

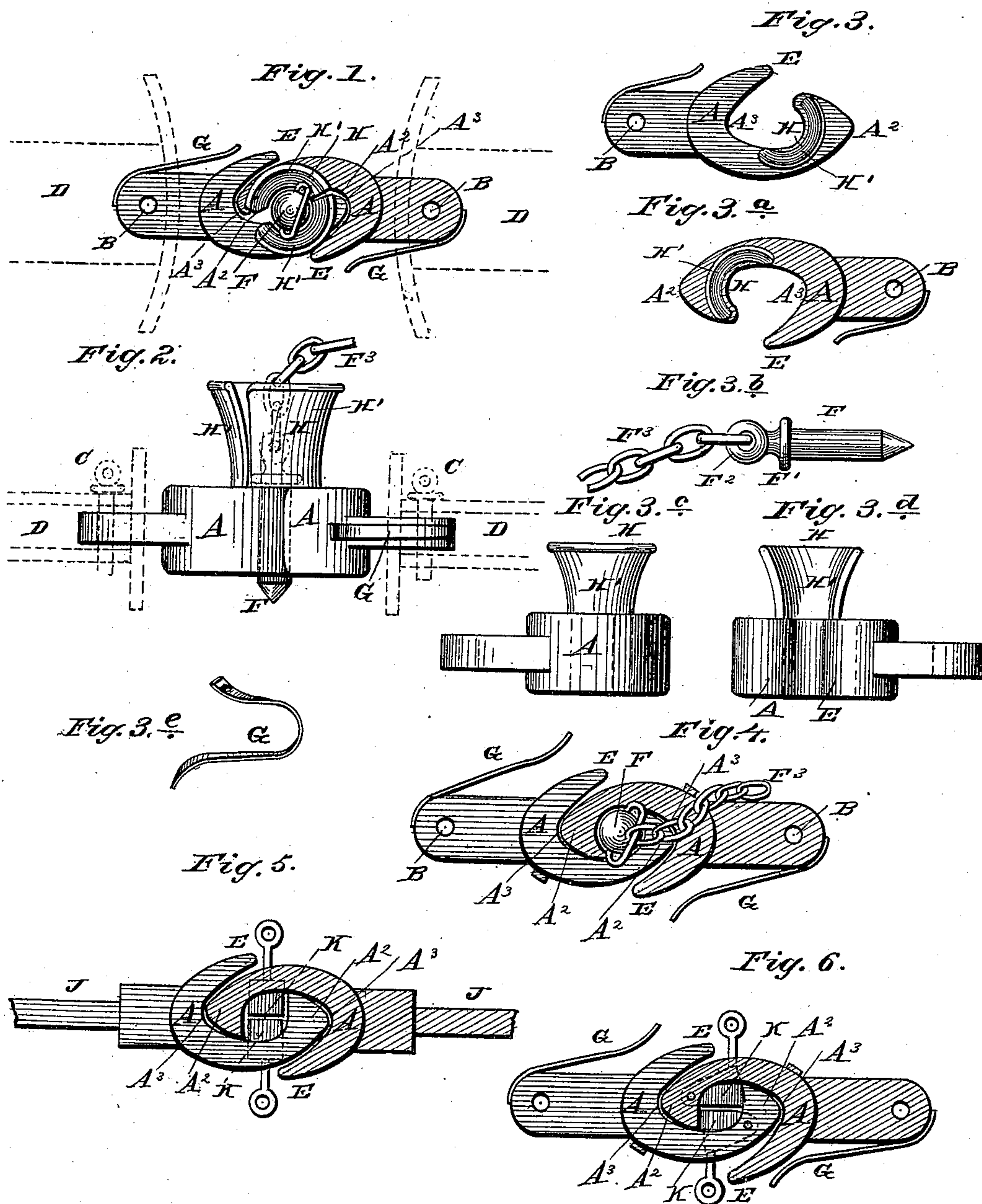
(Model.)

S. L. WIEGAND.

CAR COUPLING.

No. 297,328.

Patented Apr. 22, 1884.



Witnesses:

Phil C. Dierich.

Arthur C. Powell

Inventor:

S. L. Wiegand

UNITED STATES PATENT OFFICE.

S. LLOYD WIEGAND, OF PHILADELPHIA, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 297,328, dated April 22, 1884.

Application filed September 3, 1883. (Model.)

To all whom it may concern:

Be it known that I, S. LLOYD WIEGAND, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to that class of couplings wherein the cars of a railway may be brought together and secured to each other without exposing the train-hands to injury from crushing between the cars; and has for its object the simplification and reduction of cost of such mechanism, so as to adapt it to the safe and convenient use of the class of persons usually employed as train-men, and also to enable it to be applied and used without alteration or change in the construction of the cars, and without dispensing with or preventing the use of the ordinary couplings, whereby cars of different construction and heights can be easily linked together.

To effect these ends the nature of this invention consists of a pair of hooks having an open or expanded jaw adapted to interlock and embrace each other, and to disengage themselves when not held lengthwise, and a pin, which, being placed between the hooks, holds them together by preventing either lateral or longitudinal motion between the hooks; also, in an arrangement of funnel-shaped guides to facilitate the introduction of the pin, and of springs whereby the hooks may be automatically engaged and disengaged when the pin is removed.

I will now proceed to particularly describe the mode of making and using the said invention, referring in so doing to the drawings annexed, in which—

Figure 1 shows a top view; Fig. 2, a side view; Figs. 3, 3^a, 3^b, 3^c, 3^d, and 3^e views of the several parts as detached; and Figs. 4, 5, and 6 show modifications thereof.

