

(No Model.)

J. M. HENDERSON.
CAR COUPLING.

2 Sheets—Sheet 1.

No. 503,082.

Patented Aug. 8, 1893.

Fig. 1.

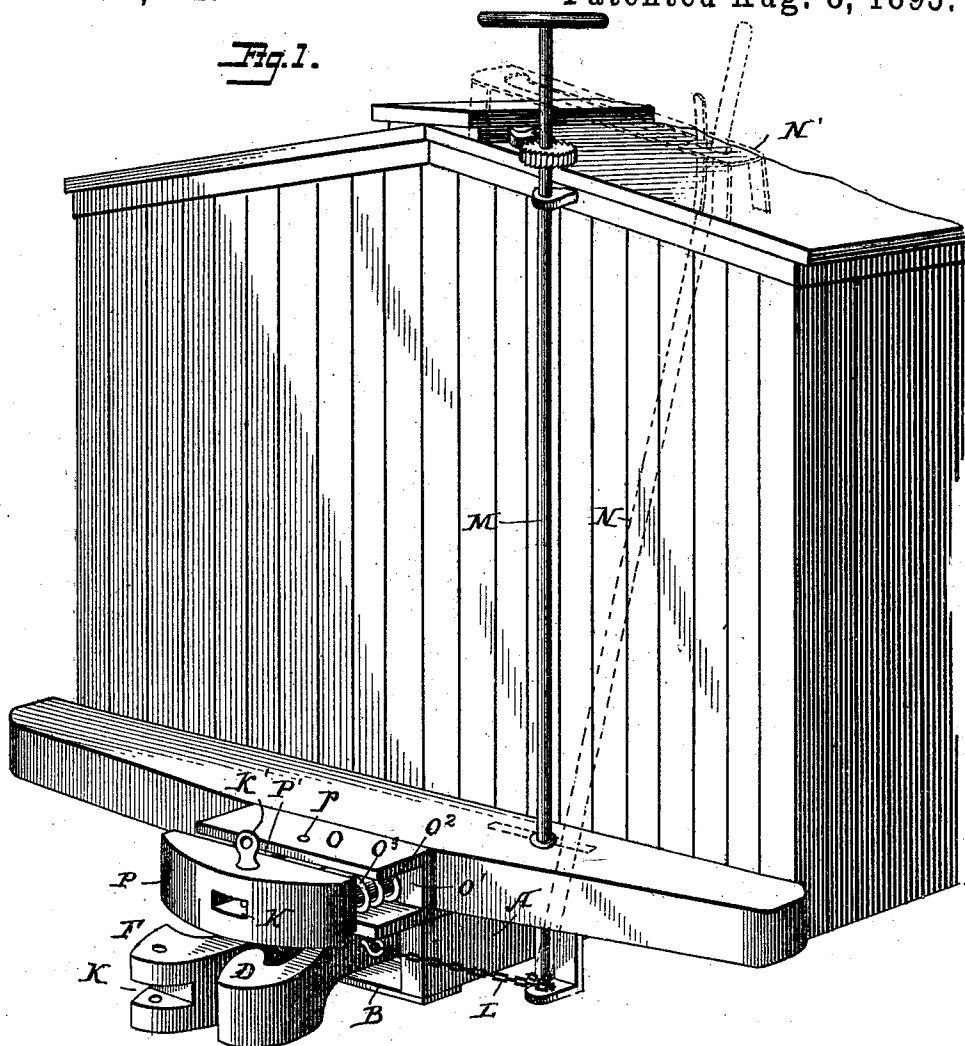
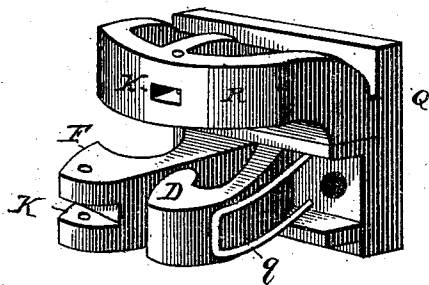


Fig. 2.



