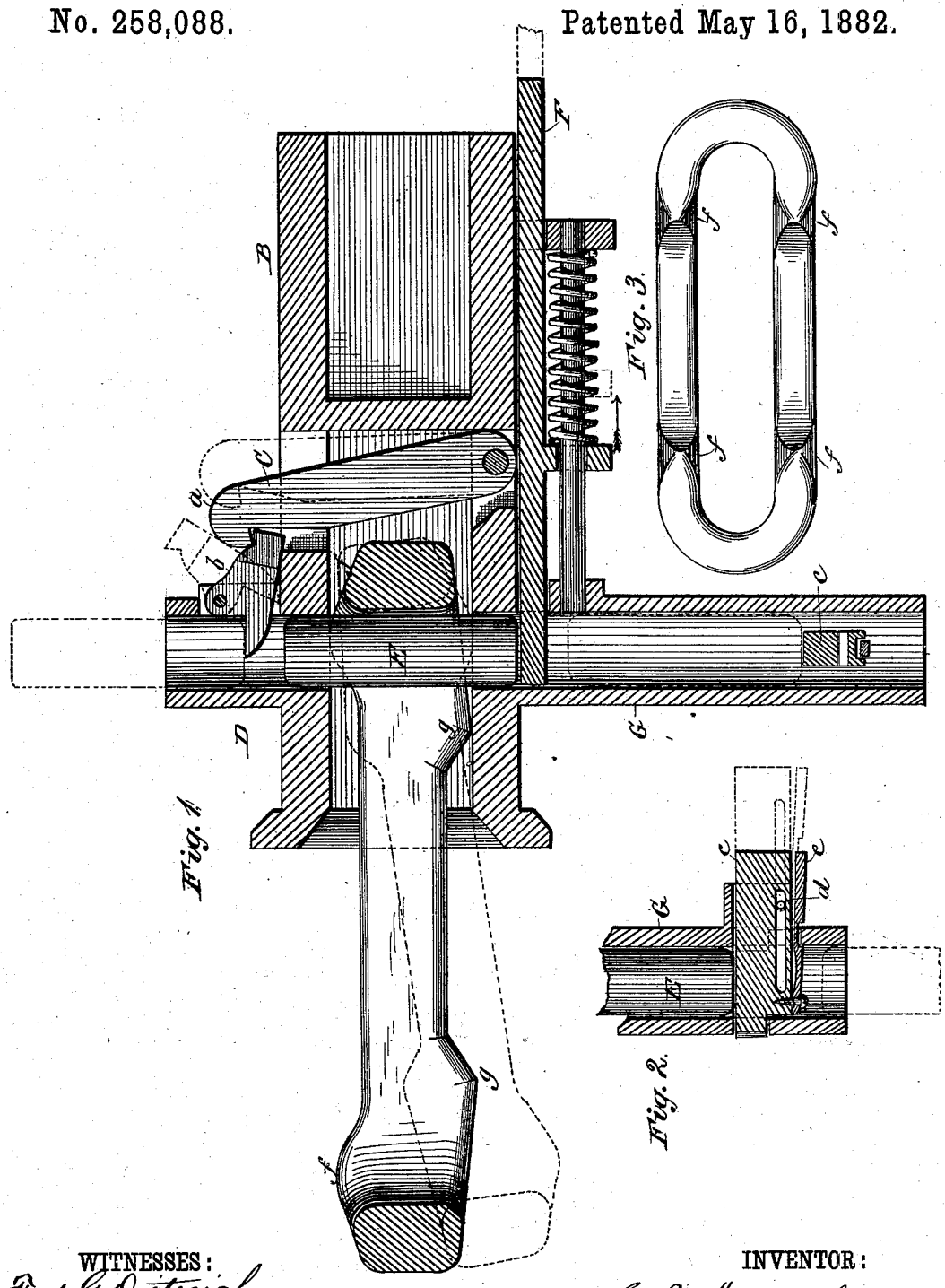
(No Model.)

# C. E. MACARTHY.

## CAR COUPLING.

No. 258,088. Patented May 16, 1882.




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# UNITED STATES PATENT OFFICE.

CHARLES E. MACARTHY, OF FORSYTH, GEORGIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 258,083, dated May 16, 1882.

Application filed January 26, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. MACARTHY, of Forsyth, Monroe county, of the State of Georgia, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of the draw-bar and its coupling devices, showing in dotted lines the different positions that the parts assume at different times. Fig. 2 is a sectional detail of the lower end of the pin-receiver, showing the stop-bolt. Fig. 3 is a detail of the link in plan view.

My invention relates to certain improvements in automatic car-couplings; and it consists in the improved construction of devices for controlling the movement of the pin in coupling, in the improved construction of the link, and in a pin-receiver arranged beneath the draw-bar and adapted to receive a headless pin which uncouples the link by dropping entirely through the same, as hereinafter fully described.

In the drawings, B is the draw-head, which is designed to operate somewhat after the manner of my coupling patented June 7, 1881, No. 242,666—that is to say, the pin is a headless pin, and is dropped from an elevated position to a coupling position, and then, when the cars are to be uncoupled, it drops entirely through the draw-bar. My improvement upon this part of the coupling relates principally to means for holding the pin up in elevated position, tripping it and holding it down against jolting up when in a coupled position, and a receptacle for receiving the pin when it passes down through the draw-bar, and thus preventing it from falling on the ground.

