

P. G. GARDINER.
Improvement in Car-Couplings.

No. 125,562.

Patented April 9, 1872.

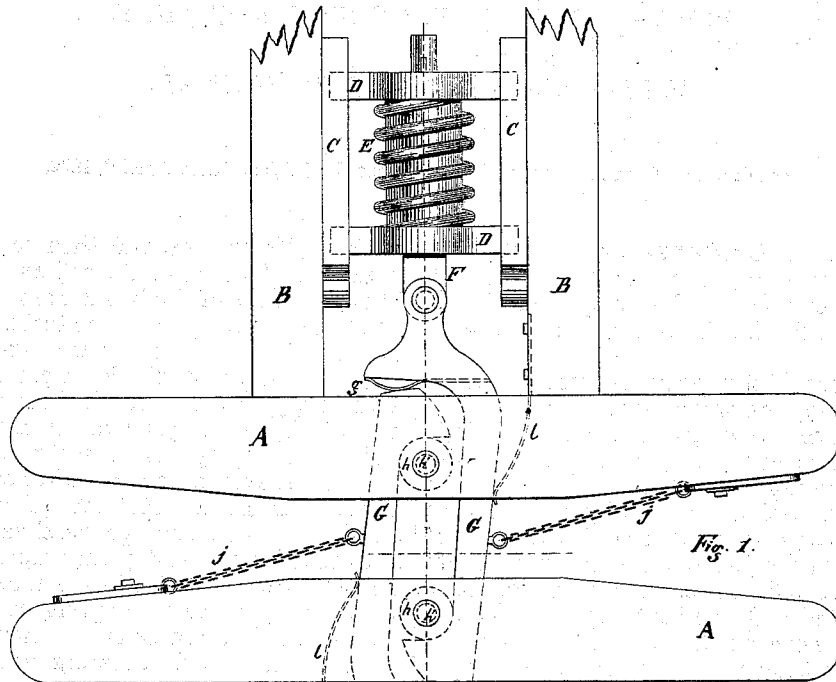


Fig. 1.

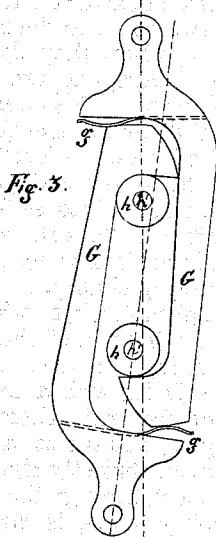


Fig. 3.

Scale for Parts of Coupling :

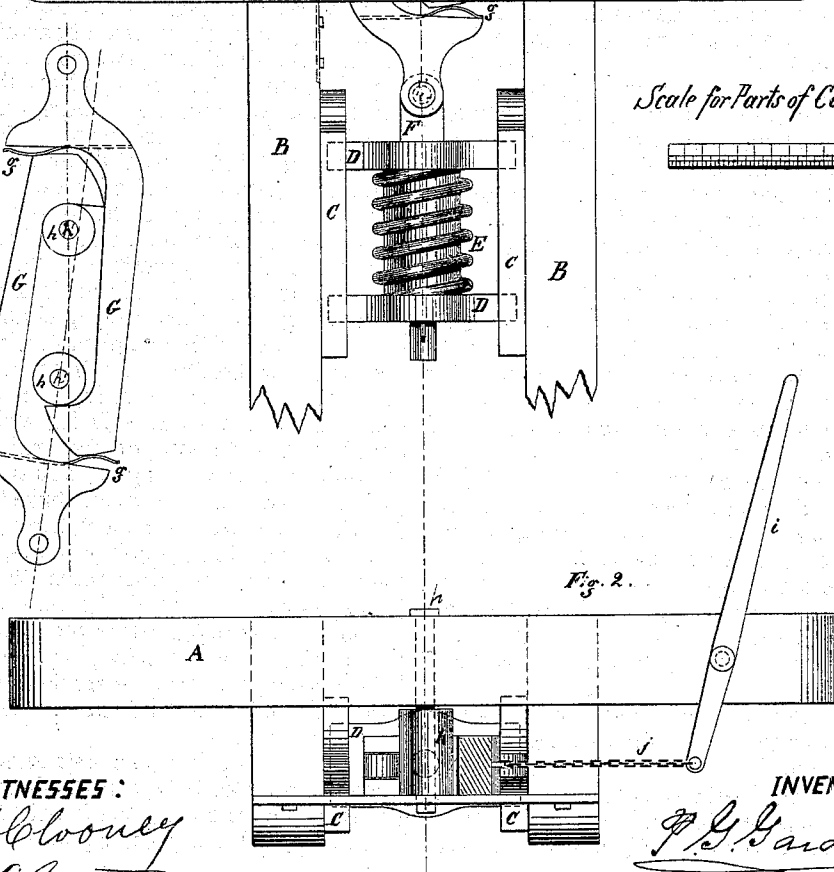


Fig. 2.

