(No Model.)

J. L. SHOENBERGER.

CAR COUPLING.

No. 348,243. Patented Aug. 31, 1886.

FIG. I.

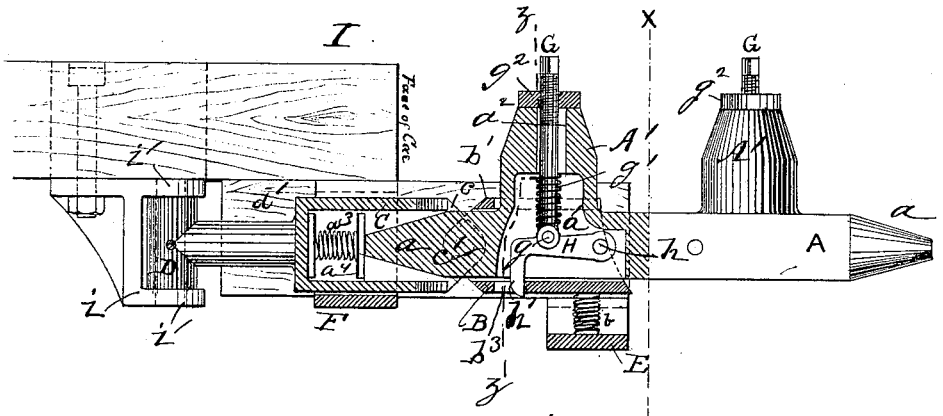


FIG. II.

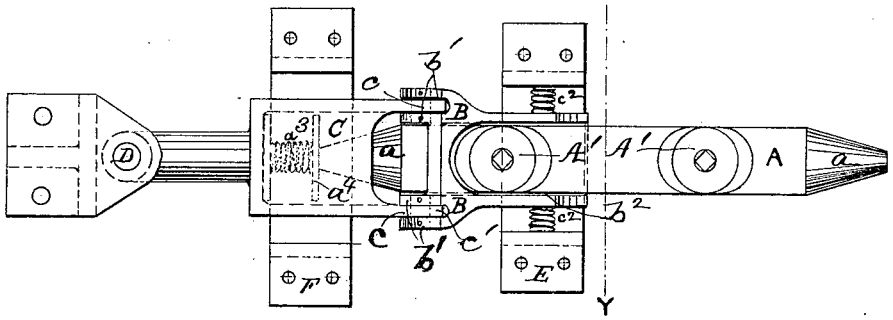
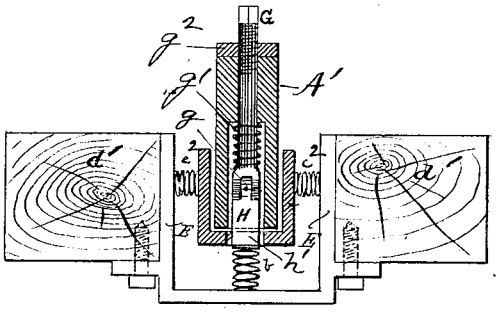


FIG. III.



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 348,243, dated August 31, 1886.

Application filed June 9, 1886. Serial No. 204,665. (No model.)

To all whom it may concern:

Be it known that I, JOHN LOUIS SHOENBERGER, a subject of the Emperor of Germany, and a citizen of the Grand Duchy of Hesse-Darmstadt, but now residing in the city of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure I represents a side view of the invention attached to a car, and partly in section; Fig. II, a plan view of the same, and Fig. III a transverse section on the line *z z* of Fig. I.

The invention relates to that class of couplings in which a detachable piece or bar couples automatically to each of two cars, but has to be uncoupled by hand, its object being to construct a simple and effective device of the kind; and it consists in the construction and novel arrangement of parts hereinafter described, illustrated in the drawings, and pointed out in the claims hereto appended.

Referring to the accompanying drawings, A represents the said detachable piece or bar, rectangular in cross-section, provided with blunt conical ends *a a*, as shown in Figs. I and II, and having on its upper surface the projections A′ A′. The bar A is symmetrical, the projections A′ being equally distant from the center of the same or from the adjacent ends thereof. The ends *a a* are similar, and each end is adapted to couple to one of two cars in the same manner, so that the description of one projection A′ and the manner of coupling to one car alone is necessary.

a′ is a hollow space or chamber in the bar A below the projection A′, and extending up into the lower part thereof, Fig. I, and a^2 is a central vertical bore through the upper part of said projection, which is preferably made conical, as shown in Fig. I.

H is a hook pivoted upon the transverse rod *h*, having its ends secured in the side walls of the chamber *a′*, and its point *h′* extending downward.

G is a rod passing through the bore a^2 of the extension A′, and having its lower end bifurcated, so as to fit upon the upper edge of the hook H, to which it is pivoted at *g*.

g′ is a coil-spring surrounding the rod G, between the roof of the chamber *a′* and the bifurcated lower end of said rod, and acting to depress the point of the hook H.

g^2 is a nut upon the threaded upper portion of the rod G. The said nut brings up against the end of the projection A′, so as to prevent the hook H from being depressed too far.

