

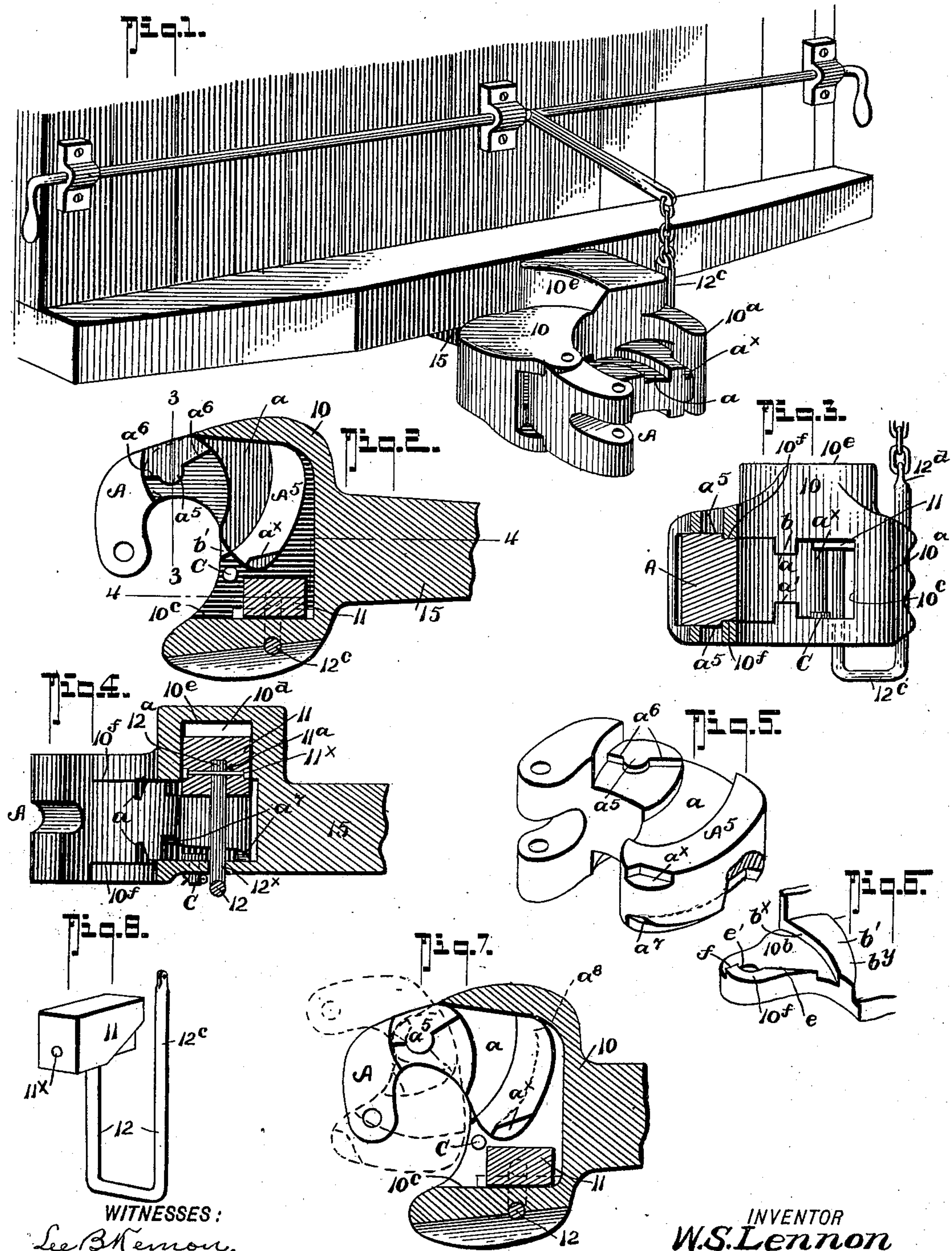
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Patented Sept. 30, 1902.

W. S. LENNON.
CAR COUPLING.

(Application filed May 8, 1902.)

(No Model.)



WITNESSES:
Lee B. Lennon.
Harry D. Worthington

INVENTOR
W.S. Lennon
BY
Fred G. Dietrich
ATTORNEYS

UNITED STATES PATENT OFFICE.