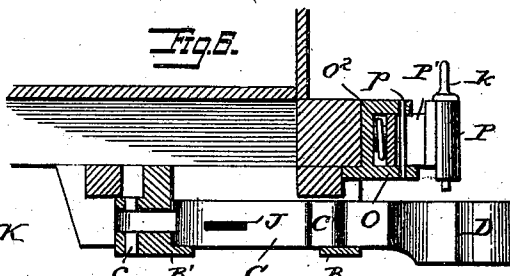
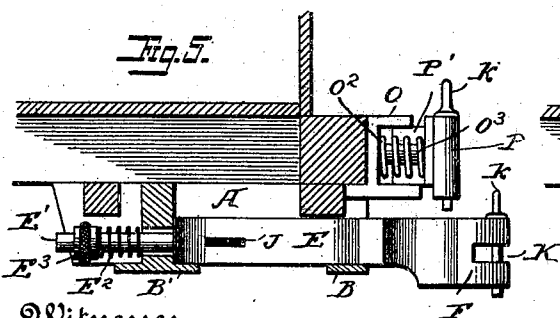
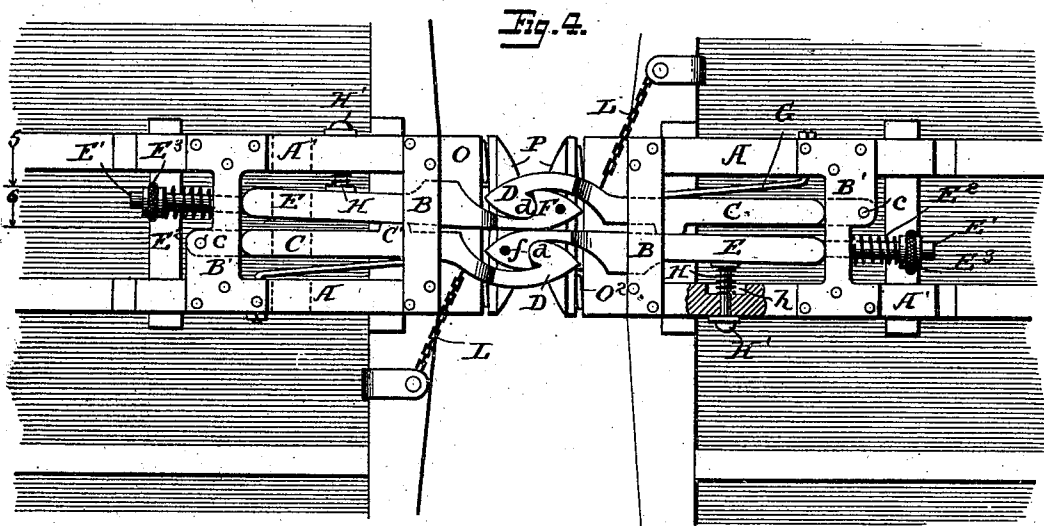
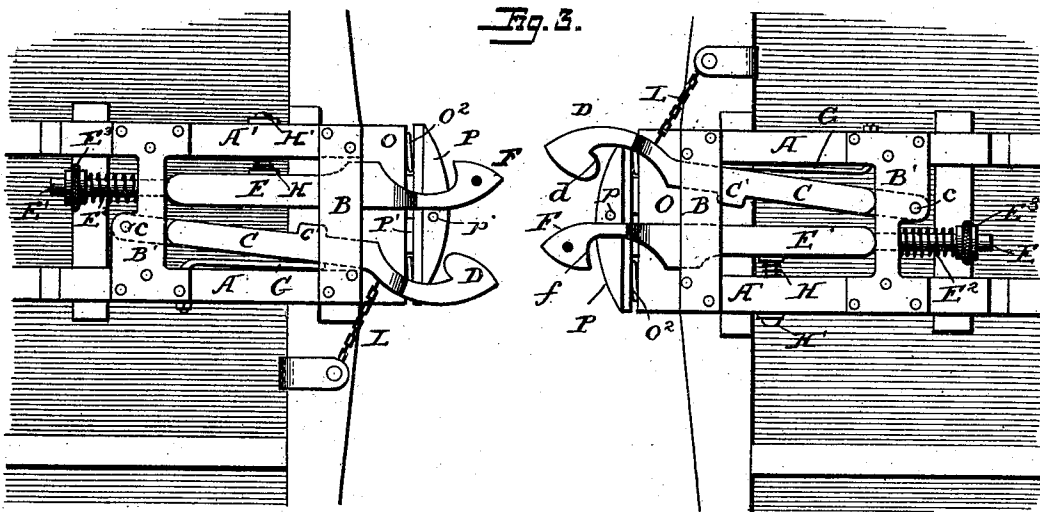
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UNITED STATES PATENT OFFICE.

