

(No Model.)

2 Sheets—Sheet 1.

W. LATIMER.
CAR COUPLING.

No. 393,114.

Patented Nov. 20, 1888.

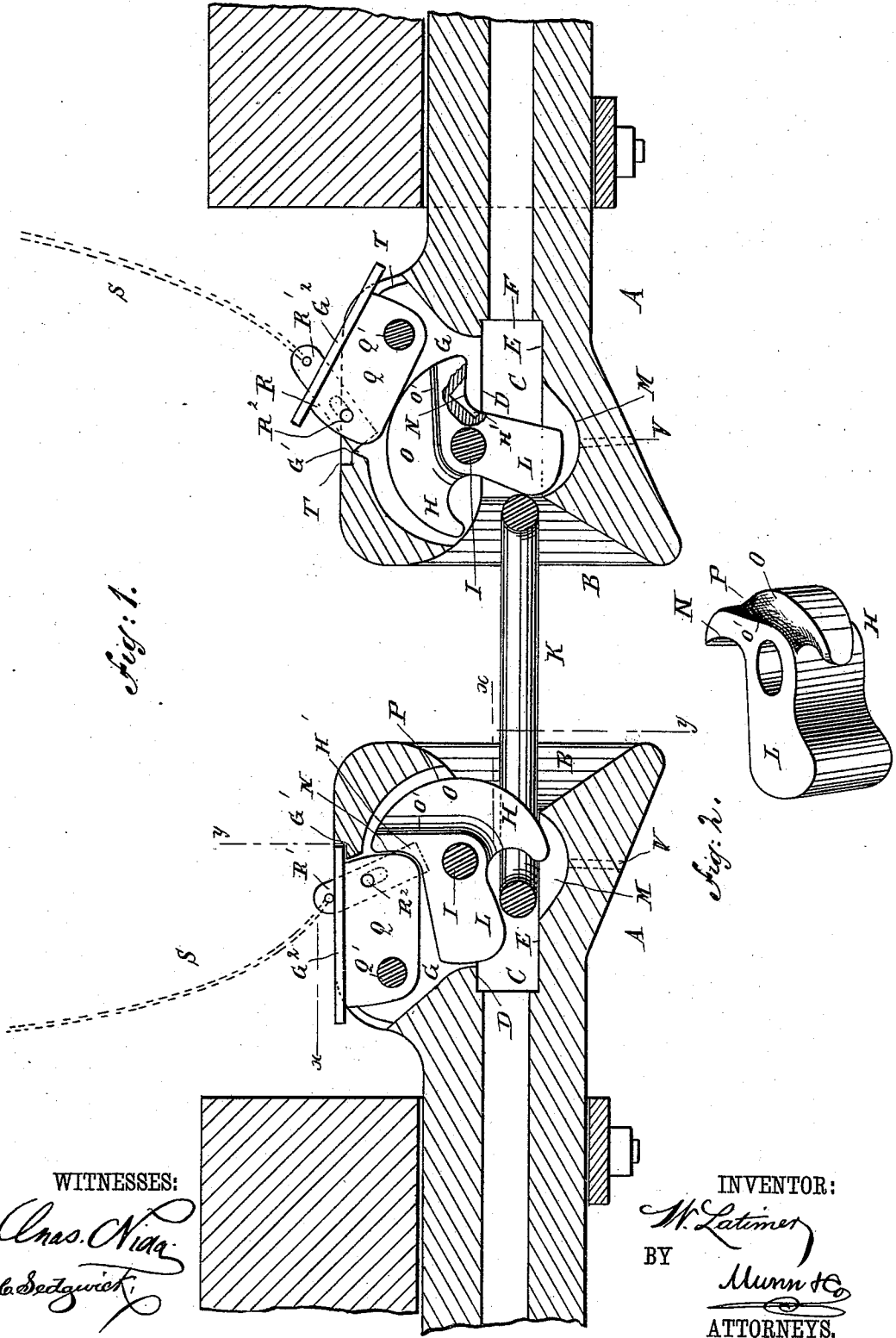


Fig. 1.

Fig. 2.

WITNESSES:

Chas. Nida
C. Sedgwick

INVENTOR:

