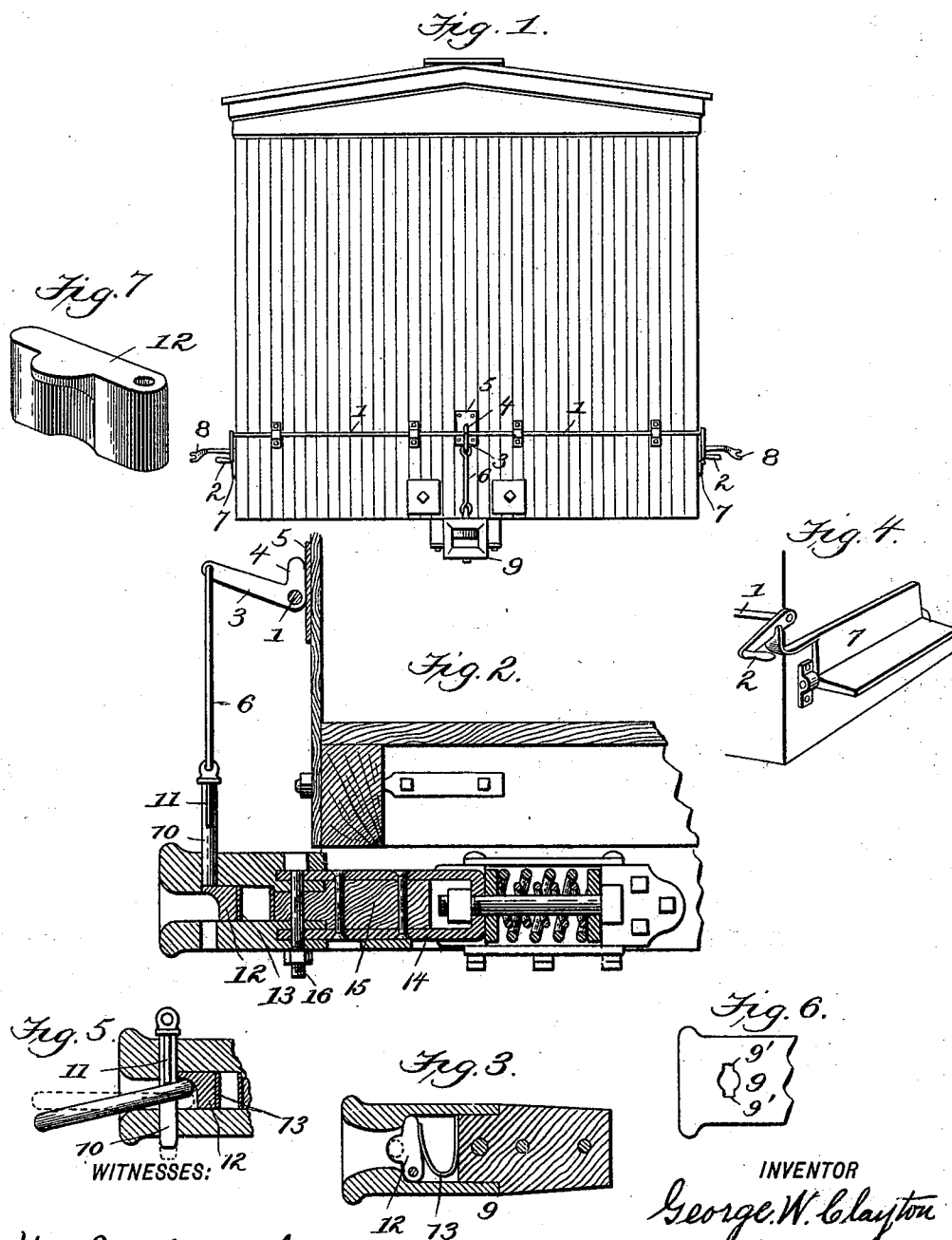


(No Model.)

G. W. CLAYTON.
CAR COUPLING.

No. 548,295.

Patented Oct. 22, 1895.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

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To all whom it may concern:

Be it known that I, GEORGE W. CLAYTON, a citizen of the United States, residing at Lebanon, county of Van Buren, and State of Iowa, have invented certain new and useful Improvements in Car-Couplings and Attachments Connected Therewith, of which the following, taken in connection with the accompanying drawings, is a specification sufficiently full, clear, and accurate to enable car-builders to make, apply, and use the same.

The object of my invention is to provide a car-coupling which is simple in construction, efficient in operation, durable, of few parts, and which can be operated without the necessity of going between the cars. An additional object is to provide a device which will indicate to the switchman the condition of the coupling, whether in position for coupling or for engaging an adjoining car, without the act of coupling being performed.

