M. INGERSOLL.

Car Coupling.

No. 54,913. Patented May 22, 1866.

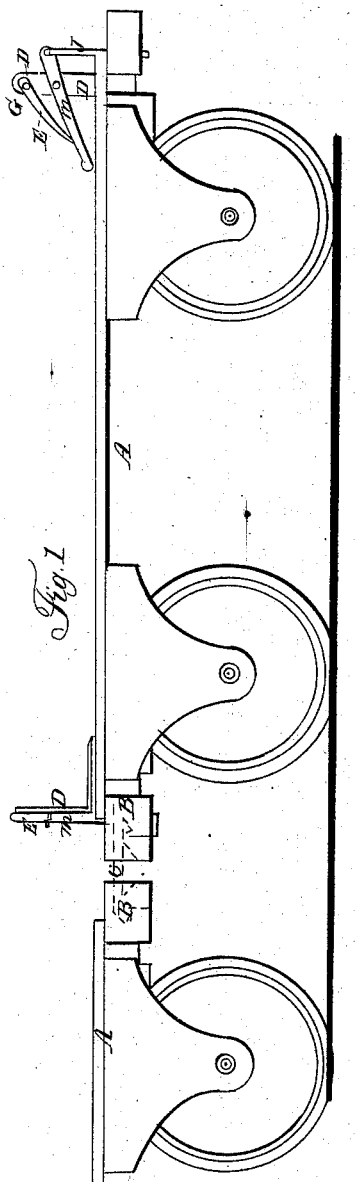

Fig. 1

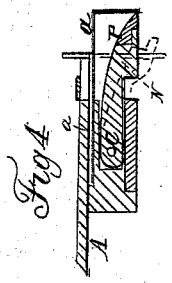

Fig. 4

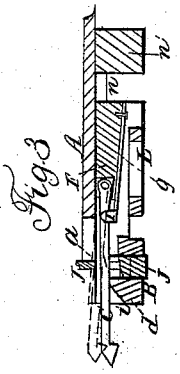

Fig. 3

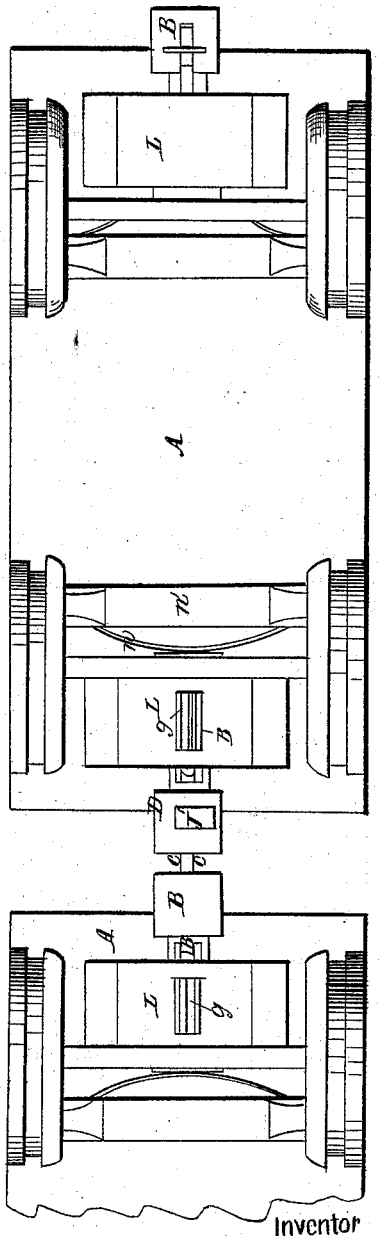

Fig. 2

Witnesses

W. H. Burridge

Frank Alden

Inventor

Marshal Ingersoll

UNITED STATES PATENT OFFICE.

MARSHALL INGERSOLL, OF GRAFTON, OHIO.

IMPROVED CAR-COUPLING.

Specification forming part of Letters Patent No. **54,913**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, MARSHALL INGERSOLL, of Grafton, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Railroad Car-Couplings; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of car-trucks. Fig. 2 is a view of the under side. Figs. 3 and 4 are sectional views that will be referred to in the description.

Like letters of reference refer to like parts in the different views.

My improvement relates to a railroad-car coupling by which cars can be coupled together or uncoupled without the necessity of any one going between them for this purpose, as they are self-coupling, and can be uncoupled by means of a lever on the platform, as hereinafter described.