JOHN MALOTT HENDERSON, OF SALEM, ASSIGNOR OF ONE-HALF TO JAMES JOHNSON, OF NEW ALBANY, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 503,082, dated August 8, 1893.

Application filed December 1, 1892. Serial No. 453,770. (No model.)

To all whom it may concern:

Be it known that I, JOHN MALOTT HENDERSON, a citizen of the United States, residing at Salem, Washington county, State of Indiana, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to car couplers and more especially to that general class which are designated twin jaw couplers, and it has for its object to provide a double, automatic, twin jaw coupler, which shall be capable of being unlocked from the top or side of the car and when locked shall form a secure double lock at each coupling to prevent danger of breakage apart of the train while running, and my invention has further for its object to provide a spring bumper which shall act in conjunction with the coupling device and my invention consists in a coupling and bumper embodying the general features of construction, substantially such as are hereinafter more particularly pointed out.

Referring to the accompanying drawings, wherein I have illustrated the preferred embodiment of my invention: Figure 1, is a perspective view of the end of a car having my coupler and bumper applied thereto. Fig. 2, is a perspective view of the bumper and coupling adapted more especially for the locomotive tender. Fig. 3, is a bottom plan view of the car, showing the coupling jaws apart. Fig. 4, is a similar view, showing the jaws closed. Fig. 5, is a longitudinal, sectional section on the line 5, Fig. 4. Fig. 6, is a similar sectional view on the line 6, Fig. 4.

In the accompanying drawings I have shown my coupler and bumper as applied to a freight car, but of course it will be understood that it can be applied to other cars and used in other connections, either with my improved bumper, or any equivalent thereof, and the operating means for unlocking the jaws will be arranged to suit the necessities of each particular case.

My invention embodies a double automatically operating twin jaw coupler and while it is desirable to use the double coupling in running trains, the parts are so arranged that a single twin jaw coupling can be used for temporary purposes, as in switching and the like.

While I have fully illustrated and will now describe the preferred embodiment of my invention, it will be evident to those skilled in the art that I do not limit myself to the specific construction and arrangement of details shown as they may be varied to suit the requirements of any particular case, without departing from the general principles of my invention.

The car body is provided with the usual draft timbers A, A', which are secured to the bottom in any desirable way and their outer ends are provided with a metal plate B, which serves to hold the couplers or draw bars in position, while mounted on the draft timbers is a lug iron B', which serves as a means of attachment of the draw bars and couplers. Each car is provided with a draw head C, which is shown as pivoted at c, to the lug iron and passing above the metal plate B, on which it normally rests, which extends forward and is provided with a coupling head D. This coupling head is preferably shaped substantially as in the drawings, having a somewhat pointed forward end and a locking portion d, which is rounded or substantially cylindrical in shape, and for which reason I shall hereinafter designate this as the cylindrical jaw for convenience of reference. Also mounted in a position against the draw bar C, is another draw bar E, and the rear end of this draw bar is reduced and rounded as at E', and passes through a cylindrical opening in the lug iron, and on this reduced end is arranged a spring E², with an adjusting nut E³, by means of which the tension of the spring can be adjusted. The forward portion of this draw bar is provided with a coupler head F, preferably substantially of the configuration shown and having a curved locking or bearing portion f, against which the cylindrical jaw of the corresponding or complimentary coupler engages, and I have designated this jaw as the curved jaw, for convenience of description. These two draw bars are arranged substantially parallel to each other with their projecting jaws extending on the same side and of course the complementary jaws on the other end of the car are similarly arranged, except that the jaws project in the opposite direction, so that when the two sets of jaws come

together, as shown in Fig. 4, they will interlock the one with the other and form a double coupling.

