

(No Model.)

2 Sheets—Sheet 1.

J. J. KENNEDY.

CAR COUPLING.

No. 262,433.

Patented Aug. 8, 1882.

Fig. 1.

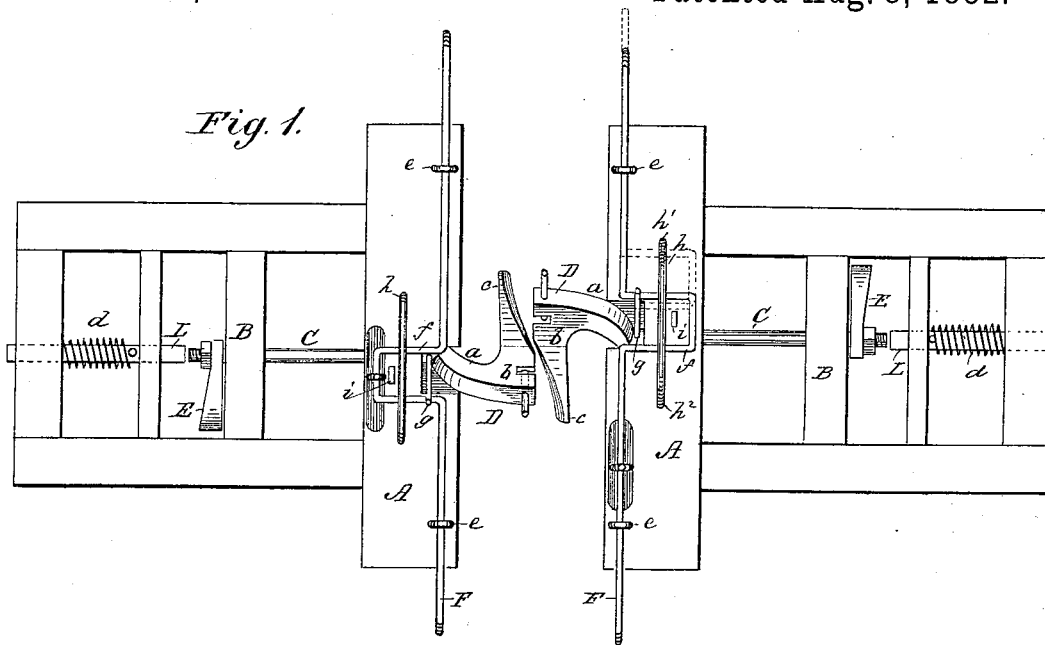
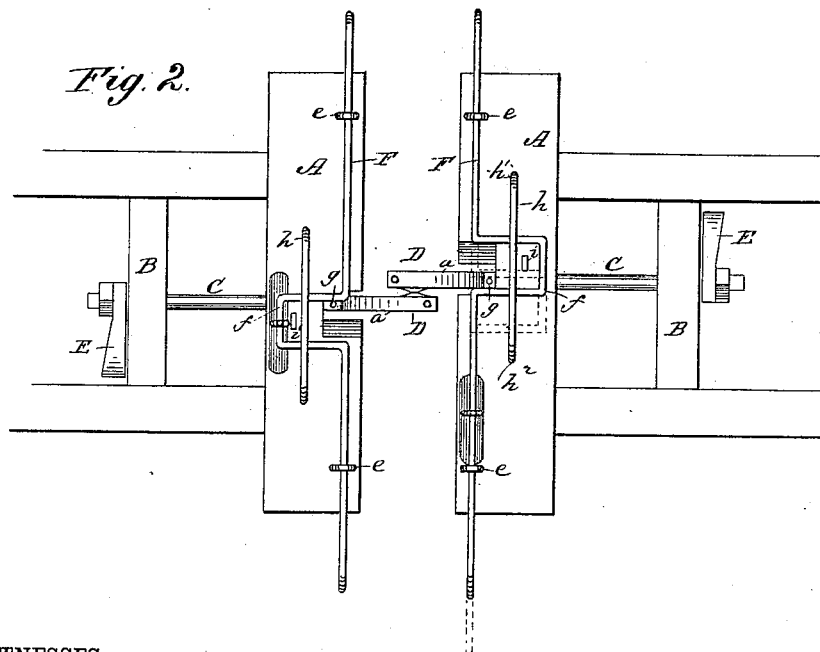


Fig. 2.



