(No Model.)

D. R. JOSLYN.

CAR COUPLING.

No. 581,072. Patented Apr. 20, 1897.

FIG. 1.

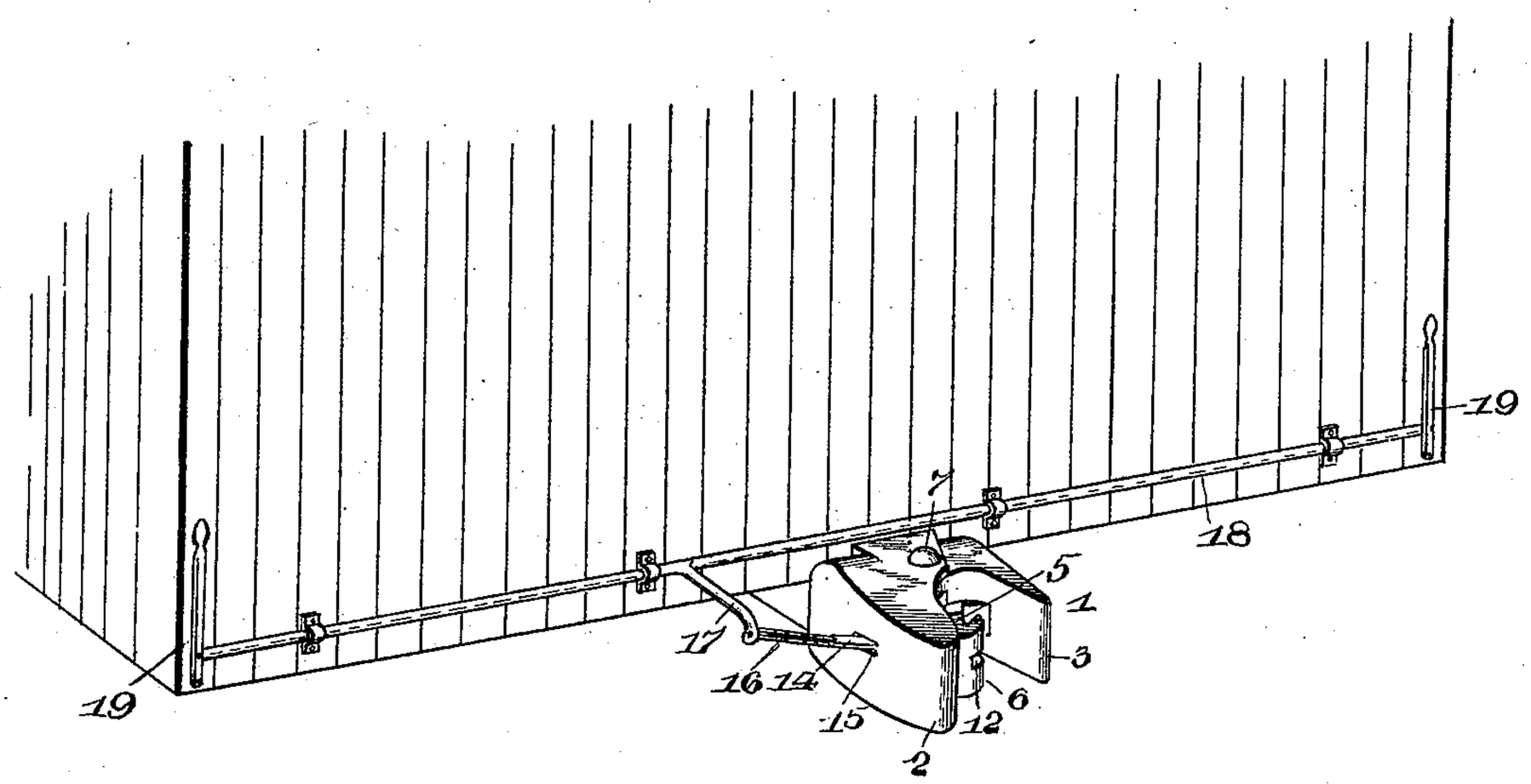


FIG. 2.