WITNESSES :

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PERRY G. GARDINER, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 125,562, dated April 9, 1872.

I, PERRY G. GARDINER, of the city and State of New York, have invented a new and useful Improvement in Couplings of Railroad Cars, of which the following is a specification:

The object of my present invention is to provide a coupling which shall hold the cars together in the drawing of the train by a rigid and unyielding connection, while, at the same time, the buffing, when the cars approach or crowd upon each other, shall be constantly under elastic pressure; and my invention consists, first, in the peculiar construction of the draw-hooks, and the manner in which they are connected with the buffer-spring; and secondly, in the construction of a sheave or roller about the bolt or pin by which the coupling is held and to which the coupling-hooks are adapted for automatic interlocking, as hereinafter described.

In the accompanying drawing, Figure 1 represents, in plan, the construction of the hooks, jointed rods of the same, and the springs to which the hooks and rods are attached for buffing; also the bolt or pin with its sheave or roller, and other parts of the coupling apparatus arranged under the car platform. Fig. 2 is a front elevation of the same. Fig. 3 is a plan view of the coupling-hooks and the bolts or pins with the sheave or roller on the same, showing in detail the position of the hooks when the line of one car or hook is diagonal to that of the adjoining car or hook.

Similar letters represent similar parts in all the figures.

A is the platform or buffer-beam; B, the parallel longitudinal timbers on which are secured the two parallel metal side guide and bearing plates C, which are slotted longitudinally to hold the compressor-plates D, which support the buffer-spring E. G are the draw-hooks, operating also as buffer-head. *h* is the bolt or pin, having upon it a roller or sheave, *h*.

I now describe the construction and arrangement of the parts constituting my present invention.

The coupling-hooks G have their sides sufficiently elongated to enable the jaws of the coupling-hook to pass the rollers or sheaves

of the bolts or pins, and then to immediately shut or close upon the rollers or sheaves. The outer ends of the hooks are made of such length as to nearly meet the throat or base of the jaw of the opposite connecting-hook. The outer end or face of the head presses against a spring, *g*, inserted in the base of the jaw, and which, as it is particularly described and claimed in my specification for Letters Patent filed of even date herewith, need not here be more particularly set forth. Upon the coupling-bolt or pin I arrange the sheave or roller *h*, so that it will readily turn upon the bolt; its operation is to facilitate the automatic coupling, and also the uncoupling of the hooks. The lateral inner faces of the coupling-hooks are beveled or made tapering, and are set so that when the pairs come together in coupling they will be forced backward until the holding faces of the jaws come to the rollers or sheaves of the bolts, when they fly into their places upon the rollers, and are there held by the rollers and bolts. This operation is made automatic by the operation of the lateral springs *l*, one end of which is fast to the side timber B, while the lower end presses upon the back so as to force it into self-coupling, and also to permit it to be drawn back for uncoupling, which is performed by the lever *i*, Fig. 2, and connecting-chain *j*.

The rod F of the coupling-hook, to which it is jointed to permit the vibration of the hook for coupling and uncoupling is connected with the compressor-plates D in such a manner that in the drawing of the train there is no action upon the spring E; but the connection of the cars and train is perfectly rigid and unelastic; but the spring E, through the heads and rods of the coupling-hooks, is made to act as a buffer-spring when the cars press upon each other, and the buffing is always under a constant elastic pressure.

Having thus described my invention and its construction and operation, what I claim therein, and which I desire to secure by Letters Patent, is—

1. The peculiarly-constructed elongated coupling-hooks G G, arranged and combined with the spring E by the jointed rods F of the hooks G, and compressor-plates D, and spring

g, and the bolt or pin, so that the drawing shall always be by a rigid unyielding connection, but the buffing shall be under constant elastic pressure.

2. In combination with a suitably-constructed draw-hook, as above described, the sheave or roller *h*, surrounding and moving upon the

bolt or pin, for facilitating the coupling and uncoupling, and operating in the manner and for the purposes substantially as described.

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Witnesses:

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