A represents the platforms of trucks; B, bumpers arranged at the ends. C are coupling-hooks connected at the inner end by a pin-joint to the bumper, as seen at F in Fig. 3, which is a sectional view through the bumper. The hooks extend beyond the bumpers, as represented.

g is a spring-rod secured to the inner end of the bumper, and at the outer end of the rod there is a guide, I, that the end of the coupling-hook passes through and rests in, the object of which is to retain the hook in a straight direction, so that it will enter the other bumper without striking against the sides by any lateral movement.

At the end of the platform there is a standard, D, to which is pivoted a lever, *m*, that is notched on the upper side, into which a pawl, E, catches, that is hung to the upper end of the standard for retaining the lever and its connections in a certain position, as will be described.

To the short arm of the lever is connected a rod or arm, J, that extends down into the bumper, one side of the coupling-hook, the end of which is turned at right angles, forming a lifting-hook, J′, that passes under the coupling-hook. The bumper is suitably mortised out to allow the hook J′ to move up and down for the purpose of detaching the coupling-hooks by means of the lever in uncoupling the cars.

a is a spring attached at the inner end to the bumper, and the outer end extends across over the coupling-hook, whereby it is held down in place when the cars are coupled together.

The coupling-hooks are shaped as represented in Fig. 3, and the outer ends of the bumpers are inclined upward, as shown at *i*, so that the hooks will move up easily on them and catch onto a shoulder, *d*, in the bumper when the hook J′ is lowered. The bumpers pass through guides L, secured to the under side of the platform, and the inner end is attached to an elliptic spring, *n*, connected to a cross-piece, *n*′, whereby the bumpers can be moved back and forth in an elastic manner.

In coupling two cars or trucks together by this arrangement they are moved up toward each other, when the coupling-hooks will pass each other close together, entering the bumpers under the springs *a*, and catch onto the shoulders *d*, as before stated, and as indicated by the dotted lines in Fig. 1, when the springs will hold them down securely in place.

When it is desired to uncouple the cars the short arm of the lever *m* is raised, as shown at G in Fig. 1, which, by means of the arm J, moves up the hook J′, that comes against the coupling-hooks, the arm of one and hook of the other raising them, so that as the cars are separated or moved apart the coupling-hooks thus released will be drawn out from the bumpers. The cars are prevented from coupling together again until required to do so by the lever being retained in its elevated position by the pawl E dropping into a notch in the long arm of the lever, as represented in Fig. 1, which holds the lifting and coupling hooks up, as indicated by the dotted lines in Fig. 3. The coupling-hook in the opposite truck is prevented from latching by the space into which the hook would catch being filled by the lifting-hook J′, which extends across the throat of the bumper against the shoulder. Both coupling-hooks are lifted at the same time, which is done by the lifting-hook J′ raising one of the coupling-hooks near the end where it is attached to the bumper, while the coupling-hook of the other car is raised by the hook J′, lifting it above the shoulder on which it catches, when both hooks are free to

be drawn out of the bumpers by the separation of the cars.

When a single coupling-hook only is used the bumper in which the hook catches is provided with a tongue, N, (seen in Fig. 4,) which is pivoted at *e* to the inner end of the bumper, which is of such a shape on the under side as to allow the tongue to drop down, as indicated by the dotted lines. The coupling-hook in passing into the bumper catches onto the shoulder *p*, as in the double coupling, and the spring *a* on the top prevents the hook from being detached.

In uncoupling with this hook, as the lifting-hook J′ extends underneath the tongue, by depressing the lever the tongue is raised up, which moves the hook up off the shoulder, so that it is free to be drawn out as the truck is run back. The tongue is retained in this position, filling up the space, so that the hook cannot drop down again by the pawl being turned down on the lever, as before described.

Cars cannot be coupled together either in a single or double coupling unless the lever is adjusted so as to lower the lifting-hook J′ or tongue N.

By means of these coupling-hooks, arranged and operating as described, cars can be coupled together or uncoupled without the necessity of any one going between them for this purpose, which is very dangerous, and is not near as convenient and easy as this mode of coupling and uncoupling them.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The arrangement of the coupling-hooks C, connected to the springs *g* and *a*, in combination with the lifting-hook J′, lever *m*, pawl E, and bumpers, operating in the manner and for the purpose set forth.

MARSHALL INGERSOLL.

Witnesses:

W. H. BURRIDGE,

FRANK ALDEN.