The draw bars C, are preferably provided with a projection C', which bears upon the adjacent side of the draw bar E, and serves to maintain the jaws in proper position with relation to each other. The draw bar C, is also under stress of a spring G, which in the present instance is shown as a flat or leaf spring secured at one end to one of the draft timbers A, and the free end bearing on the outer side of the draw bar and the draw bar E, is also provided with a spring H, and this is shown as consisting of a coil spring mounted on a stud H', passing through an opening in one of the draft timbers, which matter is recessed as shown at h, to receive the spring. It will thus be seen that the draw bars are normally held in contact with each other by the springs G and H, although they may be moved in either direction away from each other, but when one is moved, the tendency of the other is to follow up that movement to a certain extent, to maintain the jaws in proper relation to each other.

It will be observed that each of the draw bars C, on the ends of the cars are fixed to their pivotal points, so that they have no longitudinal movement and it will further be observed that each of the draw bars E, is held under spring tension and is allowed a certain amount of freedom of movement in a longitudinal direction, and as a draw bar E, and its curved jaw engages a draw bar C, with its cylindrical jaw, it will be apparent that the draw bars will allow a slack of several inches, more or less, to each coupling, so that when the train is started forward the draw bars will yield and assist in overcoming the inertia of the cars. It will further be observed that in rounding curves, one or the other of the draw bars will yield sufficiently to allow the turn of the cars without undue strain upon the cars, and still both sets of jaws will be held in proper and continuous engagement.

If it is desired to use what is generally designated as the American continuous draw bar attachment, it can readily be applied to my coupler, the draft timbers and the draw heads being furnished with slots or openings J, through which the bar can be readily passed and prevent the longitudinal movement of the draw heads, so that the train shall be practically a solid train. The jaws, one or more of them, are provided with the usual slot K, and pin k, by means of which the ordinary coupling link or other coupling device may be connected with my coupler, provided the car is not supplied with my coupling jaw, or one that will engage with it, or provided the jaw or draw head should be injured or inoperative for any reason.

In order to operate the coupler to unlock it, I provide means connected with the draw bar C, whereby it can be laterally drawn outward

and while various means may be used, I have shown a chain L, connected to the draw bar and operated by a brake rod and handle M, such as is usually found on freight cars, or a lever N, pivoted near the bottom of the car and provided with a guard N', for holding it in proper position, or any other well known or equivalent device may be used for drawing the draw head to one side.

While my improved coupler may be used in connection with any platform or frame of a car, and with the ordinary bumper, I preferably use it in connection with a bumper, such as I have shown and which consists essentially of a case O, secured to the end beams of the car, having an open recessed side O', and of a bumper block P, having a curved forward surface, and provided with a stud P', having a slot, through which passes a pin p. The case is also provided with studs O², on which are mounted coil springs O³, which normally tend to force the curved head of the bumper outward and this head is provided with a slot K', and pin k', which may be used in coupling cars, using other couplers which are of such a height as not to conform to the level of my coupling jaws. This bumper serves to overcome the concussion or shock produced when two cars are thrown together and also allows play or slack to the cars when backing and at the same time gives an equalized regular motion to the train when running. Furthermore it forms a part of the lock in that it is arranged above the coupling jaws and draw bars and serves to arrest the up and down motion of the jaws, before they become disconnected, yet giving sufficient vertical motion to the jaws to allow them to couple with cars of any height using my coupling.