In a vertical recess back of the throat of the draw-bar is arranged a trigger-bar, C, Fig. 1, pivoted at its lower end, and having its upper end extended through a slot in the draw-bar back of the pin-hole, and formed into a hooked catch, *a*, with a rounded end. Around the pin-hole is a tubular projection, D, in which is sustained in elevated position, as in dotted lines, the short headless pin E. For holding this pin a latch, *b*, is pivoted in a slot in the rear wall of the said tubular projection, and one end projects across the pin-hole and forms a support for the pin to rest upon when in elevated position, while the other end passes beneath the catch *a* of the vertical trigger-bar to hold the other end horizontal against the weight of the pin. Now, the pin being sustained upon this latch, it will be seen that whenever the link of the opposite draw-bar enters this draw-bar and pushes back the vertical trigger-bar it removes the catch *a* from the rear end of the latch *b*, and the latter being now tipped up by the weight of the pin said pin passes through the link and connects the cars. In arranging the vertical trigger-bar it should be so adjusted that the back of its slot will not allow it to stand in a perpendicular position, which has the effect of causing said bar to always lean forward, and as it is made with a rounded upper end, and the adjacent end of the latch is heavier than the end that sustains the pin, it will be seen that as soon as the pin drops down through the link the latch again drops to a horizontal position and the catch *a* hooks on it. This causes the latch to be held rigidly in a horizontal position over the pin-hole, which prevents the pin from ever rising upwardly out of place and uncoupling the cars.

When the cars are to be uncoupled the pin is allowed to drop entirely through the draw-bar by a backward pull upon the spring vertical slide F, substantially as described in my patent already referred to. To prevent the pin, however, from falling on the ground, which would in time involve a loss of a great many of the pins, I attach to the bottom of the draw-bar, around the pin-hole, a pendent pin-receiver, G, which is in the nature of a tubular receptacle open at its lower end, and provided at its lower end with a stop-bolt, *c*, which, when extended across the pin-receiver, holds the pin on the same, and which may be removed at will to allow the pin to drop. From this description it will be seen that whenever the slide F is drawn back to uncouple the cars the pin drops down into the receiver, where it is safely housed, and where it may always be found when the cars are to be coupled again. The stop-bolt *c*, at the bottom of the pin-receiver, is of a peculiar form, being made in the shape of a sliding bolt connected by a slot to a pin, *d*, arranged in a projection at one side of the pin-receiver, which slotted connection prevents the

stop-bolt from ever getting detached and lost. This stop-bolt is arranged to be projected entirely across the pin-receiver, and enters a seat or hole in the other side, being held in position by a spring-catch, *e*, which is released by simply pressing against the bolt by the thumb and forefinger simultaneously with the withdrawal of the bolt.

The link which I use in connection with my coupling is formed with projections *f f*, near each end, upon one side, and with other projections, *g g*, a little farther from the ends than *f*, upon the opposite side. The object of this is to adapt the link to be held either in a horizontal position or in an inclined or drooping position. Thus when the link is in the position shown in Fig. 1 in full lines, with the projections *f f* upon its upper side, the projections *f f* on the upper side bear against the top of the draw-bar upon the inside, and *g* against the bottom of the draw-bar upon the inside, holding the link horizontal. When, however, the link has the projections *g g* facing upward, as shown in dotted lines, the link assumes a drooping position, or inclined position, adapting it to enter cars with lower draw-bars. This link I propose to make in some instances crooked or bent, so as to give it a greater range of adjustment for coupling cars of different heights.

For uncoupling the cars the spring-slide F may be drawn back by a lever or a cord or wire, and when such cord or wire is used it may be extended to the engine or to any part of the car or train to permit any one of the cars to be uncoupled from a distance.

I am aware of the Patents Nos. 95,360 and 60,012, and I do not claim anything shown therein. My invention is distinctive, not in the tubular projection above the pin-hole, which is shown in one of said patents, but in the fact that the latch-bar *b* serves both to hold the pin up by resting under its lower end and to hold the pin down by resting above its top end when in the coupled position. It is also distinctive in the peculiar connection of the trigger-bar C to the latch *b*.

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

1. The combination, with a draw-bar having a tubular projection above the pin-hole and a headless pin, of a latch-bar pivoted in said tubular projection, and having one end extending across the pin-hole, and a vertical trigger-bar pivoted in the bottom of the draw-bar, and having its upper end formed with a hooked catch adapted to engage the latch and hold it horizontal to retain the pin in an elevated position and to lock the pin down, as described.

2. The combination, with a draw-bar and a headless pin, of a pin-receiver attached to the bottom of the draw-bar about the pin-hole, as and for the purposes described.

3. The combination, with a draw-bar and a headless pin, of a pin-receiver attached to the bottom of the draw-bar about the pin-hole and made in the form of a tube with an open lower end and adjustable stop at its lower end to permit the pin to be retained or removed, as described.

4. The combination, with the pin-receiver, of the stop-bolt *e*, permanently connected to the pin-receiver by a slot and pin, and provided with a spring-catch *e*, as and for the purposes described.

5. The combination, with a draw-bar and a headless pin, of means for holding the pin in elevated position, a slide for holding the pin in the coupled position, &c., and a subjacent pin-receiver arranged about the pin beneath the slide, as and for the purposes described.

6. The link, formed with projections *f f* on one side and *g g* on the other, one of said sets of projections being nearer the end of the link than the other, as and for the purpose described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

C. E. MACARTHY.

Witnesses:
CHAS. A. PETTIT,
SOLON C. KEMON.