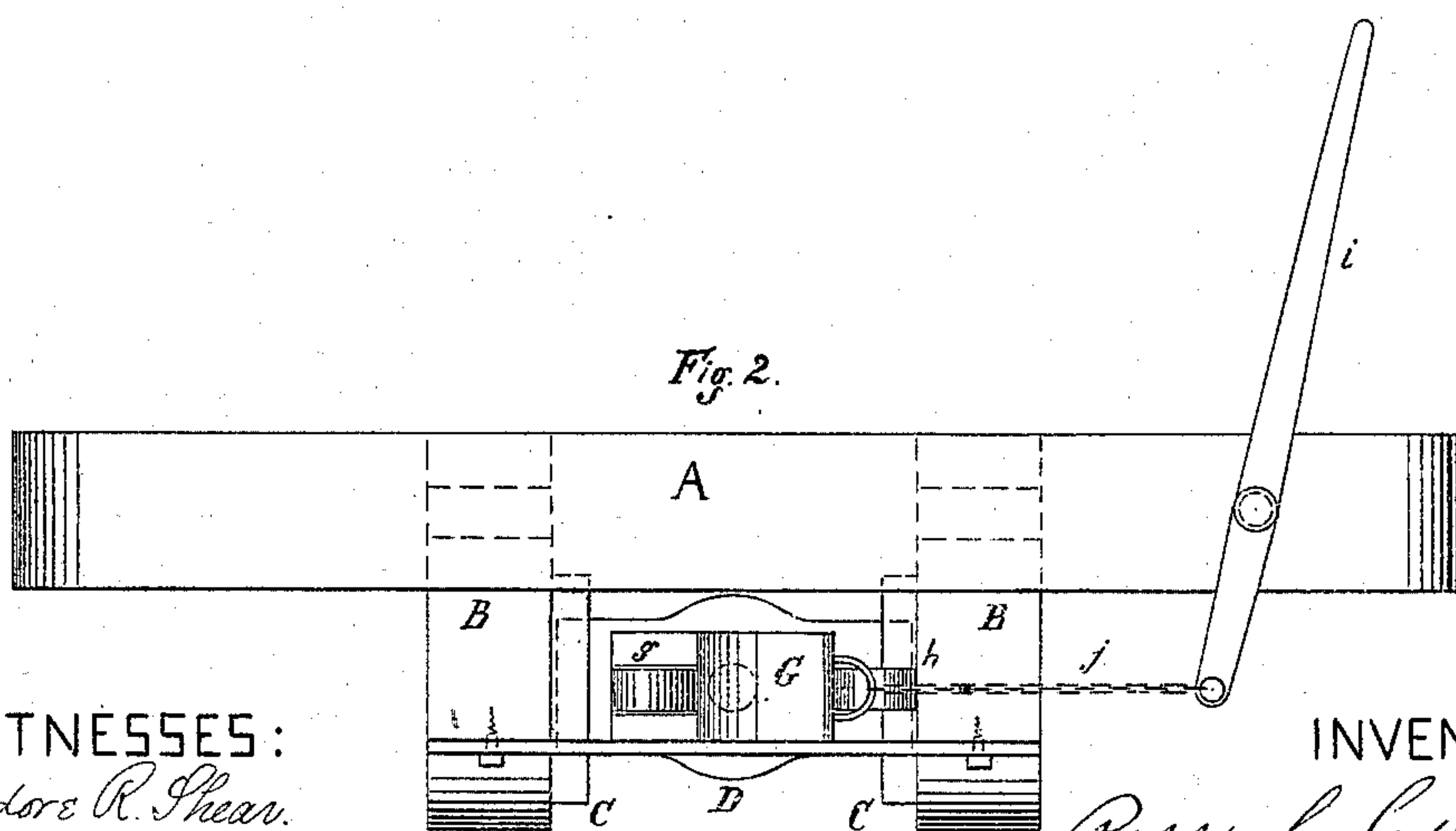
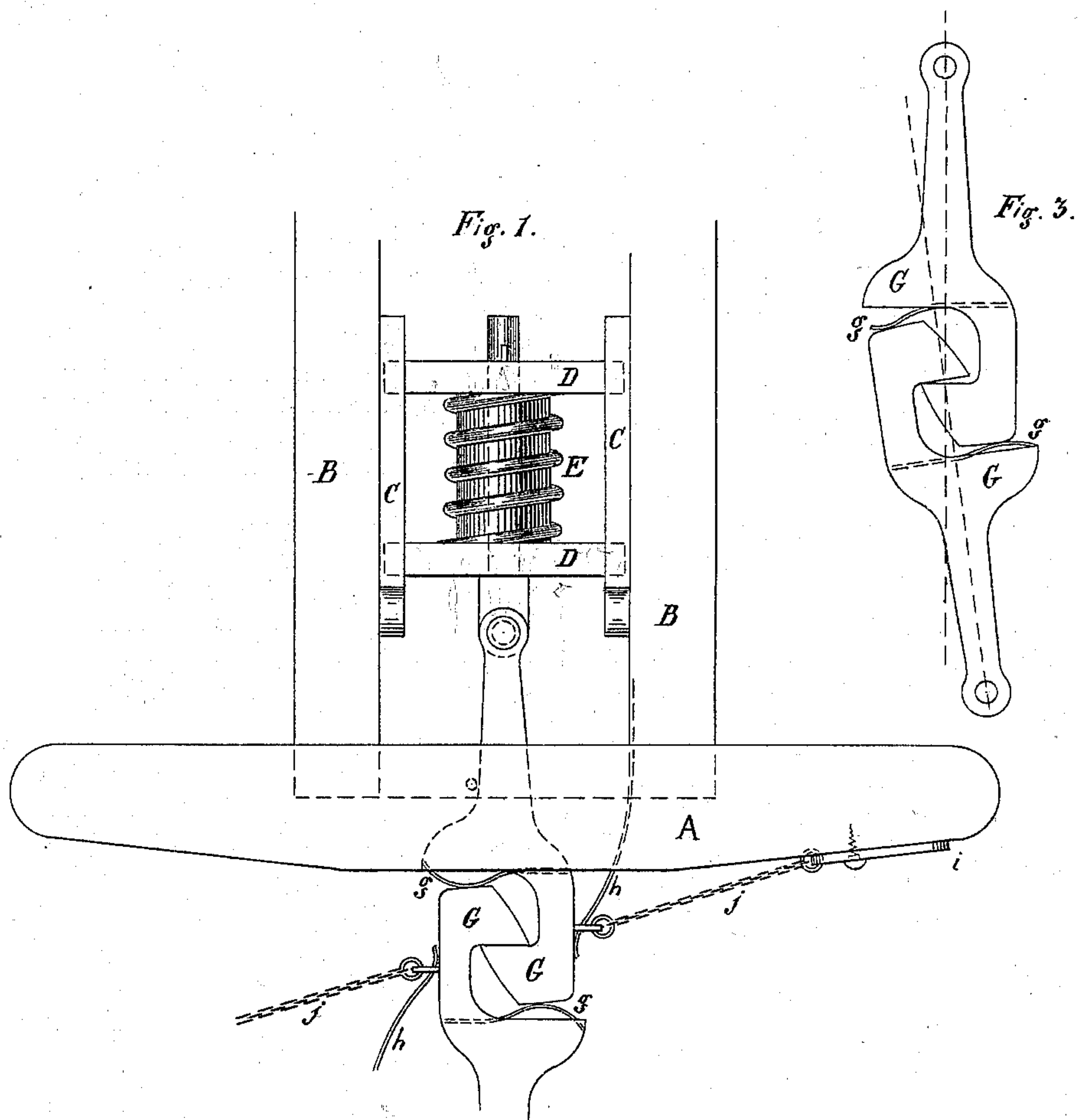