In order to provide the tender or pilot of an engine with jaws, substantially like my invention, I provide a plate Q, which is adapted to be attached to the locomotive and which is provided with a bumper R, and with jaws D and F, substantially like the jaws of the car coupler, the difference being that instead of having a long draw bar, the jaws are pivoted in the plate Q, and are under the stress of a spring q, which tends to hold them in operative position.

Such being the preferred construction of my invention, its operation will be readily understood and need not be specifically recited, and it will be seen that I provide a double twin jaw coupling, which can be automatically coupled, and which is provided with means to allow for the varying strains in rounding curves or otherwise, and which will yield in starting the train, while the spring bumper co-operates with the jaws to hold them in locked position and in maintaining the proper relation of the cars.

When it is desired to uncouple the cars, it is only necessary to operate the jaws D, by any suitable means, substantially such as in-

licated and hold them in the position shown in Fig. 3, when the cars will be readily uncoupled.

When a temporary coupling is desired it is only necessary to use one pair or set of jaws, the other being held out of operative engagement, by the lever or brake rod, or similar device.

What I claim is—

1. An automatic double twin jaw car coupler comprising two sets of draw bars of the same length with a cylindrical and a hollow curved bearing jaw in each set acting together to form a full double coupling, and means for operating one jaw of each set to hold it out of engagement forming a single lock coupling, substantially as described.

2. An automatic double twin jaw car coupler, comprising a pivoted draw bar having a cylindrical jaw, the longitudinally moving draw bar having a curved jaw, both draw bars and jaw being connected to the same lug iron and mounted between the draft timbers of the car, substantially as described.

3. An automatic double twin jaw car coupler, comprising a frame in which are mounted a pivoted draw bar and a longitudinally movable draw bar and springs tending to hold the draw bars in contact, substantially as described.

4. An automatic double twin jaw car coupler, comprising a frame having a lug iron to which one draw bar is pivoted and in which another draw bar slides longitudinally, a spring for controlling the longitudinal movement of the draw bar, and springs tending to hold the draw bars in contact, substantially as described.

5. An automatic double twin jaw car coupler, comprising a frame, a pivoted draw bar having a cylindrical jaw, a longitudinally moving draw bar having a curved jaw, springs tending to hold the draw bars in contact, and a lug on one of the draw bars to separate the same, substantially as described.

6. In an automatic double twin jaw car coupler, the combination with the frame, of a pivoted draw bar, and a longitudinally moving draw bar, springs tending to hold them in

position and means connected to the pivoted jaw for drawing it laterally sidewise for uncoupling, substantially as described.

7. In an automatic double twin jaw car coupler, the combination with the frame, including the draft timbers, the pivoted draw bar and the longitudinal draw bar, the frame and draw bars being provided with a slot for the reception of a bar to form the continuous draw bar attachment, substantially as described.

8. In an automatic double twin jaw car coupler, the combination with the frame of the draw bars, one of the bars being provided with a cylindrical jaw, and the other draw bar provided with a curved jaw, the cylindrical jaw of one coupling being arranged to engage automatically with the curved jaw of the complementary coupling, substantially as described.

9. In an automatic double twin jaw car coupler, the combination with the frame, of two draw bars, one of which is fixed against longitudinal movement, while the other is arranged to allow longitudinal movement against a spring, and jaws secured to each of the draw bars, substantially as described.

10. The combination with a double automatic twin jaw car coupling, of a bumper arranged above the coupling comprising a segmental buffing head provided with a stud P' having a central slot for the pin, and a case provided with studs O², supporting coil springs, substantially as described.

11. In an automatic double twin jaw car coupler, the cylindrical and hollow curved jaws mounted on drawbars, a bumper mounted above the jaws and arranged to allow the jaws to couple on cars of different heights within certain limits and yet preventing the coupling being unlocked by any vertical motion, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN MALOTT HENDERSON.

Witnesses:

H. D. HENDERSON,

DAVID M. ALSPAUGH.