With these objects in view the invention consists in certain details of construction and combination of parts hereinafter specifically described, and pointed out in the claims.

Referring to the drawings, Figure 1 shows the end of a car with my coupling and operative means applied thereto. Fig. 2 is a longitudinal perpendicular section of Fig. 1, taken on a line passing through the coupling and operative means. Fig. 3 is a horizontal section of Fig. 2, taken through the center of the coupling-head, showing the pivoted door and spring. Fig. 4 is a view in perspective of the switchman's indicator in position for holding the coupling-pin in an inoperative position. Fig. 5 is a perpendicular sectional view of the coupling-head, showing the two positions of the link and pin adapted to engage a draw-head on an adjacent car which is lower than or on a level with the prescribed standard. Fig. 6 is a plan view of the coupling-head, illustrating the shape or form of the hole adapted to the peculiar construction of coupling-pin used. Fig. 7 is a view of the door detached, showing the lip and groove under the same.

Like figures of reference designate like parts throughout the several views.

Commencing with the operating means, 1 is a horizontal rod journaled to the end of the

car-body by suitable clips, as shown, and having the crank-handles 2 2. Rigidly attached to the rod is an arm 3, having the projecting part 4. A plate 5 is attached to the car-body in the rear of the arm 3, to serve as a stop to limit the movement of the arm.

6 is a heavy rod which joins the arm 3 and coupling-pin 10 in such a way as to allow a slight movement at each of the joints. The coupling-pin is provided with ribs 11 11, adapted to the hole in the coupling-head, as shown in Fig. 6 at 9' 9'.

7 is the switchman's indicator, having the forked arm 8 for engaging the crank-handle 2, as clearly shown in Fig. 4. The indicator should be painted white or some other distinguishing color on the two faces exposed to view when it is in operative position.

The coupling proper is made up of two parts, the head 9 and the strap 14, the latter bent upon itself, as shown, provided with a tail-bolt, which can be inserted from the rear and connected with the head by a bolt 16. A filling-piece 15, of wood or metal, is also inserted between the arms of the strap and so shaped at the end as to snugly fit the opening in the rear of the coupling-head. The coupling-head has a perpendicular hole for receiving the coupling-pin of a shape or form, as hereinbefore described, adapted to the ribs 11 on the sides of the pin. A pivoted door and spring are located in a recess in the body of the coupling-head, as clearly shown in Fig. 3 and designated by the numerals 12 and 13. It will be observed that the recess in which the door and spring are located is larger than the opening which receives the coupling-link, and therefore that the door and spring must be placed in position from the rear, the bolt 16 being removed and the coupling-head detached for that purpose. By this construction no foreign matter can make its way into the recess and render the door and spring inoperative. Water, snow, and ice are entirely excluded.

The *modus operandi* of the coupling and attachments is as follows: When the switchman or yardman desires to transfer a car from one part of the yard to another and not have it couple with another car with which it comes in contact, he raises the crank-handle of the

operating device and causes it to engage the arm 8 of the switchman's indicator, as shown in Fig. 4. In this position the projection 4 of the arm 3 engages the plate 5 and the pin is held permanently in a partially-withdrawn position, as shown in Fig. 2, and the act of coupling cannot take place. The indicator 7, which revolves through the arc of a circle on suitable journals to a position adapting it to support the crank-handle, exposes its white or painted surfaces in this its operative position. This indicates to the observer in any part of the yard that the adjacent cars are not coupled.

If it is desired that a car shall couple with another and advancing car, the coupling-pin is withdrawn and set in the position shown in Fig. 2, the end of the pin resting upon and supported by the forwardly-projecting lip of the door 12. In this position the switchman's indicator does not engage the crank-handle, but occupies its lowered position, in which it serves as a support or step for the brakeman in ascending to the top of the car. The link also is set in the position shown in Fig. 2, engaging the door. It is obvious that the advancing car when its draw-head engages the link will force the same backward against the door, rotating it on its pivot, compressing the spring 13, and allowing the coupling-pin, deprived of its support, to drop by gravity to its lowest position and at the same time pass through the opening in the link.