P. G. GARDINER.
Improvement in Car-Couplings.

No. 125,561.

Patented April 9, 1872.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 125,561, 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 for Railroad Cars, of which the following is a specification:

My invention applies to that class of couplings in which the coupling and buffer are united, both operations being performed through the instrumentality of a jointed shank or rod of the hook, and by which and the spring attached thereto the cars are held under constant compression, whether the cars are drawn by the couplings or are pressing together while in motion, or are at rest; and my invention consists in the construction and arrangement of a suitable spring in the throat of the coupling-hook, which is slotted for receiving and holding the spring; and, in a corresponding form of the head of the hook, so constructed and arranged that when the cars are coupled the head of each hook presses upon the spring in the throat of the opposite hook so as to hold the cars together by elastic compression as soon as and while their jaws are interlocked.

In the accompanying drawing, Figure 1 represents in plan the construction of the hooks, rods, springs to which the rods are attached—as drawing and buffer springs—and other parts of the coupling apparatus arranged under the car-platform, and in which my present invention is arranged and applied. Fig. 2 is a front-end elevation of the same. Fig. 3 is a plan view of the coupling and buffer hooks in detail, and showing the position of the hooks, when the line of one car or hook is oblique 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 receive and carry the compressor-plates D which support the main draw and buffer spring E, and by which it is acted upon. G are the draw and buffer hooks and heads.

With the exception of the peculiarity in the construction of the draw and buffer hook and

the spring thereon arranged and operated, as hereinafter described, the parts just indicated are such as have been described in my former patents, and are not now claimed as any part of my present invention.

My present invention is constructed and arranged as follows: In the throat or base of the coupling-hook G is constructed a recess or slot of suitable size and form to receive and hold the semi-elliptical spring *g*. The spring *g* may be of other form than the semi-elliptic, but I prefer the form given, as most suitable. This spring is placed and secured in the slot or recess, so as to be fixed at one end, while the other loose end projects forward from the face of the base of the jaw, so as to admit of considerable reaction under pressure. The ends or front faces of the hooks are flat, or very slightly rounded, and the length of the head of the hook is so graduated that when the hooks are interlocked the outer face or end of each hook will press down the spring *g* on each opposite connecting-hook; and by the reaction of the spring *g*, thus pressed upon, each hook is held under constant elastic pressure. The hooks are rounded upon their side contiguous faces, and are set so that when they come together by the connecting of the cars in a train their heads will pass each other and be forced back, and then automatically interlocked, in the usual manner. *h h* are springs secured at one end to the side timbers B, and their loose ends press upon the backs of the hooks, so as to allow them to vibrate and cause them to spring into interlocking at the required point. These springs are forced back for uncoupling the hooks by means of the lever *i* and the connecting-chain *j*.

It is obvious that by this construction of the hooks, and the spring *g* within the hook, in connection with the other parts of the coupling described, there must always be maintained the required elastic compression when the cars are connected or coupled.

Having thus described my invention and improvement, and the manner of constructing, and the operation of the same, what I claim therein, and desire to secure by Letters Patent, is—

The compressing or reacting spring *g*, constructed and arranged in or upon the throat or base of the jaw of the coupling or buffer hook, suitably constructed and arranged, so as to be self-coupling and to maintain a constant elastic pressure between the connecting pairs of the coupling and buffer hooks when

the cars are coupled, substantially in the manner described.

P. G. GARDINER.

Witnesses:

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