

(No Model.)

A. C. MARTIN.  
CAR COUPLING.

No. 472,580.

Patented Apr. 12, 1892.

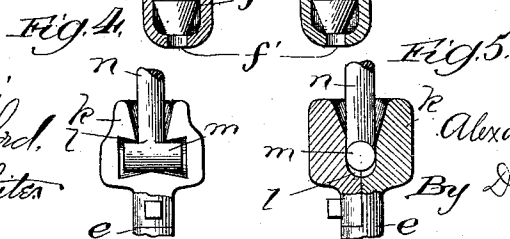
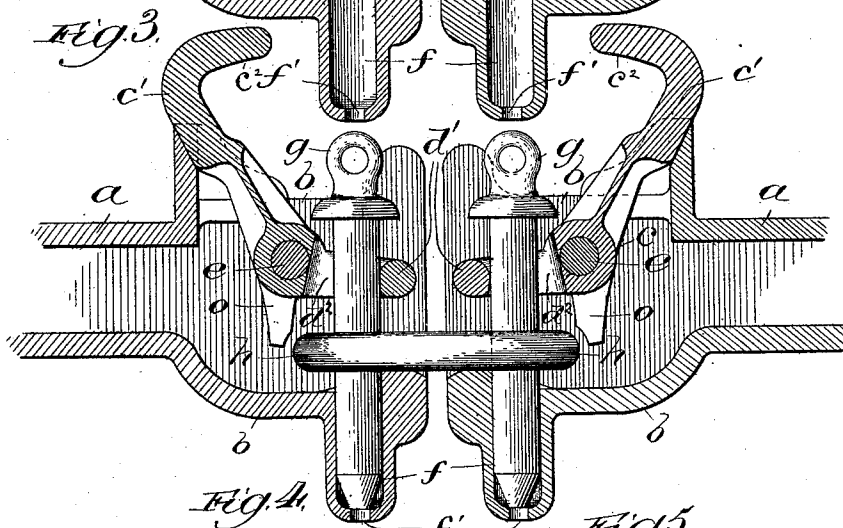
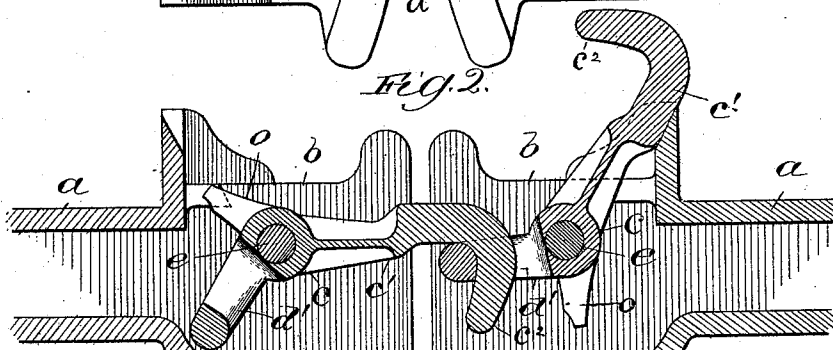
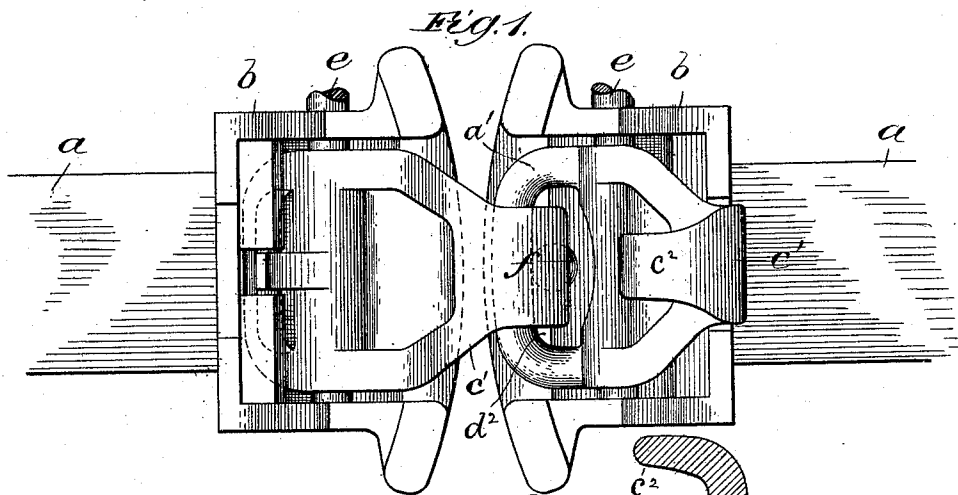
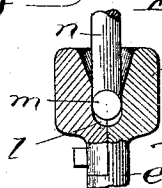
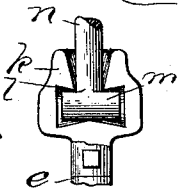


Fig. 5.

Witnesses:

Charles C. Gaylord,  
Efford W. White



Inventor:

Alexander C. Martin,

By David H. Fletcher,

Att'y

# UNITED STATES PATENT OFFICE.

ALEXANDER C. MARTIN, OF CHICAGO, ILLINOIS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,580, dated April 12, 1892.

Application filed June 4, 1891. Serial No. 395,082. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER C. MARTIN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding letters of reference in the different figures indicate like parts.

My invention relates to car-couplers and is an improvement upon Letters Patent No. 436,796, issued to me September 23, 1890.

The object of my invention is to so construct a car-coupler of the type described in said patent that the draw-bar head may be closed at the bottom for the purpose of increasing its strength, while at the same time, the hooks being thrown back to a normal position, the slotted elbows may be utilized, in conjunction with suitable sockets, to form a link-and-pin connection between the draw-heads, thereby producing a light, simple, and efficient coupler possessing great strength and adapted to connect with cars having draw-bar heads of varying construction, all of which is hereinafter more particularly described and claimed.