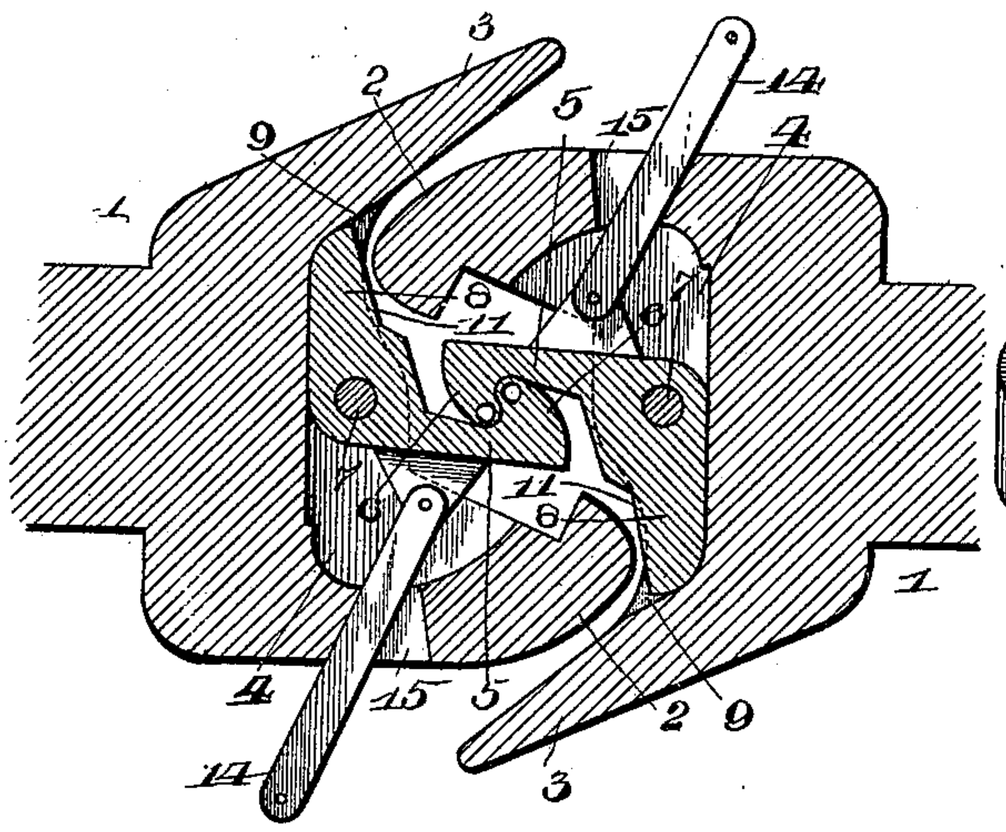
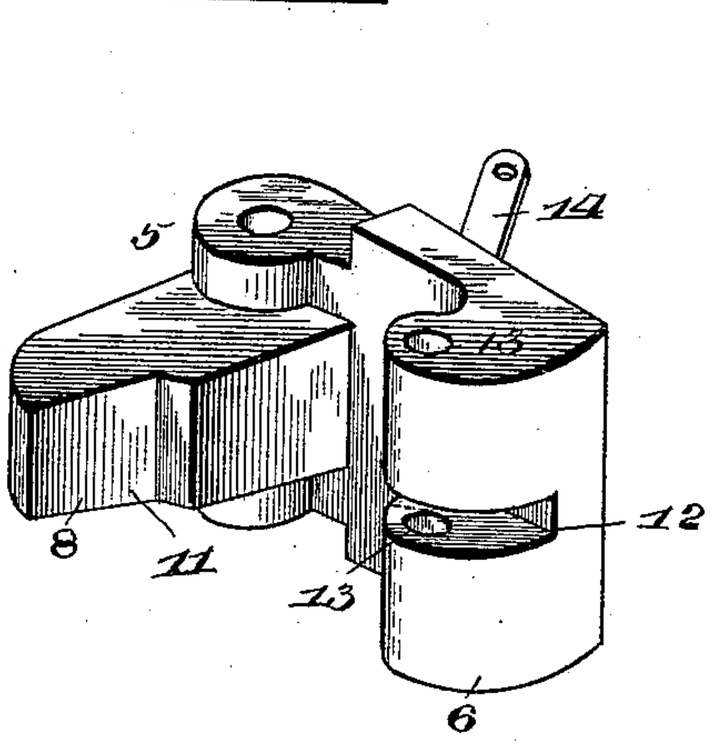


FIG. 3.



Witnesses
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R. M. Smith

Inventor,
Daniel R. Joslyn,
By his Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

DANIEL R. JOSLYN, OF GURDON, ARKANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 581,072, dated April 20, 1897.

Application filed October 5, 1895. Serial No. 564,786. (No model.)

To all whom it may concern:

Be it known that I, DANIEL R. JOSLYN, a citizen of the United States, residing at Gurdon, in the county of Clark and State of Arkansas, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to an improvement in car-couplers, and has for its object to provide a simple and efficient automatic coupler in which means for holding the jaw or knuckle in locked position are dispensed with and the jaw or knuckle constructed in such manner and pivoted in such relation to the draw-head that when adjacent knuckles or jaws are brought into engagement with each other the jamming together of the cars or the drawing apart of the same will both have a tendency to force the jaws or knuckles into closer engagement.