W. Latimer
BY
Munn & Co
ATTORNEYS.

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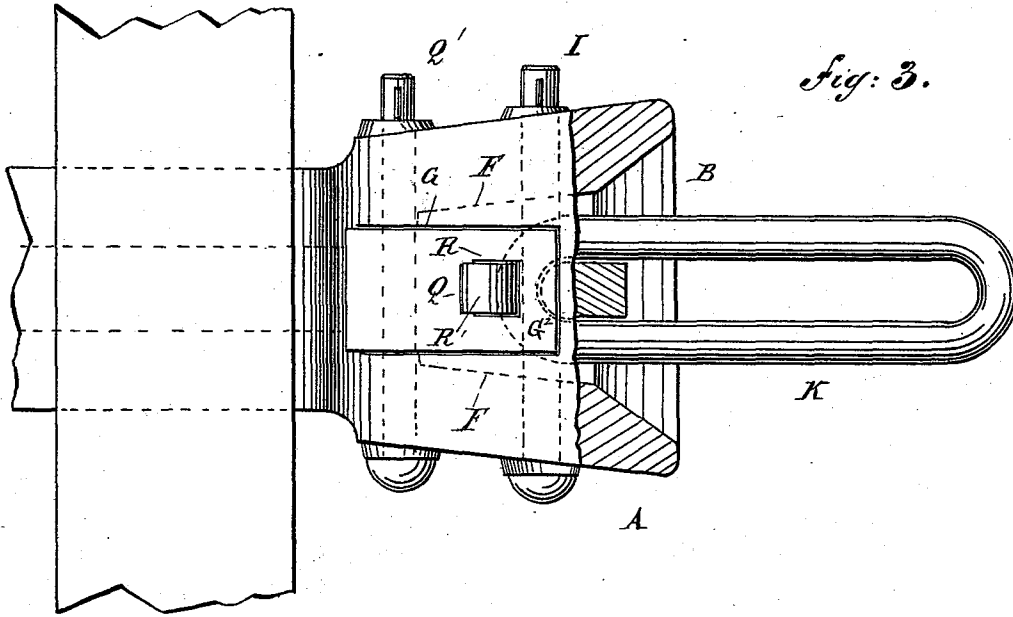
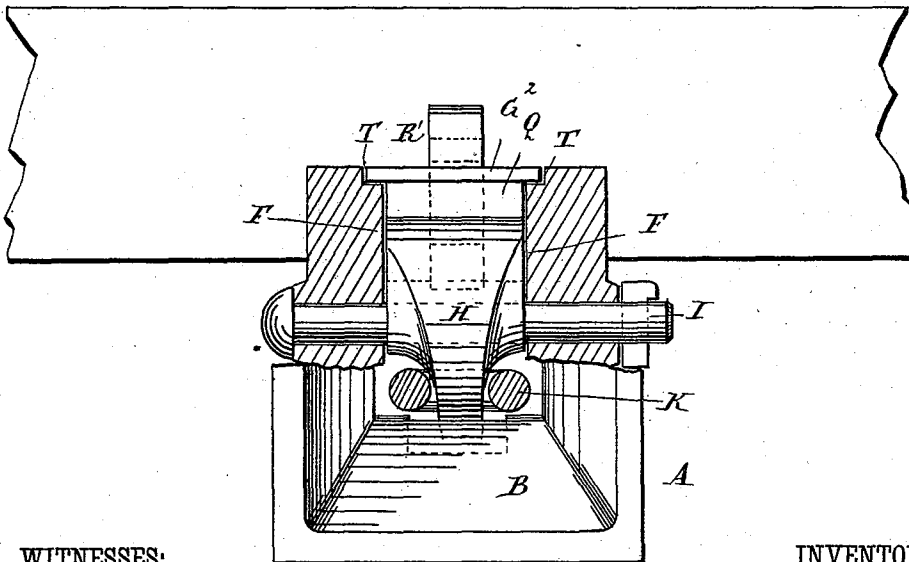


Fig: 3.

Fig: 4.



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Chas. Nias
C. Sedgwick

INVENTOR:

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BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM LATIMER, OF WILMINGTON, NORTH CAROLINA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 393,114, dated November 20, 1888.

Application filed November 23, 1887. Renewed July 31, 1888. Serial No. 281,008. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LATIMER, of Wilmington, in the county of New Hanover and State of North Carolina, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-couplers designed for use with the standard link in connection with either the common pin-coupler or another coupler like itself, and in which a coupling-hook pivoted to swing in the draw-head has a weighted shank arranged to be butted or struck by an entering-link and thereby to couple the hook with the link, and a shoulder with which a dog engages automatically, so as to lock the hook in such coupling position.

The main objects of the improvement are to prevent the dog from being accidentally jarred out of engagement with the shoulder of the coupling-hook, to insure the proper throw of the hook by the entering-link to render uncoupling easy, and to prevent the accumulation of snow, rain, &c., in the draw-head, all by an arrangement combining strength with simplicity.

The invention consists of certain novel features of construction and combination of parts, hereinafter fully described, and distinctly pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of two couplers embodying my improvement when about to couple. Fig. 2 is a detail perspective view of the coupling-hook of either of said couplers. Fig. 3 is a partly sectional plan view on the line *x x*, Fig. 1, of one of said couplers carrying the link. Fig. 4 is a partly sectional front elevation of the same on the line *y y*, Fig. 1.

The draw-head A of the coupler taken to illustrate my invention may be mounted on the car in any suitable way, and is formed with a flaring mouth, B, and a link-recess, C, extending rearward therefrom. The link-recess C is made of such proportions as to allow the

link the necessary entrance and play therein, and is provided with a horizontal roof, D, and floor E, and rearward converging side walls, F.

A vertical longitudinal slot, G, is formed, extending centrally through the top of the draw-head, of considerably less width than the link-recess C, and in said slot is pivoted to swing a coupling-hook, H, upon a pin, I, passed transversely through the draw-head at the bottom of said slot.

