2 Sheets—Sheet 1.

C. A. ROBERTS.

Car-Coupling.

No. 204,251. Patented May 28, 1878.

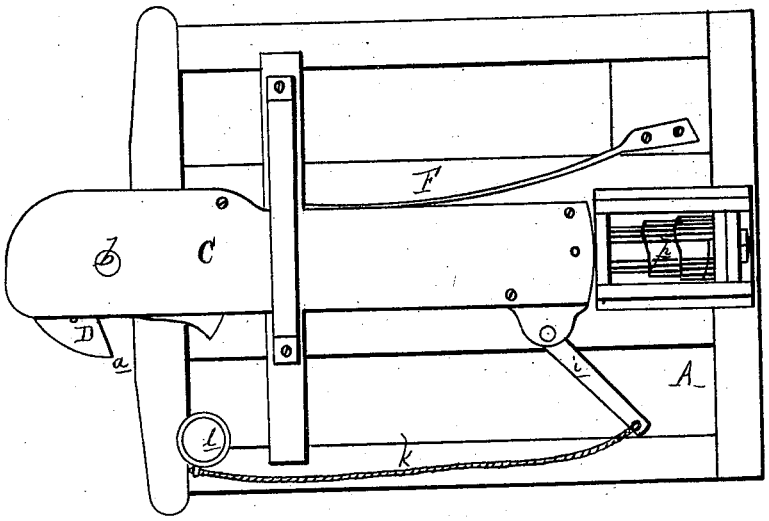

Fig 1.

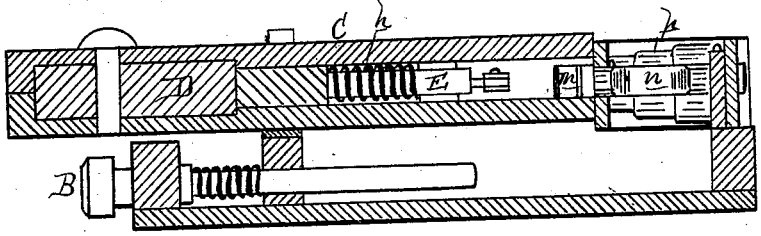

Fig 2.

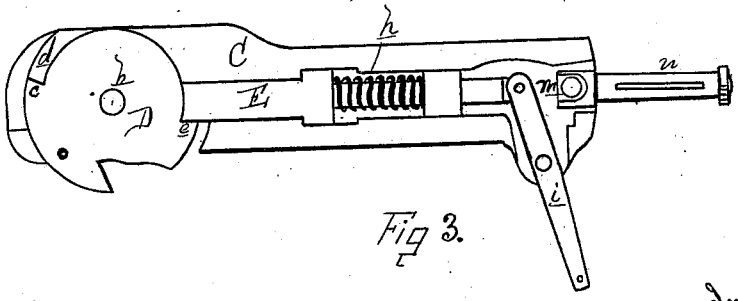

Fig 3.

Attest.
William Herring
Charles J. Hoskins

Inventor;
C. A. Roberts
By Atty
Thos. S. Sprague

2 Sheets—Sheet 2.

C. A. ROBERTS.

Car-Coupling.

No. 204,251. Patented May 28, 1878.

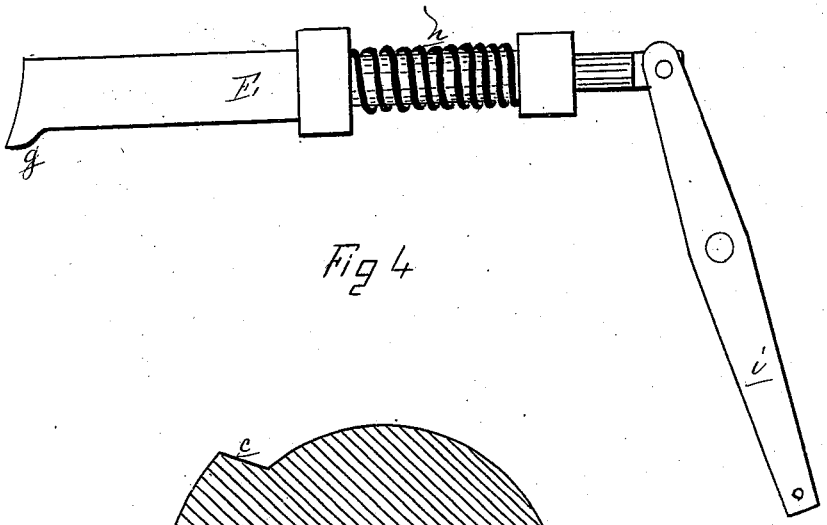

Fig 4

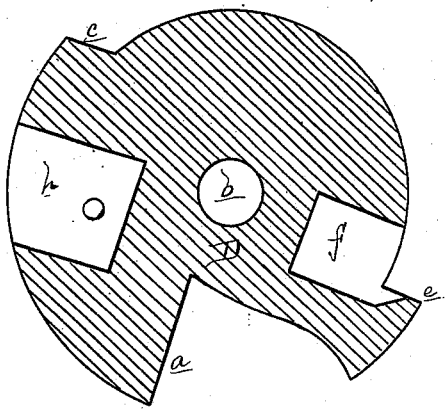

Fig 5

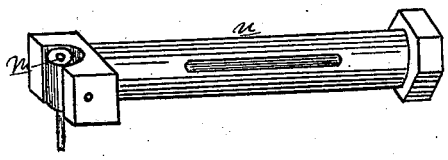

Fig 6

Attest:
William Fleming
Charles J. Hunt

Inventor:
C. A. Roberts
By Atty
Phil. S. Sprague

UNITED STATES PATENT OFFICE.