I is the end of a car having secured to its lower surface the bracket *i*, having in its arms *i′* bearing for the journals of the vertical shaft D, and *d* is a horizontal arm or bar standing outward from the center of said shaft and having secured to or made upon its outer end the rectangular hollow box C, forming part of the draw-bar proper. The outer end of said box is bifurcated, or provided with the similar side plates, *c c*, each having an edge provided with a central rounded angle, *c′*, as seen in Fig. I. The point or angle of each of said plates enters and is pivoted between the plates *b b* on the sides of the inner end, Fig. II, of a box-like piece, B, forming the outer portion of the draw-bar. The piece B is of general rectangular shape, its top being cut away at b^2, Fig. II, for the projection A′ to pass upward, and it is provided with a slot, b^3, in its floor for the end of the hook H to engage in, thereby holding the piece A to the draw-bar. The piece B can be turned upward or downward on the box C. The plates *b′*, having shapes similar to those of the plates *c* and the draw-bar, as a whole, can be turned laterally with the shaft D.

a^3 is a coiled spring secured to a plate attached to the inner surface of the inner end of the box C, and having a buffer-plate, a^4, secured to its outer end. The said plate receives the impact of the point *a* when the bar A couples to the draw-bar, and the give of the spring a^3 prevents breakage by jar and loose play between the said bar A and the draw-bar.

d′ d′ are similar blocks secured to the under surface of the car, and equally distant from the draw-bar on each side thereof.

F is a supporting-bracket having its side plates secured to the inner sides of the blocks *d′* and its transverse portion under the box C, to support the same. E is a similar bracket, similarly secured to the blocks *d′ d′*, but with its transverse portion a suitable distance below

the plate B, and b is a coiled spring between the said transverse portion and the floor of said piece, which it sustains upon the former. c^2 c^2 are similar coiled springs between the side plates of the bracket E and the sides of the piece B, to support the latter from the former and return it to the central portion thereof when the draw-bar has been turned laterally, as when the car has passed a curve.

The portion B is made free to turn up and down on the box C, to enable the piece or bar A to couple cars of different heights, and the whole draw-bar is made to swing laterally, to enable the train to readily turn curves on either side.

In coupling the inclined point of the hook H is driven upward by the inclined outer edge of the floor of the piece B, and is held up till it comes over the slot b^2, into which the action of the spring g' forces it.

If desired, a friction-roller may be pivoted to the end of the hook H, to make the parts work more easily upon each other, though this is not absolutely necessary.

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

1. In a car-coupler, the detachable coupling-bar, the spring-controlled hooks pivoted in chambers therein and operated by means substantially as described, and the hollow draw-bars, each provided with a slot for the engagement of one of said hooks, substantially as described.

2. In a car-coupler, the combination of the detachable coupling-bar, the spring-controlled hooks pivoted in chambers therein and operated by means substantially as described, the hollow draw-bars provided with slots for the engagement of the hooks, and the vertical oscillating shafts pivoted in brackets secured to the cars and having the draw-bars secured to and moving laterally with them, substantially as specified.

3. In a car-coupler, the combination of the detachable coupling-bar, the spring-controlled hooks pivoted in chambers therein and operated by means substantially as described, and the draw-bars provided with slots for the engagement of said hooks and composed of two parts, the outer of which is pivoted to the inner part so as to move up and down thereon, substantially as specified.

4. In a car-coupler, the combination, with the hollow draw-bars moving laterally with the oscillating shafts D, and composed of the parts B and C, the former of which is arranged to swing up and down on the latter and has in its floor the slot b^3, of the detachable coupling-bar A, provided with the chambers a', and having the hollow or bored projections A′ rising from it, the hooks H, pivoted within the chambers a', the rods G, each pivoted to a hook, H, the springs g', and nuts g^2, substantially as specified.

5. The combination of the draw-head connected to and swinging laterally with the oscillations of the shaft D, and composed of the parts B C, the former of which is arranged to swing upward and downward on the latter, with the blocks d' d', the sustaining-blocks F E, and the coil-springs b c^2 c^2, which sustain the part B of the draw-head in a proper position between the arms of the bracket E, substantially as specified.

6. In a car-coupler, the combination of the detachable coupling-bar A, constructed substantially as specified, and the hooks H, pivoted within chambers in said bar, with the laterally-movable hollow draw head composed of two parts, the outer of which swings up and down on the inner part and is provided with a slot for the engagement of one of the hooks pivoted upon the draw-head, the coil-spring secured to the bottom of the recess of the draw-head, and the buffer-plate secured to the end of the said coil-spring to receive the impact of the detachable coupling-bar and prevent breakage by jar in coupling, substantially as specified.

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Witnesses:
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