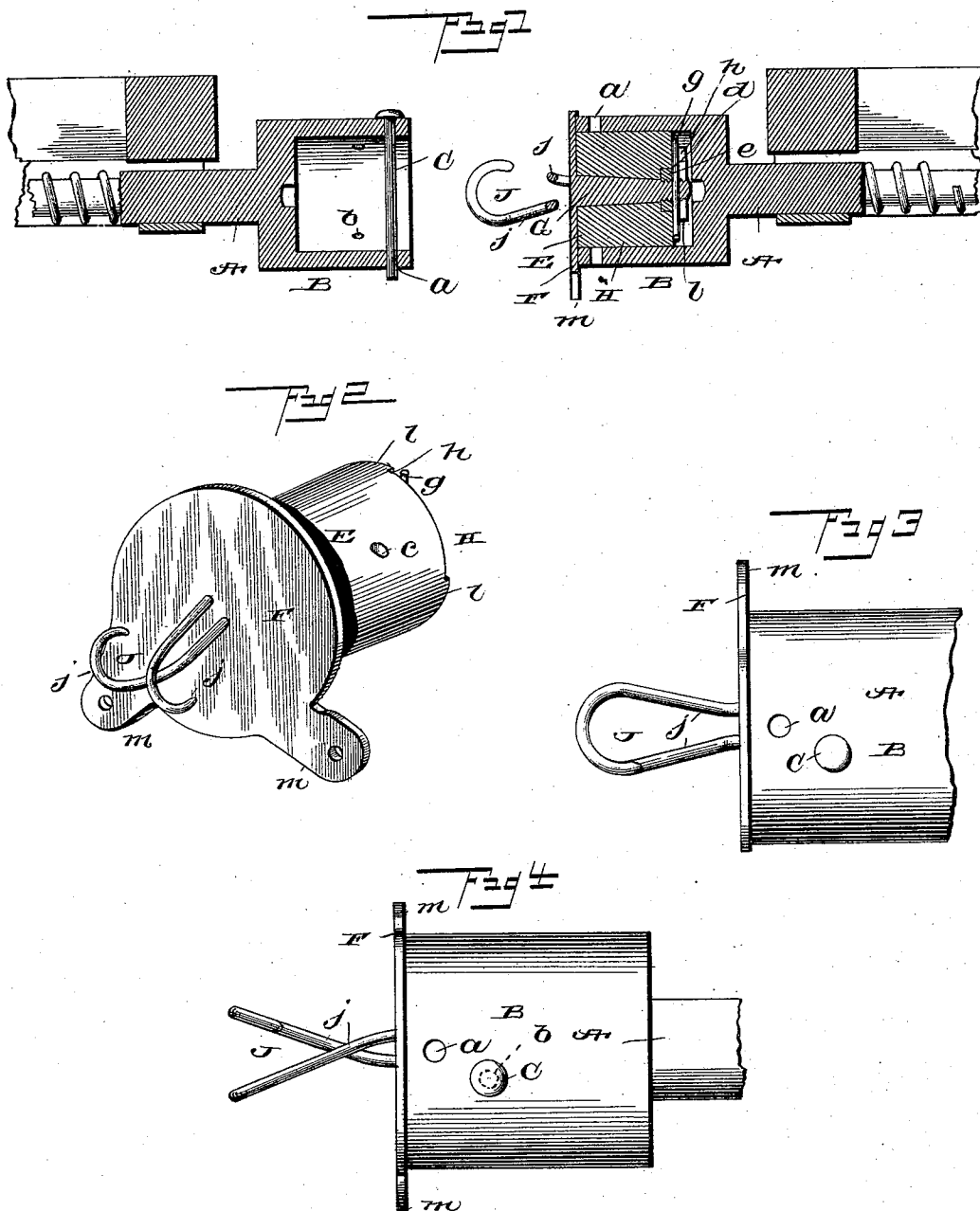


(No Model.)

G. W. GARDNER.
CAR COUPLING.

No. 471,853.

Patented Mar. 29, 1892.



Witnesses

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GEORGE W. GARDNER, OF ALVATON, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 471,853, dated March 29, 1892.

Application filed October 28, 1891. Serial No. 410,057. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. GARDNER, a citizen of the United States, residing at Alvaton, in the county of Warren and State of Kentucky, have invented certain new and useful Improvements in Car-Couplings, as set forth in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal sectional view showing two cars approaching each other and with the coupling-head on one car set for engagement with the coupling-pin of the other. Fig. 2 is a perspective view of the coupling-head detached. Fig. 3 is a plan view showing the position of the coupling-head after it has been axially turned and when the coupling has been accomplished. Fig. 4 is a similar view showing the coupling in position to be tripped by the approaching car.