If it is desired to couple a car to an advancing car which has a draw-bar somewhat lower than the standard, the crank-handle is revolved so as to bring the coupling-pin to the position shown in full lines in Fig. 5. It will be seen that in this position the ribs 11 of the pin engage with the edges of the link and regulate and determine the position of the same. By revolving the crank-handle the link can be made to occupy any desired position within limits which will adapt it to engage the opening in the coupling-head of the advancing car. If it is desired that the car shall couple with another car having the standard height of draw-bar, the crank-handle is allowed to fall to its lowest position, which will cause the link and pin to take the positions shown in dotted lines in Fig. 5. To effect this with certainty the rod 6 and arm 3 are made sufficiently heavy that taken in connection with the pin 10 the weight will be more than sufficient to counterbalance the weight of the link projecting beyond its fulcrum-point at the opening of the coupling-head.

From the foregoing description of the construction and mode of operation of my improved coupling it will be seen that under no circumstances is it necessary to go between the cars to effect the coupling, that the various elements are adapted for easy operation to couple with cars having draw-bars of different heights, that the construction is such that the door and spring are not liable to become

inoperative through the presence of foreign matter—such as dirt, snow, or ice,—and that the coupling-head and draw-bar being made in two pieces and easily detachable the former can be readily replaced when broken and at a very small expense.

While I have shown and described specific constructions adapted to perform the required functions for securing the objects hereinbefore set forth, I do not wish to be confined to said particular and exact constructions, inasmuch as many changes in shape, proportions, size, and kinds of elements may be made without departing from the spirit of my invention.

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

1. The combination in a car coupling device of the crank handle, as 2, and the switchman's indicator, provided with means for engaging the said crank handle and positively locking and retaining the said indicator in a raised and outwardly projecting position, substantially as described.

2. The switchman's indicator, as 7, pivoted to the outer wall of the car body and adapted in its lowered position to serve as a step and in its raised position to engage the crank handle of the operating device, in substance as described.

3. The combination in a car coupling of a draw bar, a draw head, a coupling pin, a rod provided with a crank handle for raising and lowering the pin, a switchman's indicator having an arm to engage the crank handle and lock it in a raised position, connecting means between the pin and the rod consisting of the arm 3 having the projection 4 engaging the plate 5, and the rod 6, substantially as described.

4. The combination in a car coupling of the following elements, to wit: the draw head 9 having a door and spring, a strap 14 bent upon itself and joined to the coupling head by bolt 16, the filling piece 15 snugly fitting the opening in the rear of the coupling head, and the tail bolt adapted to be withdrawn as shown, in substance as set forth.

5. The car coupling composed of the tail bolt, the strap 14, the filling piece 15, the coupling head 9 having the door and spring adapted to support the coupling pin, and the bolt 16 passing through both the strap and coupling head and detachably securing one to the other, whereby a broken coupling head can be easily and cheaply replaced, substantially as described.

6. The car coupling consisting of the tail bolt, the strap 14, the filling piece 15, the coupling head 9, the bolt 16, and the coupling pin having the ribs 9 as shown adapted to the opening 9' 9' in the coupling head, substantially as described.

7. The coupling consisting of the casting 9 having a longitudinal opening from end to end, a strap 14 bent upon itself as shown, the filling piece 15 located between the arms of

the strap and its forward end fitting the longitudinal opening in casting 9, the bolt 16 passing through the casting, strap and filling piece, and the tail bolt, in substance as set forth.

8. The combination in a car coupling of the rod 1 having the crank handles 2 2, the arm 3 having the projection 4, the rod 6, the coupling pin 10, the draw head 9, the strap 14, the filling piece 15, and the bolt detachably securing the draw head to the strap, substantially as described.

9. The combination in a car coupling device of the draw bar strap, bent to a U shape as shown, the coupling head, detachably secured to the strap by a bolt, the coupling pin having the ribs, the rod 6, the arm 3, the rod 1 having the crank handle 2, and the switchman's indicator having the arm 8 to engage the handle to hold the pin in a raised position, substantially as described.

10. In a car coupling device the means for raising and lowering the pin consisting of the rod 6, the arm 3 having the projection 4 which in its raised position engages the plate 5, the journaled rod 1 and the crank handles, and

the switchman's device engaging one of the crank handles to hold it in a raised position, substantially as described, whereby by reason of the projection 4 engaging the plate 5 the coupling pin cannot be entirely withdrawn.

11. The coupling device consisting of a draw bar strap, U shaped as shown, a coupling head joined to the strap by a bolt whereby the head can be easily renewed when broken, a coupling pin, a rod having crank handles, means for locking the same in a raised position, an arm as 3 having the projection 4 engaging in its highest position the plate 5, and the rod 6, substantially as described.

12. In a car coupling the combination of the strap 14, the coupling head 9 having the pivoted door 12 and spring 13 adapted to be inserted in position through the rear opening of the head, the filling piece 15 snugly fitting the said opening, and the bolt 16, substantially as described.

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Witnesses:

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