Referring to the drawings, Figure 1 represents a plan view of a car-coupler embodying the features of my invention. Fig. 2 is a central vertical longitudinal sectional view thereof, showing one of the hooks in engagement with the slotted elbow upon the other. Fig. 3 is a like view showing the manner of employing a link-and-pin coupling; and Figs. 4 and 5 are sectional views in detail, taken at right angles to each other, showing the manner of connecting a crank-lever or operating-bar to the rock-shaft upon which the coupling-hook is pivoted.

In the drawings, *a* represents the draw-bar, integral with which is the draw-head *b*, which is open at the front and top and closed at the sides and bottom, a recess being thereby formed in said head for the reception of the elbow-shaped coupling device *c*, having arms *c'* *d'*, the former of which is provided with a hook *c*<sup>2</sup> upon its extremity, while in the latter is formed a slot or opening *d*<sup>2</sup>, said arms being, by preference, cast or formed in one piece. Said elbow is mounted upon and made

rigid with a rock-shaft *e*, having pivotal bearings in the sides of the draw-bar head. The elbows in each head are duplicates of each other and are so adjusted that when the heads are brought together the hook of one arm may fall into the slot or opening of the other, as clearly shown in Figs. 1 and 2.

As the vertical movement of the hooked arm is unobstructed, it is practicable to couple cars the draw-heads of which vary in height, while the pivotal action of the elbows enables them to accommodate themselves to the utmost vertical movement of the cars resulting from the unevenness of the track or the yielding of the rail-joints; but as it is frequently essential to couple with cars having the usual link-and-pin construction I desire, while retaining this freedom of movement, to make such connection, but without materially increasing the size and weight or complicating the construction of the head. This I do by forming a socket *f* in the bottom of the head in alignment with the opening in the arm *d'*, in which socket a pin *g* may be inserted, as shown in Fig. 3, the upper part of the pin being supported when the strain of the link is placed upon it by said loop *d'*. Between the loop *d'* and the bottom of the head may be interposed the usual link *h*. I prefer to make the socket *f* small enough at the bottom to sustain the pin and prevent it from falling through, while a bore *f'* enables such water or moisture as might otherwise accumulate therein to drain therefrom.

As the body of the hook *c* is when in its normal position thrown back at an angle oblique to that of the axis of the bar, it is obvious that the weight of said body serves to counterpoise the part *d'* and to sustain it in a substantially horizontal plane, so that the link *h*, when employed, may be readily inserted beneath it in a space provided therefor and the pin *g* placed in its socket. The loop, pin, link, and hook therefore coact toward the final result whenever it becomes necessary to employ a link and pin, for, as stated, the body of the hook serves as a counterpoise to the loop to sustain the latter in the proper extended position to receive either the opposite hook or a pin, as the case may be.

I prefer to place a lug *o* upon the elbow to serve as a stop for the link when employed

and to prevent said link from entering the throat so far as not to receive the pin in the opposite head when coupling. It is obvious that said elbow may be tilted in various 5 ways to effect a coupling; but I prefer to attach to the respective ends of the shaft *e* a head *k*, provided with a suitable socket *l*, in which is inserted a T-shaped end *m* of a crank-rod *n*, which is extended laterally to 10 the side of the car.

One of the important advantages of my improved construction is that by employing the slotted arm to support the upper portion of the pin above the link, instead of using a 15 rigid bar or web across the head, as might be done, the head is enabled to retain great strength, while the arm *c'*, when used to couple, is enabled to have a free vertical play instead of being limited by such cross-bar or other 20 device; nor is it necessary to form a recess and bore the sides of the head, thereby unduly weakening the latter.

Having thus described my invention, I claim—

25 1. The combination, with a draw-head which is closed at the bottom and open at the front and top, respectively, of an elbow pivoted within said head, having a hook upon one part and a slotted arm or loop upon the other, a 30 pin-socket in the bottom of said head in vertical alignment with the opening in said slotted arm or loop, and a space between said loop and the bottom of said head for the reception of a detachable link, whereby said 35 loop is free to swing in the arc of a circle within the head and to serve as an upper bearing for a detachable pin, substantially as shown and described.

40 2. The combination, with a draw-head which is closed at the bottom and open at the front and top, respectively, of an elbow pivoted within said head, having a hook upon one part

and a slotted arm or loop upon the other, a pin-socket in the bottom of said head in vertical alignment with the opening in said slot- 45 ted arm or loop, a space between said loop and the bottom of said head for the reception of a detachable link, said loop being free to swing back within the head and normally in position to serve as an upper bearing for a 50 detachable link, and means for tilting said elbow upon its pivot, substantially as shown and described.

3. The combination, with a draw-head, of a pivoted elbow having a hook upon one part 55 and a slotted arm or loop upon the other, a pin-socket in the bottom of the head in alignment with the opening in said loop, said elbow being pivoted sufficiently high in the head to permit the introduction of a link be- 60 neath, means for tilting said elbow, and a stop *o*, formed thereon, to intercept the link, substantially as shown and described.

4. A car-coupler consisting of two elbows pivotally secured in opposite draw-heads 65 which are closed at the bottom, each of said elbows having a hook upon the extremity of one arm and a corresponding slot or opening at or near the extremity of the other, said draw-heads being provided, respectively, with 70 a pin-socket in the bottom thereof in alignment with said slot or opening, together with a space beneath said arm for the reception of a link, and means for tilting said elbows upon their pivots, substantially as shown and de- 75 scribed.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 30th day of May, A. D. 1891.

ALEXANDER C. MARTIN.

Witnesses:

D. H. FLETCHER,  
T. S. E. DIXON.