My invention relates to means for effecting the automatic coupling and uncoupling of cars; and it consists of the constructions and combinations of devices, which I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents a draw-bar fitted to the frame of the car in any suitable and well-known manner and carrying at its front end a draw-head B, herein shown as being of cylindrical form, having holes *a* for the reception of a common form of coupling-pin C, and additional holes *b*, through which the said pin is passed to secure a coupling-head in a manner and for a purpose hereinafter stated. The draw-head may be of other form than cylindrical without departing from the spirit of my invention.

E represents a coupling-head adapted to be detachably fitted to the front portion of the draw-head, and having a plate F, which bears against the front walls of the draw-head. From the rear of this plate projects a stud or bolt G, upon which is loosely fitted a sleeve H, which is designated to fit the interior of the draw-head and to be held stationary therein by the coupling-pin when the latter is passed through the holes *b* in the draw-head

and through a hole *c*, made vertically through the sleeve at one side of the bolt or stud G. The rear of the sleeve is recessed at *d*, and the rear end of the bolt G is threaded and adapted to receive a nut *e*, which is screwed thereon and enters the recessed rear end, as shown in Fig. 1. A pin or bolt *g* is also passed through the rear end of the bolt G, and is adapted to bear against the inclined walls *h* of suitable oppositely-placed lugs *l*, projecting from the rear face of the sleeve, whereby said sleeve is secured in position on the bolt G, but enables the latter to make a quarter-turn, for a purpose I will hereinafter state.

From the front of the plate F projects a coupling-jaw J, formed of two hook-shaped pieces *j*, having arms provided with outer hooked ends relatively reversed and separated from each other. These hook portions extend from the face of the plate F toward the right and left to effect the separation at the outer end and to form of the arms of this jaw the inclined planes shown.

From the plate G extend ears or lugs *m*, to which levers, chains, or analogous devices (not shown) may lead to the side or top of the car to enable the brakeman to effect the coupling or uncoupling of contiguous cars without having to pass between them and thereby endanger his life.

The operation of my invention is substantially as follows: The coupling-head being in the position shown in Fig. 4 and the car to be coupled therewith being provided with the usual coupling-pin introduced into the holes *a* of the draw-head, it will be manifest that as the two draw-heads came together the hooked jaw J of the coupling-head enters the draw-head of the opposite car until the coupling-pin in the latter strikes the outwardly-inclined arms of the jaw, when the continued movement of the cars toward each other results in the coupling-pin of the one so acting against the inclined arms of the jaw of the other that the coupling-head which carries the jaw is axially turned within the sleeve until it assumes the position shown in Fig. 3. In this latter position the hooked portions of the jaw have changed from vertical positions side by side to horizontal positions one above the other, and the coupling-pin is thereby con-

fined in the hooked end of the jaw and the coupling made secure and complete.

The uncoupling is effected by reversing the movement just described and causing the jaw to again assume the position shown in Fig. 4, when the coupling-pin is disconnected with the jaw and the cars uncoupled.

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

1. In a car-coupling, a coupling-head fitted to the draw-head of one car and having the oppositely-inclined arms, whose outer ends are bent to form reversed and separated hooks, in combination with a coupling-pin carried by another car and adapted to enter the space between said hooks to rotate said head, whereby the hooks are turned and secure the coupling-pin, substantially as herein described.

2. In a car-coupling, a coupling-head adapted to be detachably fitted to the draw-head of a car and consisting of a plate having a bolt projecting from its rear face, a sleeve loose on the bolt, but immovably secured to the draw-head, whereby the bolt may turn within the sleeve, a double jaw projecting from the front face of the plate, having each of its members formed with an oppositely-extending inclined arm, said arms having their outer ends bent in opposite directions to form the

reversed hooks, substantially as herein described.

3. In a car-coupling, a coupling-head adapted to be detachably fitted to the draw-head of a car and consisting of a plate having an inwardly-projecting bolt and outwardly-projecting double jaw formed of two reversed hooks separated at their outer ends and having inwardly-inclined arms joining the plate and forming inclined planes for receiving a coupling device of another car, whereby the plate and its jaw and bolt are turned axially, a loose sleeve surrounding the bolt and fitted thereto, and means for securing the sleeve immovably within the draw-head, substantially as and for the purpose described.

4. In a car-coupling, a coupling-head adapted to be detachably fitted to a draw-head and consisting of the plate having a bolt projecting from one side and a double jaw from the opposite side, a sleeve loose upon the bolt and immovably held within the draw-head, said sleeve having lugs projecting from its rear face, so as to form stops, and a pin in the rear end of the bolt adapted to engage said stops, whereby the movement of the jaws is limited, substantially as herein described.

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Witnesses:

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