The same letters of reference apply to the same parts in the several figures.

A represents hooks, having eyes B formed in them, through each of which the usual pins, C, of railway freight-car draw-heads D may be

passed, and by which it is held in such draw-head. E is a flaring jaw formed in one piece with each of the hooks A. The draw-heads D and the pins C are drawn in dotted lines, so as not to obscure the form of the hooks, and the hooks are line-shaded in Figs. 1 and 4 in different directions, so as to readily distinguish one from the other. When the hooks A are engaged, there is a cylindric opening between, into which a pin, F, fits. The pin F is provided with a collar, F', and a ring-handle, F², and chain F³, for the purpose of lifting it. Springs G are attached to each of the hooks A, the free ends of which resting against the side of the opening in each draw-head places the hooks in the position shown in Fig. 4 when they are disengaged. In the form shown in Figs. 1, 2, and 3 there is a conical cup, H, formed in two halves, one half, H', being formed as part of each of the hooks A, which serves to facilitate the introduction of the pin F into the opening between the hooks A. In the form shown in Fig. 4 this is omitted.

As shown in Fig. 5, the springs G are dispensed with, and the draw-heads D are not used; but instead thereof the hooks A are attached to elastic draw bolts or rods J, which by their elasticity serve to open or separate the hooks when the pin F is removed, and the hooks A drawn apart in the line of the motion of the cars. From the shape of the hooks A the parts marked A², touching and resting in the converging parts marked A³, raise the hooks A to horizontal position and to proper alignment, even though the hooks A fit so loosely in the draw-head as to droop. The form of the hooks A permits a limited vertical motion between them without risk of disengaging them, and adapts the coupling to unite cars of different height of draw-heads, and from its mode of attachment preserves the flexibility incident to the ordinary link-and-pin coupling. By resting the collar F' of the pin F on the rim of the funnel or hopper H, when the cars are forced together, the hooks A engage and the pin F falls into its place, leaving the cars coupled. To uncouple the cars the pin F is simply lifted out by the chain or ring.

Instead of the pin F, the hooks may be locked together by blocks K, hinged to or sliding in the hooks A, as shown in Fig. 6, which modi-

fication, although useful, involves greater cost than that in which the pin or key F slides vertically between the hooks A.

This coupling from its cheapness is particularly applicable to freight-cars, being readily applied or removed, and not requiring any alteration of the ordinary couplings, but leaving them intact—a feature of first importance where cars belonging to different roads are to be coupled in the same train, and where, as in the State of Connecticut, the use of freight-cars without self-couplers is prohibited by statute.

I am aware that car-couplings have been made wherein the draw-heads of similar form, each provided with a mortise and tenon fitted one within the other, and were secured together by a cylindric pin fitting in grooves formed in the contiguous sides of the tenons; also, that car-couplings have been made consisting of two similar rectangular hooks each formed on the end of a draw-bar on each car, and pressed toward each other by springs to effect automatic engagement, in which position they were secured by a pin fitting in a groove cut in the rear wall of each hook. The first of these is objectionable on account of necessitating nearly equal level of the draw-bars, and also the side strain in the mortises and tenons resulting from the pressure of the pin in the grooves, and the latter is objectionable because of necessitating the presence of an attendant at the coupling when the cars are to be drawn apart, and, by reason of depending on the pin to prevent lateral motion between the hooks, are liable to soon become loose from wear. Neither of these do I claim; but,

Having described this invention and the mode of operating the same, what I claim is—
 1. A car-coupling consisting of two interlocking hooks, A, of such form as to embrace the front and rear sides of the pin F, and subject the said pin to a compressing strain only in the direction of the line of draft or motion of the train, and each provided with a flaring jaw, E, adapted by its form to laterally guide the end of the opposing hook into the bottom of the converging hook and jaw, and there rigidly hold the same in proper alignment, in

combination with the pin or key F, so constructed and arranged as to rigidly retain the end of each hook in the convergence of the opposite hook and jaw when the pin F is placed between the hooks A, substantially as shown, and for the purpose set forth.

2. A car-coupling consisting of two similar hooks, A, each having a flaring jaw, E, adapted to align each other, and provided with a tapering guide for supporting and guiding a central pin to a position for locking said hooks together, substantially as set forth.

3. A car-coupling consisting of two similar hooks, A, each having a flaring jaw, E, adapted to guide, by a lateral movement, the opposing hook into proper alignment in such manner as to permit the recurved or overlapping ends of the hooks A to pass each other in the act of coupling and uncoupling, with a bolt or pin, F, adapted to separate the overlapping ends of the hooks A in the direction of the line of traction of the coupling, substantially as and for the purpose set forth.

4. In a car-coupling, the combination of two similar hooks having flaring jaws, and adapted to be flexibly connected to the ordinary draw-heads of railway-cars, and by their form align themselves, when forced together, with a pin or key adapted to secure them together, substantially as shown and described.

5. The combination of two similar hooks having flaring jaws, and adapted by their form to align themselves, when forced together, and susceptible of unrestricted vertical motion in each other, with a pin or other interposed body for securing the same together, substantially as set forth.

6. The combination of two similar hooks, A, having flaring jaws E, adapted to engage and align themselves, when pressed together, and be locked by an interposed pin, F, with a spring, G, arranged to disengage the same when retracted, and present the hooks in position for re-engagement, substantially as set forth.

S. LLOYD WIEGAND.

Witnesses:

LINN WHEELER,

G. STROBEL SULLIVAN.