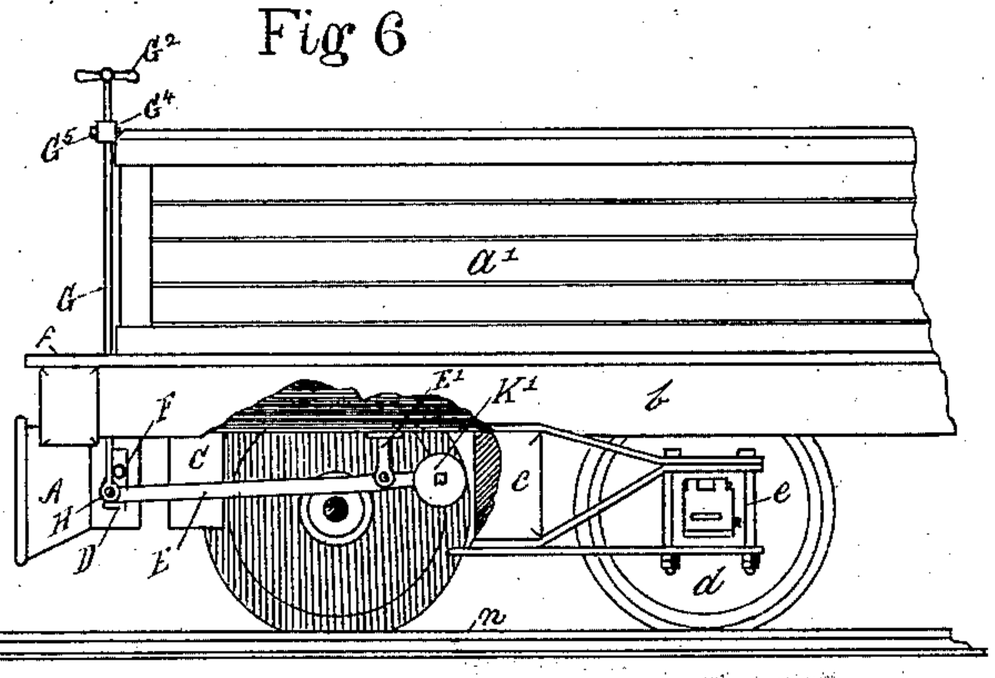



Fig 6




Witnesses

Richard A. Healy

Samuel L. Semmd

Inventor

Benjamin F. Teal

John Wylis atty

# UNITED STATES PATENT OFFICE.

BENJAMIN F. TEAL, OF PATERSON, NEW JERSEY.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 279,614, dated June 19, 1883.

Application filed May 3, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. TEAL, a citizen of the United States, residing at Paterson, Passaic county, State of New Jersey, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The object of my invention is to produce a car-coupling of such new construction as to give greater security to life and limb when coupling and uncoupling cars.

The invention consists in the arrangement and combination of a coupling-bar, catch or draw bar, lifting-bar, lifting-rod, coupling-box, draw-head, &c., which I will hereinafter more fully explain.

Figure 1 of the drawings is a side elevation of a box and coal car coupled together with my invention. Fig. 2 is a front end elevation of a box-car having my newly-invented coupling attached thereto, showing coupling-box, coupling-bar, lifting-rod, draw or catch bar, &c. Fig. 3 is a rear end elevation, showing coupling-box, draw-head, wheels, axle-boxes, lifting-rod, &c. Fig. 4 is a plan on line *x x*. Fig. 5 is a longitudinal section on the line *z z*. Fig. 6 is a side elevation, showing the lifting-bar in a modified form. Fig. 7 is an end view of the draw-head, &c.

A represents a coupling-box the same being securely bolted to the under side of the frame of the cars *a a'*. The coupling-box A is provided with a slot, D, in the back part of the same to accommodate a coupling-bar, F, which works in the slot D of the coupling-box A. The coupling-bar F is suitably pivoted in a slotted bracket that is fastened to the under side of the car, on a pivot, P. The pivot P is held in position in the bracket by means of a key, R, arranged in a hole prepared therefor in the end of the pivot P. The center of the coupling-bar F, where the same passes through the coupling-box A in the slot D, is made of sufficient size and strength to draw the train of cars when the same are coupled together. The under side of the coupling-bar F is provided with a slotted bracket to keep in position a lifting-bar, E, that passes through the slot in the bracket secured to the under side of the coupling-bar F. The front end of the lifting-bar E is pivoted to and with the lower end of a lifting-rod, G. The back end of the lifting-bar E is pivoted in a slotted bracket secured to the under side of the car *a*. Secured to the under side of the car *a*, above the coupling-bar F, and near the free end of the same, there is a slotted bracket having a grooved pulley, into which pulley works a chain, L, having a weight, K, secured to the end of the same. The opposite end of the chain is suitably secured to the coupling-bar F, back of the coupling-box A, and securely bolted to the frame *b*, on the under side the cars *a a'*, are draw-heads C. The draw-heads are constructed with two slots, one of which is to accommodate the draw or catch bar B, the inner end of which is secured therein by a bolt, C', arranged in a hole, $C^2$. The draw or catch bar B, where the same enters the draw-head C, is provided with a rounded slot, $B^2$. The back end of the catch or draw bar B is cylindrical in form, and is provided with a spring, $B^3$, and a collar, $B^4$, and nuts $B^5$, as shown in Fig. 5. The front end of the draw or catch bar B is pointed, and is provided with a catch, $P^4$. The top of the end of the catch is provided with a slot, $P^3$, and a hole, $P^2$. The lifting-rod G, which is pivoted at the bottom to the end of the lifting-bar E by a pivot, H, passes up through the car *a*, above the roof *g*, and is provided with a handle, $G^2$, and holes $G^3$ for adjusting the same, the rod G being flat at that point, and works through a suitable slot arranged therefor in the bracket $G^4$, and is held to its adjustment by means of a split pin or key, $G^5$.