WATSON S. LENNON, OF TUCSON, ARIZONA TERRITORY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 710,283, dated September 30, 1902.

Application filed May 8, 1902. Serial No. 106,394. (No model.)

To all whom it may concern:

Be it known that I, WATSON S. LENNON, residing at Tucson, in the county of Pima and Territory of Arizona, have invented a new and Improved Car-Coupler, of which the following is a specification.

My invention relates to improvements in that type of car-couplings having knuckle coupling-jaws, and more particularly refers to improvements on my form of knuckle-coupling disclosed in my Patent No. 679,629, granted July 30, 1901.

My present invention comprehends certain novel improvements in the knuckle or swinging coupling-jaw adapted to cooperate with an improved arrangement of the draw-head mortise and locking devices for holding the jaw to its coupling position, and more particularly embodies a simple and convenient means whereby by proper adjustment thereof the coupling-jaw may be quickly removed from the draw-head or attached thereto.

My invention in its more subordinate features consists in certain details of construction and novel arrangement of parts, all of which will hereinafter be fully described, and specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a car-body with my improved draw-head attached. Fig. 2 is a horizontal section of the same. Fig. 3 is a cross-section thereof, taken practically on the line 3 3 of Fig. 2. Fig. 4 is a vertical longitudinal section on the line 4 4 of Fig. 2. Fig. 5 is a perspective view of the coupling-jaw. Fig. 6 is a similar view of one of the draw-head ears in which the coupling-head is fulcrumed. Fig. 7 is a diagrammatic sectional view illustrating the correlation of the fulcrum portions of the coupling-jaw and the interlocking members on the draw-head ears when the jaw is in its coupled position; and Fig. 8 is a detail perspective view of the lock-block and lever, hereinafter referred to.

In the present form of my invention the draw-head 10 in its general contour is of the "Janney" type, it having at one side the guide-horn 10^a and at the opposite side a pair of ears 10^b, between which the knuckle or coupling member A is fulcrumed in a manner

presently explained. At the side adjacent the horn 10^a the draw-head mortise has a vertical wall 10^c, that forms the lower continuation of one side of a housing or pocket 10^d, formed in a cap portion 10^e, integrally cast with the top of the draw-head and which is provided to receive a vertically-movable and gravity-dropped locking-block 11, having a socket 11^a to receive the end 12^a of a U-shaped lift-lever 12, detachably connected to the block 11 by the cotter-pin 11^x, as shown. The member 12^a passes down through an aperture 12^x in the bottom of the draw-head and merges with the long arm 12^c, that extends up through a guide-aperture in the horn part 10^a of the draw-head, its upper end being flattened, as at 12^d, and apertured to receive the end of a lift clevis, hook, or chain capable of being operated from the top or sides of the car in any well-known manner. On the upper and lower walls of the draw-head mortise are formed opposing raised surfaces *b b'*, whose front edges *b^x* and rear edges *b^y* are curved on an arc approximately concentric with the axial point of the coupling member A, provided with channels *a' a'* in the upper and lower surfaces of their inner or neck portions, the opposite edges of which are positioned to engage and cooperate with the edges *b^x* and *b^y* of the surfaces *b b'* of the draw-head. At its extreme outer edge the inner end of member A has a depression *a^x*, adapted to engage with the gravity-block 11 in the manner and for the purpose presently described.

By referring now more particularly to Figs. 2 to 7 it will be noticed the inner face of the two ears 10^b each have a projection 10^f 10^f, whose outer and inner edges *e f* are in planes at right angles to each other, and the inner edge *e'* between said edges *e f* is concaved on an arc of a circle, and the said two projections 10^f are so disposed as to cooperate with semicircular bearing portions *a⁵ a⁵* on the upper and lower faces of the neck of the coupling-jaw A, which faces also have bearing members *a⁶ a⁶*, disposed at points diagonally inward from the bearings *a⁵*. By providing the ears 10^b with projections 10^f and the neck of the jaw A with bearing portions *a⁵ a⁵*, as described and shown, a very simple and effective means is provided for detachably fitting the jaw A between 10^b 10^b and providing

a fulcrum or hinge connection therefor without the use of pivot-pins and the like. To fit the coupling-jaw in place, the neck thereof is slipped between the ears 10^b 10^b and the bearings a^5 are moved into engagement with the concaved face e' of the members 10^f . (See Figs. 5 and 6.) When in this position, a fixed fulcrum for the jaw A is provided and the jaw held to swing freely in a horizontal plane.