CHARLES A. ROBERTS, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLOTTE M. PORTER, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **204,251**, dated May 28, 1878; application filed April 3, 1878.

To all whom it may concern:

Be it known that I, CHARLES A. ROBERTS, of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Car-Couplings, of which the following is a specification:

The nature of my invention relates to new and useful improvements in that class of car-coupling devices which are designed to be self-acting in coupling when properly arranged, which can be uncoupled readily and the device left in position to couple again or not at will, and which can be uncoupled without slacking up the tension upon the couplings of the train.

The invention therein consists in a rotating hook-block pivoted in a horizontal position in the draw-bar, and constructed with a socket, having an extended and beveled side, in combination with the spring-latch bar engaging with this socket, provided with a projecting toe, so that the withdrawal of the latch-bar will partially rotate the block, as fully hereinafter explained.

Figure 1 is a plan, looking from the bottom. Fig. 2 is a vertical longitudinal section, showing the arrangement of platform, buffer, and draw-bar and attachments. Fig. 3 is a plan of the draw-bar and attachments, with one side removed to show the interior arrangement of parts. Fig. 4 is a detached plan of the spring-latch, showing the cam on its engaging and free end. Fig. 5 is a horizontal section through the center of the rotating hook, showing the socket to receive the free end of the spring-latch and the cam which engages with the cam of the latch, by means of which, when the latter is withdrawn from the socket, the hook will be slightly rotated, and also showing a socket to receive the link in ordinary use when it is desired to couple with a car which is only provided with a link and pin. Fig. 6 is an enlarged and detached perspective view of the pivotal connection between the draw-bar and its spring.

Like letters indicate like parts in each figure.

In the drawings, A represents the bed or platform of a railway-car, provided with a buffer, B, of the usual construction. C is a draw-bar, within which is placed the rotating hook D and the spring-latch E. This rotating hook is provided with a hook or jaw, *a*, which is designed to engage with a similar device upon an adjacent car. This hook rotates upon a fixed axis, *b*, and is provided with a stop, *c*, which, engaging with a stop, *d*, on the draw-bar, prevents the hook from rotating too far in one direction, and with another stop, *e*, which, engaging with one side of the spring-latch, prevents a rotation of the hook too far in the other direction. The rotating hook is also provided with a socket, *f*, to receive the free end of the spring-latch, and one side of this socket is beveled, as shown, to engage with the cam *g* on the latch, and so arranged that the latch cannot be withdrawn from the socket without such engagement, compelling the hook to rotate sufficiently to prevent the latch from entering the socket when the tension thereon is released, and compelling the latch to impinge against the side adjacent to the socket. When the rotating hook is in the position just described, a slight forward movement of the next car causes the like device on that car to further rotate the rotating hook until the jaws or hooks are released from their engagement. The spring-hook is also provided with another socket, *h'*, to receive the usual link whenever it is necessary to use the link-and-pin coupling. The spring-latch E is provided with a spring, *h*, which forces the latch forward into the socket *f*, except as hereinbefore described, when the force to withdraw it has been released. This force is applied by means of the pivoted lever *i* and chain *k* and drum *l*, operated by a hand-wheel (not shown) upon the platform. The draw-bar C is pivotally connected at *m* to a slotted rod, *n*, which passes through and is secured to the draw-bar spring *p*, in the usual manner. This pivotal connection is made by any suitable device that will allow of an oscillating and rotary movement. A spring, F, secured to the bed of the car and impinging against the side of the draw-bar, holds the same in position, and prevents the accidental uncoupling of the cars.

Two cars being coupled together by devices constructed substantially as above described, and it being desired to uncouple them, even

when in motion, the spring-latch should be withdrawn by means of the hand-wheel and connections, when the hook will rotate sufficiently far to disengage it from the like device on the adjacent car. The cam on the spring-latch will, when said latch is withdrawn, rotate the hook sufficiently far to prevent the latch from again entering the socket until the hook is reversed in its rotation, which is done by the hook upon the adjacent car, in the act of coupling, striking the stop *e*, which will compel the coupling and locking the hook in place by the entrance of the latch into the socket.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a car-coupling, in combination with the draw-bar C of the hook-block D, pivoted in a horizontal position in such draw-bar, and provided with the socket *f*, beveled on one side, and the spring-latch E, having projecting toe *g*, so that the withdrawal of the spring-latch from the socket will turn the pivoted block, substantially as described and shown.

CHARLES A. ROBERTS.

Witnesses:
H. S. SPRAGUE,
CHAS. J. HUNT.