*f* represents the platforms of the cars *a a'*. *b* represents the frame. *d* represents the wheels. *c* represents the truck; and *e* represents the axle-boxes. *n* represents the rails.

In practice the cars to be coupled are brought together therefor on and over the rails *n*, the draw or catch bar B being secured in the draw-head C of the car *a'* by the bolt C' in the hole $C^2$, the draw or catch bar B resting on the bottom of the coupling-box A, the lifting-bar E held in position under the coupling-bar F and the lifting-rod G, pivoted to the end of the lifting-bar E, being left in an unobstructed position by placing the adjusting-pin $G^5$ in the hole $G^3$, which places the devices in position for automatic action. The cars *a a'* are brought

into engagement to be coupled. The pointed end of the draw or catch bar B presents itself to the mouth of the coupling-box A, which is open and sloping, and which is adapted to direct and guide the draw or catch bar B to its engagement under the coupling-bar F. The sloping end of the draw or catch bar B, after the end of the same has inserted itself under the coupling-bar F, raises the coupling-bar F while passing inward until the catch $P^4$ has passed beyond the inner side of the coupling-bar F, which causes the coupling-bar F by gravity to drop down on the draw-bar B in front of the catch $P^4$, automatically coupling thereby the cars *a a'* together, as shown in Fig. 1. To uncouple the cars *a a'* the attendant, if on the top or roof *g*, raises the lifting-rod G by means of the handle $G^2$, which action lifts the front end of the lifting-bar E, and by means of the lifting-bar E the coupling-bar F, which lifts the coupling-bar F above the top of the catch $P^4$ and allows the draw or catch bar B to escape from the coupling-bar F, after which the lifting-rod G is allowed to drop, which action places the coupling devices in position for automatic action. If the attendant is on the ground when he wishes to uncouple the cars *a a'*, he lifts the coupling-bar F, the end of which projects outside of the car *a* far enough to make it convenient for use, and when the hook $P^4$ has escaped from the coupling-bar F the devices by gravity return to their automatic position, as before stated. The cylindrical part $C^3$ of the draw or catch bar B, which passes through the draw-head C, being provided with a spring, $B^3$, confined between the draw-head C and collar $B^4$, held by nuts $B^5$, gives sufficient elasticity to the draw or catch bar B to break the force of its engagement with the coupling-box A, or coupling-bar F, thus preventing damage to the devices in their contact, the slot $B^2$ in the draw-bar B giving ample room to the pin or bolt C' to escape the shock or jar consequent in the coupling of cars. The weight K, attached to the chain L arranged in the grooved pulley, serves as a counter-balance to the coupling-bar F. A counter-balance of a modified form is shown in Fig. 6, where the lifting-bar E is poised in a bracket, E', and the weight K' secured to the end of the lifting-bar E.

When it is desirable, in making up of trains, changing switching, &c., that the coupling devices should be made inoperative while making such changes, &c., the action of the coupling devices can be suspended as follows: If the attendant is on the ground, by raising the coupling-bar F and placing the pin in the lowest hole in the lifting-rod G the coupling-bar will be held high enough to escape engagement with the draw or catch bar B. When the attendant is on the platform *f*, or on the roof *g*, the same means are employed as before stated to lift and keep the coupling devices out of engagement until the cars are to be coupled, when by simply drawing the pin $G^5$ the devices by gravity return to their right position for automatic action, and when the cars are permanently coupled the pin $G^5$ is placed in the hole prepared in the lifting-rod therefor, the lifting-rod being locked thereby, and the cars coupled must remain so until the split pin is drawn from the lock-pin and the lock-pin drawn from the lifting-rod, which when done, the cars *a a'* may be uncoupled, as before stated. When cars are to be coupled in the train that are provided with the old appliances they may be coupled in by means of short double links, in which case one of the links of the double link will be used horizontally for the car provided with the old appliances, and the other link of the double link will be used edgewise or vertically. The end of the vertical link of the double link will enter the slot $P^3$ in the end of the catch or draw bar B, and will be held therein by the bolt $P^2$, thus coupling the cars in the train having the old or link appliances. The draw or catch bar may be secured to the other cars having my invention by taking out the key $C^4$, which will let the bolt C' drop out. Then by unscrewing the nuts $B^5$ the draw or catch bar B and its devices may be changed. It will readily be seen that the attendant has not been called to go between the cars in his practice of coupling by this my invention, which affords great security to life and limb.

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

1. The combination of the car *a*, coupling-box A, draw-head C, lifting-bar E, coupling-bar F, lifting-rod G, the coupling-box provided with a slot, D, the coupling-bar pivoted in a bracket, P, on a pivot, R, and working in the slot D in the coupling-box A, the lifting-bar E, pivoted on a pivot, E', and arranged in a slot under the coupling-bar F, the lifting-rod pivoted to the end of the lifting-bar E by a pivot, H, the lifting-bar provided with a weight, K, attached to a chain, L, the chain working over a grooved pulley, whereby the cars *a a'* are coupled and uncoupled, substantially as set forth.

2. The combination of the car *a'*, coupling-box A, draw-head C, draw or catch bar B, the coupling-box provided with a slot, D, the draw-bar provided with a slot, $B^2$, pin C', spring $B^3$, collar $B^4$, nuts $B^5$, catch $P^4$, slot $P^3$, and hole $P^2$, whereby the car *a'* is coupled to the car *a* and the shock of the devices prevented, substantially as set forth.

3. The combination of the cars *a a'*, coupled together, substantially as described and set forth.

BENJAMIN F. TEAL.

Witnesses:
JOHN INGLIS,
RICHARD A. HEALY.