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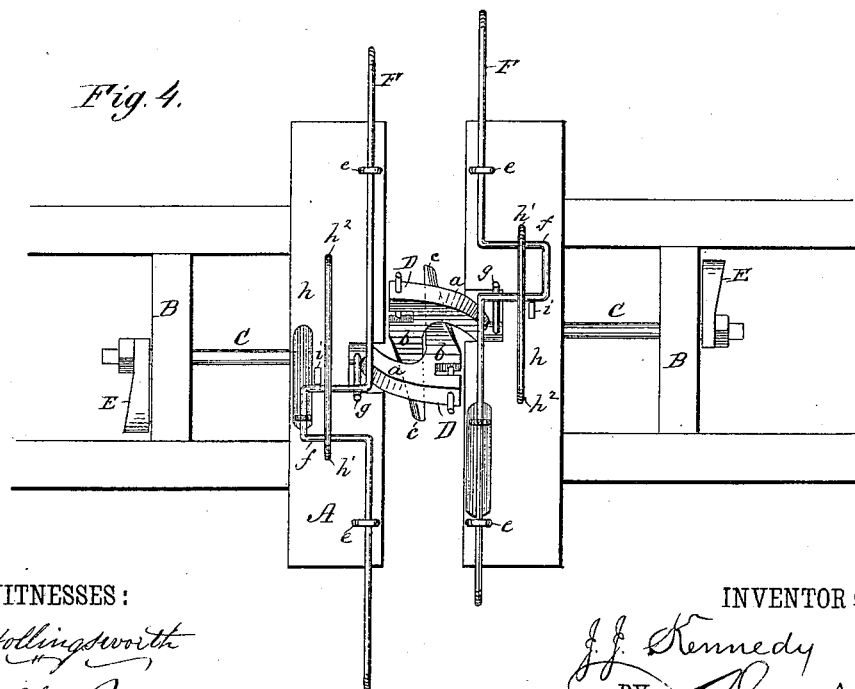
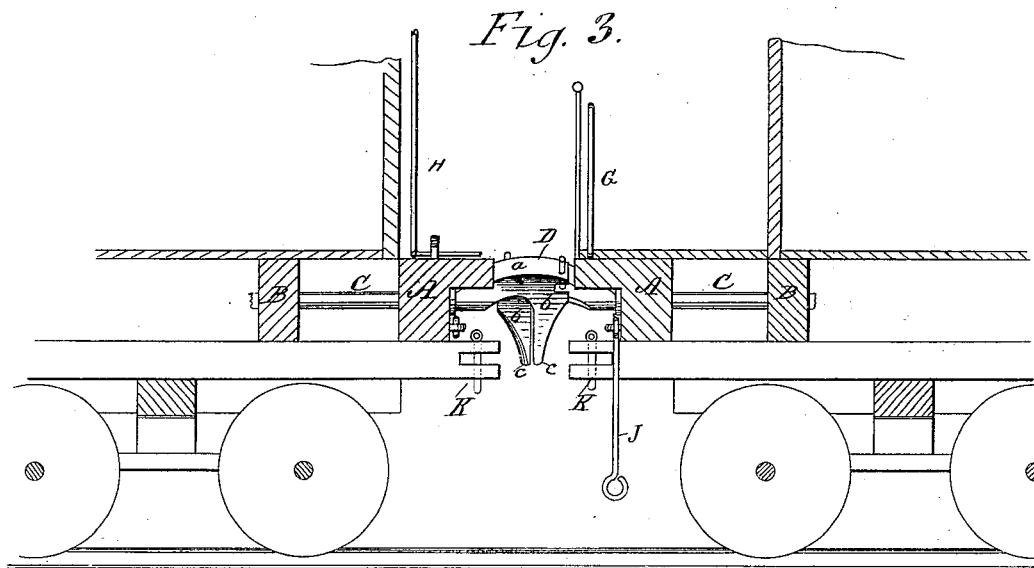
ATTORNEYS.