The point of the coupling-hook is properly tapered and rounded to freely enter and play within the link K, and at about ninety degrees from its point the coupling-hook is formed with a shank, L, which is considerably thicker than the hook proper, and is of such weight and proportion as to normally hang downward and thus hold the point of the hook raised just within its slot G out of the path of an entering link. A depression, M, corresponding in width with the slot G, is formed centrally in the floor of the link-recess to accommodate the free end of the shank L, which latter is arranged normally to bear slightly against the front wall of the depression M, so as to assure its being in proper position to be struck by the entering link. The coupling-hook H is also formed at about one hundred and eighty degrees from its point with an approximately radial shoulder, N, from which a solid web, O, reduced in thickness at O' to conform to that of the point, and having an outer cam-surface, P, curved on a circle eccentric to the pin or pivot I, extends to the point to give the shoulder the requisite strength without overweighting the upper part of the hook.

In the upper part of the slot G is pivoted a dog, Q, on a pin, Q', passed transversely through the rear lower corner of the dog and the draw-head. The bottom of the dog Q is straight and is arranged to rest upon the cam-surface P of the coupling-hook when the latter is in position for coupling, and to ride on and be slightly raised by said cam-surface, and thus, as it were, loosened for falling, as the hook swings to couple. When the shank L of the hook is struck by the entering link, the coupling-hook is swung through an arc of about ninety degrees, causing the point of the hook to enter the link, the shank L to assume a

nearly horizontal position, and the shoulder N an approximately vertical position, as shown at the left of Fig. 1. In this position the dog Q drops by gravity back of the shoulder N and locks the hook against a return movement.

The pivot O' of the dog is arranged about in line horizontally with the center of the shoulder N when thus locked, so that it and the dog are enabled to resist the strain caused by tension on the link with the greatest effectiveness.

The front bearing end of the dog, while conforming nearly to the shape of the shoulder N, is curved about on a circle of which its pivot Q' is the center, so that the shoulder G', at the upper forward end of the slot G, can be brought into close proximity thereto without interfering with the vertical movement of the dog. In a downward and forward inclined vertical guide-slot, R, formed centrally through the dog and opening at its forward end, is mounted to slide a key, R', the movement of which is limited by a pin, R², passed transversely through the dog and a longitudinal slot formed in the key. In its normal position the lower end of the key R' is arranged to project from the end of the dog, a recess, H', being formed in the coupling-hook at the foot of its shoulder N to accommodate the same, so that if the dog should be jarred out of place the end of the key striking the shoulder G' on the draw-head would prevent the dog from swinging clear of the shoulder N.

To the upper protruding end of the key R' may be fastened a cord or chain, S, running to the platform, the top of the car, or through suitable guides to the sides of the car, in any suitable manner, by drawing on which cord or chain the key is first moved to its upper position in the dog, so as to clear the shoulder G', and the dog then easily raised out of engagement with the shoulder N. The shank L of the coupling-hook will then fall by its excessive gravity, causing the bearing-surface P to uphold the dog and the point of the hook to be disengaged from the link, so that the latter may be withdrawn. Around the tops of the side and front walls of the slot G are formed ledges T, to which are accurately fitted the edges of a cover-plate, G², formed on the top of the dog and projecting from the sides and ends of the same, so that when the dog is lowered, as shown at the left of Fig. 1, the top of the slot G will be closely covered, and snow,

rain, &c., effectually excluded. The bottom of the depression M in the floor of the link-recess is by preference made concave, and a hole, V, drilled from the lowest point thereof through the bottom of the draw-head as a vent.

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

1. In a car-coupler, the combination, with a draw-head having a link-recess, a slot through its roof, and a shoulder on the wall of said slot, of a coupling-hook pivoted in said slot to swing in the vertical plane and having a locking-shoulder, a gravity-dog pivoted in said slot, a key mounted to slide by gravity on the dog and to project therefrom in the path of the shoulder on the wall of the slot, and a pin-and-slot connection for the key and dog, substantially as described.

2. In a car-coupler, the combination, with a recessed draw-head having a slot extending through its roof and a shoulder at the forward end of said slot, of a gravity locking-dog pivoted to swing in close proximity to said shoulder and formed with a downward and forward inclined guide-slot opening at its front end, and a key mounted to slide by gravity in said guide-slot and to project from the forward end of the same, substantially as described.

3. In a car-coupler, the combination, with a recessed draw-head having a slot extending through its roof and a ledge extending around the sides and front of said slot at the top, of a dog pivoted to swing in said slot and a cover-plate on the top of the dog projecting from the sides and ends of the same and adapted to the ledge, as and for the purpose specified.

4. A coupling-hook formed with a shank thicker and heavier than the point, at about a right angle with the same, a radial shoulder about opposite the point, and a solid web extending from the shoulder to the point, said web being reduced in thickness beyond the shoulder, as and for the purpose specified.

5. A coupling-hook formed with a radial shoulder, N, and a recess, H', at the foot of and inclined to said shoulder, as and for the purpose specified.

WILLIAM LATIMER.

Witnesses:

M. CONLY,
HENRY SAVAGE.