10 When the jaw A is turned into its locked position, the parts a^5 a^6 bear against the edges e of the projections 10^f and said jaw cannot be removed from the head; but when pin C is removed the jaw A can be swung out so its fulcrum parts a^5 a^5 will disengage and pull away from the member 10^f . (See Fig. 7.)

So far as described it will be readily understood during a coupling action on a straight-way track the opposing jaws A will be swung inward until the portions A^5 pass from under the locking-blocks 11, which then drop in front of said jaw portions and securely hold them locked to a coupling position. In some instances, especially on curves, the coupling-jaws sometimes do not swing back to their innermost position, and to provide for locking them in a coupled position under such circumstances the gravity-block will drop into engagement with the depression a^x in the said jaws, it being obvious that as soon as the opposing jaws come into the same longitudinal alinement and full back pressure is applied to them they will swing inward sufficiently to permit the blocks 11 to drop entirely down.

35 To prevent the jaw A from swinging out too far and losing its proper fulcrum-bearing when set to its uncoupled position, the under side of the inner end of the jaw has a segmental channel a^7 , that terminates in a stop-shoulder a^8 , adapted to cooperate with a stop-pin C, detachably held on the bottom of the draw-head mortise, as best shown in Figs. 2 and 4, a spring-key being provided for engaging the pendent end of said pin C. When the pin C is in position, the outward swing of the coupling-jaw is thereby limited to the more readily adapt the coupling-jaws for a perfect interlocking when turning curves.

Should it be desirable to remove the jaw A from the draw-head, it is only necessary to withdraw the pin C and swing the jaw to the position shown in dotted lines in Fig. 7, when it may be readily slipped out of engagement with the ears 10^b 10^b of the draw-head 10.

55 From the foregoing description, taken in connection with the accompanying drawings, it is believed the complete operation of the several parts of my invention and the advantages thereof will be readily apparent.

60 The several parts are especially designed for effecting an economical construction of

draw-head and coupling devices, all of which have a special cooperation and will effectively operate for their intended purposes, the several parts being arranged for automatic action, the only manual labor required being to set the lock-block 11 to its elevated position when the parts are to be uncoupled.

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

1. A car-coupling of the character described, comprising in combination, a draw-head, a pivoted knuckle, detachably mounted on the draw-head, a gravity-drop supported and endwise movable on the draw-head and normally in position to automatically drop in front of the knuckle, when the latter is swung into a closed position to its limit, said knuckle having a locking-seat to receive the gravity-drop and arrest its downward movement, when the knuckle is swung partially back, when on curves; and detachably-mounted means for limiting the outward swing of the knuckle, all being arranged substantially as shown and described.

2. In a car-coupling of the character described, the combination with a draw-head, having a pair of projecting ears to receive the pivotal portion of the knuckle, said ears having each a segmental shoulder about the axial point, whose terminals are cut in planes at right angles to each other; of a knuckle having slotways in its upper and lower faces, whereby the knuckle, when adjusted to its open position, can be slipped between the projecting ears, said slotways having semi-circular bearings to cooperate with the aforesaid segmental shoulders, substantially as shown and described.

3. In a car-coupling of the character described, the combination with a draw-head, having a pair of projecting ears to receive the pivotal portion of the knuckle, said ears having each a segmental shoulder about the axial point, whose terminals are cut in planes at right angles to each other; of a knuckle having slotways in its upper and lower faces, whereby the knuckle, when adjusted to its open position, can be slipped between the projecting ears, said slotways having semi-circular bearings to cooperate with the aforesaid segmental shoulders, and means for limiting the outward swing of the knuckle detachably mounted on the draw-head, all being arranged substantially as shown and for the purposes described.

WATSON S. LENNON.

Witnesses:

THOMAS GULDEN,
JOHN AUG. OLSON.