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WITNESSES:

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UNITED STATES PATENT OFFICE.

JACKSON J. KENNEDY, OF CLEVELAND, TENNESSEE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 262,433, dated August 8, 1882.

Application filed May 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACKSON J. KENNEDY, of Cleveland, in the county of Bradley and State of Tennessee, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view, showing the coupling devices in the position they occupy just at the time of impact and before coupling. Fig. 2 is a similar view, showing the hooks turned into vertical position by mutual contact and just before the hooks lock into each other; and Figs. 3 and 4 are respectively a vertical section and a plan view of the devices after the hooks are coupled and locked in this position.

My invention relates to an improved car-coupling of that form in which the draw-bar is in the nature of a rotary oscillating shaft, which has at its outer end a coupling-hook which is permanently held in a position for automatic coupling by the influence of a weight tending to rock said shaft, so that when the draw-bars of two cars come together the hooks, striking each other, cause the shaft to rock against the influence of the weight until the hooks are past each other, at which time the weight again turns the hooks into position for engagement for a coupled connection.

My improvements consist in the peculiar construction of goose-neck hooks and their diagonal or crossed connection when coupled, whereby free lateral and vertical play is afforded and a stronger and more secure connection is effected, and, also, in the combination therewith, of peculiar means for locking the hooks open or closed, or allowing them free automatic movement, as will be hereinafter more fully described.

In the drawings, A represents the end sill, and B a parallel cross-bar, of the floor-timbers of a car, in which, in suitable bearings, is swiveled the longitudinally-arranged draw-bar shaft C. These draw-bar shafts are arranged a little to one side of the center line of the car, so as to let the outer ends, which bear the hooks, pass by each other, and the bearings of said shafts are such as to allow a free rotary adjustment of the shaft about its axis. The

outer ends of the shaft of each draw-bar are provided with a goose-neck hook, D, arching upwardly at *a* from the shaft, then thickened to form a head, *b*, and terminating in a downwardly-pointing beak, *c*, the adjacent sides of the beaks on the draw-bars of two cars being beveled or rounded off, so that when these hooks come together they will mutually deflect each other and turn the draw-bar shaft on their longitudinal axes. These hooks, when in the normal position for engagement, straddle each other with their beaks, as in Figs. 3 and 4, the latter occupying a position diagonal to the vertical and horizontal line and crossing each other at about a right angle. These hooks are held in this position by the influence of a weighted arm, E, or its equivalent in the form of a spring. In coupling two cars the hooks occupy the diagonal position shown in Fig. 1, and when they strike the rounded faces of the beaks cause both hooks to gradually assume a vertical position, as in Fig. 2, until they are past each other, rotating partially the shaft and lifting at the same time the weighted arm, which is rigidly attached thereto. Then when the hooks pass each other the heads *b* strike against the concussion-plates on the car-sills, and the weighted arms rock the hooks back again to the locked diagonal position of Figs. 3 and 4, which couples the cars. To take up the jar of concussion the rear ends of the draw-bar shafts are made to bear against a separate shaft, L, Fig. 1, carrying a spiral or other form of springs, *d*. The object in placing this spring on a separate shaft, L, is to prevent said spring from interfering with the sensitiveness of the rotary action of shaft C.

In regard to the merit of the peculiar form of coupling-hook in this connection, I would state that this rotary adjustable weighted shaft has heretofore been used in connection with jaws or locking-cams; but these permit little or no vertical or lateral play, which it is the design of my form of hook to supply, and, besides, in my construction of hook, the heads *b*, which have the steepest incline, strike first, and the point of contact of the hooks then travels down to the ends of the beak to make the deflection of the shaft gradual, smooth, and free from jar.