To this end the invention consists in an improved car-coupling device embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating the application of the improved coupling to a car, showing also the means for uncoupling the jaw or knuckle. Fig. 2 is a horizontal sectional view through two adjacent draw-heads, &c., showing the jaws or knuckles in operative engagement. Fig. 3 is an enlarged detail perspective view of the improved jaw or knuckle.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates a draw-head of substantially the same construction as that shown and described in a former patent granted to me February 5, 1895, No. 533,648, said draw-head being provided with the integrally-formed forwardly-diverging side portions 2 and 3, disposed in such manner as to leave an intervening space or cavity in which the main jaw or knuckle is pivotally mounted. One of the sides 2 of the draw-head is made of considerable relative thickness to withstand concussion and formed with a cavity or recess 4, while the draw-head is centrally recessed or hollowed out to receive the elbow of the jaw or knuckle, (indicated at 5.) The jaw or knuckle 5 is also similar in its general construction and disposition to that described in the said former patent, being formed with a hook or nose 6, capable of being rocked transversely across the mouth of the draw-head and being pivoted at its rear end centrally of the draw-head by means of a pin 7 passing through vertically-alining openings in the top and bottom walls of the draw-head and in the jaw or knuckle. The jaw or knuckle 5 differs, however, from that described in the said former patent in that it is provided adjacent to its fulcrum with an arm or tongue 8, substantially at right angles to the main body of the jaw and formed integrally therewith. This arm or tongue 8 extends transversely across the base of the cavity or intermediate space between the side portions 2 and 3 of the draw-head, and when in coupled position said arm or tongue rocks rearwardly into and occupies a position within a recess or cavity 9, formed in the main body of the draw-head, so as to leave sufficient space for the nose or hook of the opposing jaw or knuckle. This arm or tongue 8 is cut out or formed with an offset 11 in its front face for the purpose of giving clearance to the hook or nose of the opposing jaw in the act of uncoupling cars, this clearance-space serving to prevent binding as the jaws are rocked transversely away from each other and also to enable the device to be used with the Janney coupler. The nose or hook 6 of the jaw is provided with the usual link cavity or slot 12 and with the vertically-alining opening 13 for the reception of a coupling-pin, thus adapting the jaw to be used in an emergency in connection with an ordinary link-coupling.

For the purpose of rocking the jaw 5 out of engagement with its opposing jaw a short horizontal bar or link 14 is pivotally connected to the outer or rear face of the main body of the jaw or knuckle, as shown, and passed through an aperture 15 in the side portion 2 of the draw-head, where it connects at its extremity with a chain 16, which in turn attaches to an arm 17 on a horizontal and longitudinally-movable shaft 18, extending transversely of the car-body and mounted to slide in bearings thereon. Said shaft is pivotally secured at each end and adjacent to the

corners of the car-body to a perpendicularly-disposed lever 19, by means of which the shaft may be drawn endwise for drawing upon the chain 16 and causing it to operate upon the arm or link 14 in such manner as to rock the jaw or knuckle 5 transversely and throw the same out of engagment with its interlocking jaw.

In operation the jaws or knuckles of the cars to be coupled are withdrawn laterally until the hooks or noses thereof recede into the cavities provided therefor in their respective draw-heads. As the cars come together the main arm of the draw-head operates against the tongue of the opposing jaw, thrusting the same backward and rocking the nose of the jaw transversely into close and positive engagement with the corresponding portion of the opposing jaw. By reason of the particular location of the pivot of the jaw 5 and the disposition of the tongue with relation to the nose or hook of the jaw it will now be apparent that the two opposing jaws or knuckles will automatically and mutually engage and interlock whether the cars are jammed together or drawn apart. The jaws will thus remain in constant engagement and can only be released from each other by simultaneously forcing the jaws and draw-head away from each other, which may be readily accomplished with the aid of the horizontal shafts and lever attachments journaled on the adjacent ends of the car-bodies, as hereinabove described, or by the use of an air-cylinder and suitable connections under control of the engineer.

By the construction described it will be impossible for cars to become accidentally uncoupled or to be fraudulently uncoupled by persons not connected with the road, as the coöperation of the engineer is required. In order to uncouple cars, the engine must be started and simultaneously therewith both knuckles must be rocked away from each other. As the draw-heads move apart the tongues 8 may move outward, and the hooks of the knuckles will then disengage themselves. The coupling is thus safe and reliable.

The coupling device described is very simple and durable in construction and operates automatically to couple cars, thus obviating the necessity of going between the cars, and will be found generally efficient and reliable in operation.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a draw-head having diverging side portions, of an elbow-shaped knuckle fulcrumed at its elbow in the longitudinal center of the draw-head, and comprising a hook portion or jaw and a lateral tongue projecting substantially at a right angle thereto, said tongue extending across one of the diverging side portions of the opposing draw-head whereby it is adapted to be held back or inward by direct contact with such draw-head when the cars are coupled, for preventing the accidental uncoupling of the cars, substantially as described.

2. The combination with a draw-head having diverging side portions, one of which is formed with a cavity for the reception of the hook of the knuckle, of an elbow-shaped knuckle fulcrumed at its elbow in the longitudinal center of the draw-head and provided with a lateral tongue which extends across and is held back or inward by the opposing draw-head when the cars are coupled, for preventing the accidental uncoupling of the cars, substantially as described.

3. The combination with a draw-head, of a pivoted knuckle, a knuckle-operating link passing through a tapering slot in the side of the draw-head, a reciprocating slide-rod mounted on the end of the car and having a laterally-projecting arm, a chain interposed between and connecting said arm and link, and a hand-lever fulcrumed at or near one side of the car and having pivotal connection with said slide-rod, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL R. JOSLYN.

Witnesses:

J. H. COOPER,

C. F. STURDIVANT.