R. A. KELLY.

CAR-COUPLING.

No. 181,946. Patented Sept. 5, 1876.

Fig. 1.

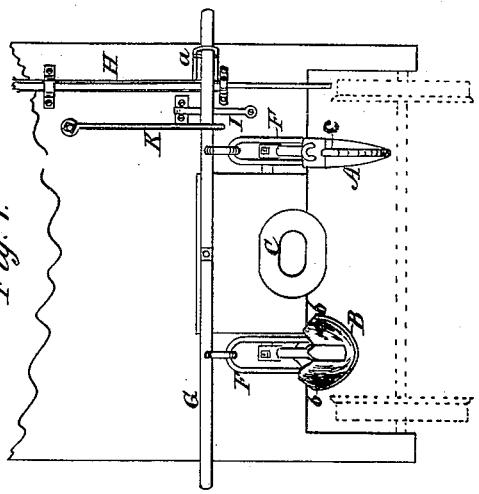


Fig. 2.

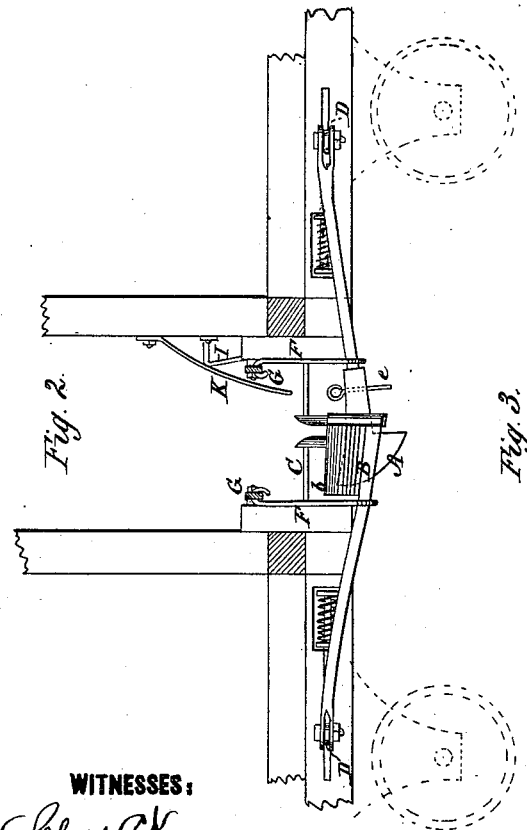
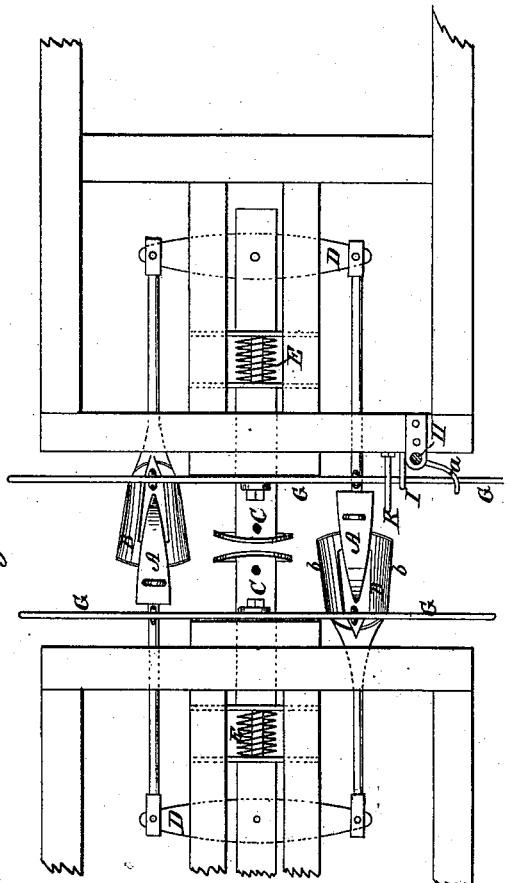


Fig. 3.



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RICHARD A. KELLY, OF MANCHESTER, IOWA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **181,946**, dated September 5, 1876; application filed July 25, 1876.

To all whom it may concern:

Be it known that I, RICHARD A. KELLY, of Manchester, in the county of Delaware and State of Iowa, 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:

The invention is an improvement in the class of automatic car-couplings; and consists in a hook and draw-bar pivoted at their rear ends to a swiveled cross-bar, and suspended free at their front ends from a sway bar or lever, which is pivoted to the end of the car so that it may be tilted to adjust the hooks and draw-bars for coupling or uncoupling.

The invention also includes a peculiar device for adjusting the said sway-bar, as hereinafter described.

The coupling, as a whole, is adapted to operate automatically, both upon a curved and a straight track. The draft or tractive force is equalized and applied along the central line of the cars, and the uncoupling may be effected from the side, top, or platform of a car with equal ease, without danger to life or limb.