In order to lock the hooks in a coupled po-

sition, or lock them in an uncoupled position, or leave them free to act automatically, I provide for each draw-bar a transverse operating-rod, F, which is arranged to slide in guide *e* on the top of the front sill of the car. These rods extend from side to side of the car, and just above the draw-bar are bent to form a loop or double crank, *f*, in which rests an arm, *g*, projecting upwardly from the draw-bar and playing, as the draw-bar oscillates, in a notch in the end sill. Over the looped or double-cranked portion of the rod F is placed a keeper, *h*, or rod set a short distance above the sill, with its ends let into the same, which keeper holds the loop *f* of the rod F in proper position—*i. e.*, it allows the rod F to be turned slightly on its axis, and also acts as a guide for the longitudinal adjustment of the same, as hereinafter described. Secured to the sill, about midway the keeper *h*, is also a stop-lug, *i*. These devices serve to control the position of the coupling-hooks, as follows:

If it is desired to allow the draw-bars free and unobstructed movement for automatic coupling, the rod F is adjusted with its loop *f* about midway the keeper *h*, so that the vibratory movement of the arm *g* in coupling is unobstructed, as in Figs. 1 and 2. If, after coupling, it is desired to lock the cars in coupled position, the rod F is turned slightly on its axis until the loop *f* is raised above the lug *i*, and the rod is then adjusted longitudinally until the loop rests between the lug *i* and the end *h'* of the keeper, (see dotted lines, Fig. 1, and full lines, Fig. 4,) in which position the loop *f* also bears against the arm *g* and holds the hook against any tendency to turn out of its coupled position.

If it is desired to uncouple the cars, the rod F is moved in the opposite direction, which causes its loop *f* to bear against the arm *g*, and by rocking the shaft C turns the hook into a vertical or uncoupling position, in which position the hook may be locked by dropping the loop *f* between the lug *i* and the end *h'* of the keeper, as in dotted lines in Fig. 2, thus holding the hook in a position free to uncouple.

To permit the locking, coupling, or uncoupling to be effected from all desired points, the

rods F extend to both sides of the car and terminate in a suitable handle, and for platform and passenger cars have a vertical rod, G, Fig. 3, extending upwardly, while for box-cars they have a long jointed rod, H, extending to the top of said car.

To permit cars equipped with my invention to be coupled to ordinary cars, a separate coupling-head, K, may be provided for low cars, while for higher cars a notch may be formed in the head *b* of the hook and provided with a pin; or a separate shackle-bar, J, may be connected to the sill of each car and used for all purposes of coupling when my peculiar coupling devices are not applicable.

By means of my devices, as herein described, the cars may not only be coupled and the couplings locked, but, when running at full speed, if one or more of the cars get off the track they are at once disconnected from the other cars by reason of the open construction of the coupling-hooks.

The within-described car-coupling may be provided with a supporter for the coupling head or hook at the lower and extreme point in front by an aperture in the frame-work or loop or stirrup projecting in front, arranged so as to receive and hold firm the lower point of hook or head in front when the car is coupled.

Having thus described my invention, what I claim as new is—

1. The rotary adjustable draw-bar shaft C, having a weighted arm and a goose-neck hook formed with an upward arch, *a*, thickened head *b*, and beveled-faced beak *c*, projecting downwardly in diagonal position to the vertical and horizontal lines, in combination with a spring for sustaining the shock of coupling, as set forth.

2. The combination, with the rotary shaft C, having coupling-hook D, and arm *g*, of the rod F, having loop *f*, the keeper *h*, and the lug *i*, arranged, as shown and described, for operating the coupling-hooks and locking them in coupled or uncoupled position, as set forth.

JACKSON J. KENNEDY.

Witnesses:

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 SOLON C. KEMON.