In the accompanying drawing, forming part of this specification, Figure 1 is an end elevation of a fragment of a railway-car, with my improvements attached. Fig. 2 is a side elevation, showing the complete coupling, the corresponding parts being engaged or locked together. Fig. 3 is a plan view of the same.

The parts which form the coupling proper are hooks A and links or draw-bars B, one of each being attached to each end of the car, and, preferably, arranged one on each side of an ordinary draw-head and buffer, C, a hook, A, being always placed on the same—say, the left—side of a car, and the draw-head B on the other side, it is obvious that when any two cars come together, the respective hooks and draw-heads will always couple or engage.

The said hooks and draw-bars are provided with long shanks, which extend back beneath the car and are pivoted to eveners or swiveled bars D, which are placed transversely of the car and connected with the spring E of draw-head C in such manner that said spring operates to prevent sudden shock to the car, or breaking of the coupling when the tractive force is suddenly applied. The evener enables the hooks and draw-heads to couple upon a curved track, and also to adjust their position, when coupled, in passing around a curve, so that the tractive force is always applied on the central line of the cars, and equally to both sets of coupling devices. The evener is pivoted to a rear extension of the buffer C, and hence moves with it toward or from the end of the car, according as tractive force is applied to or removed from the coupling devices.

The front ends of the several hooks and draw-bars are suspended by links F from sway or balance bars G, which are pivoted centrally to the end of the cars, and whose ends project slightly beyond the sides of the cars, so that they may be employed as levers for disengaging the coupling devices, by the operator standing at the side of the track, without requiring him to enter between the cars and thus expose himself to danger in the operation.

To enable the coupling to be disengaged from above, as by an operator standing on the platform of a passenger car, or upon the top of a freight-car, I provide the rod H, which is adapted to slide vertically in suitable guides or staples, and also to turn therein.

A link or U-shaped arm, *a*, projects from the lower end of the rod, and the end of the sway-bar G passes through it. Thus, by raising the rod, the bar will be swung on its pivot and the hook raised while the draw-bar, also connected thereto, is lowered correspondingly. To support the raised end of the sway-bar H, and thus hold the coupling devices proper in this position, a catch or bracket, I, is attached to the end of the car.

When it is desired to restore the parts to their former position—that is to say, to lower the hook and raise the draw-bar so that they may be in position for coupling with corresponding parts on another car, the rod H is turned one-quarter round, thus causing the arm *a* to force the end of the sway-bar off the shoulder of the catch I against the tension of a spring, K. I may, however, dispense with this spring, and apply a coiled torsion-spring to the rod itself, and thus cause it to hold the end of the sway-bar upon the shoulder of the

catch I, by means of the pressure of its U-shaped arm *a* against the same. Another function of the rod is to assist by its added weight in holding the hook A down when coupled with a draw-bar, and thus prevent accidental uncoupling when a train is in motion.

The parts being in the position shown in Fig. 1, when two cars come together, the beveled nose of each hook strikes the end of the opposite draw-bar, and rides up on the same till its beak drops into the elongated slot therein. This operation is facilitated by the inclined guards *b* attached to the sides of the draw-bar opposite the slot. When two cars meet upon a curved track, the coupling would ordinarily be effected on one side only but for the provision of an arm, *c*, which projects from the under side of each hook. Said arm strikes the end of the draw-bar immediately the beak of the hook has fallen into the slot, and, pushing back the same, turns the swiveled bar on its pivot, and causes the hook attached to the other end of the said bar to be projected forward. The opposite or corresponding draw-bar is also caused to project forward in the same way, and thus both sets of coupling devices are made to engage.

The uncoupling is effected by raising one end of the sway-bar, as before described, thus raising the hook and lowering the draw-bar connected therewith, and freeing them from the corresponding draw-bar and hook attached to the opposite car. The ends of the sway-bars project from the sides of the cars; and hence, when all said ends appear in line through a train, the engineer is able to know the couplings are properly made. When the end of any sway-bar appears greatly out of line, it is evidence that the coupling is not made at that point.

It will be observed that with this construction and arrangement of parts, cars standing together can be coupled or uncoupled without the aid of a locomotive. The buffer C acts as such when cars provided with my improved coupling are brought together; but when one of the two cars is not thus provided, the buffer is necessarily brought into use as a draw-head.

The hooks are always made heavier than the draw-bars which are connected to the same sway-bar, the better to insure their coupling and remaining coupled with the opposite draw-bars.

What I claim is—

1. The combination of the draw-bars and hooks pivoted to swiveled cross-bars and suspended at their front ends from the balance or sway bars pivoted to the ends of the cars, as shown and described, to operate as set forth.

2. The combination of the rod provided with arm *a*, and adapted to slide and rotate as described, with the catch, sway-bar, and coupling-hooks and draw-bars, as shown and described.

The above specification of my invention signed by me this 22d day of July, 1876.

RICHARD A. KELLY.

Witnesses:
AMOS W. HART,
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