C. L. MILLER.

Car-Couplings.

No. 142,715. Patented September 9, 1873.

Fig 1.

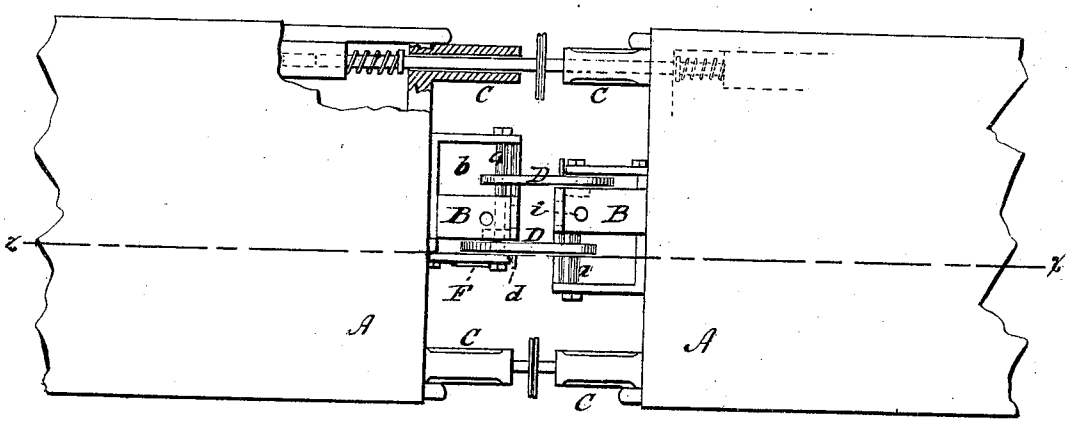


Fig 2.

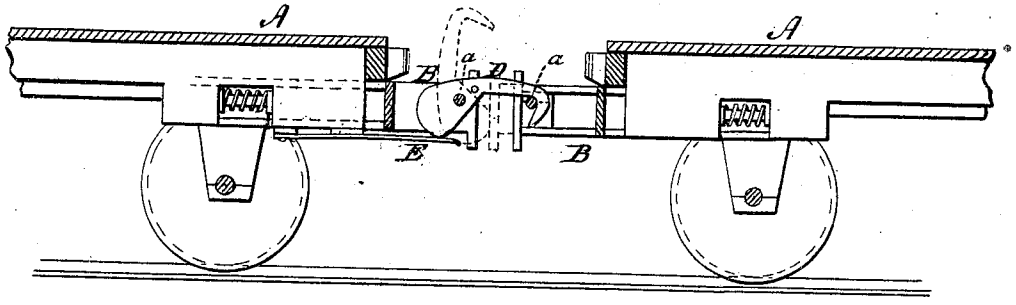


Fig 3.

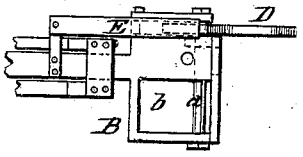


Fig 4.

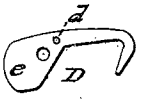


Fig 5.

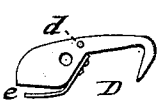
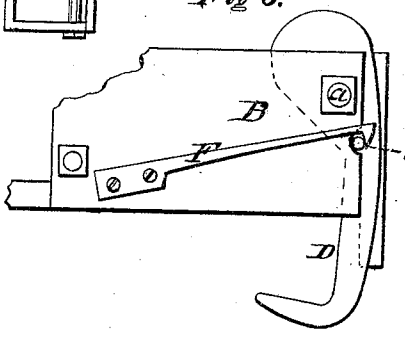


Fig 6.



Witnesses.

Harry King

W. H. Dodge

Inventor.

Charles L. Miller

By his attys

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UNITED STATES PATENT OFFICE.

CHARLES L. MILLER, OF CUBA, NEW YORK.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **142,715**, dated September 9, 1873; application filed June 10, 1873.

To all whom it may concern:

Be it known that I, CHARLES L. MILLER, of Cuba, in the county of Allegany and State of New York, have invented certain Improvements in Car-Couplings, of which the following is a specification:

My invention relates to automatic couplings; and consists in a peculiar arrangement of pivoted coupling-hooks or links and springs acting thereon, in the construction of the draw-head, in spring-catches to hold the coupling-hooks when they are not in use, and in other details, as hereinafter described.

Figure 1 is a top-plan view of two cars provided with and connected by my coupling; Fig. 2, a longitudinal section through the same on the line *x x;* Fig. 3, a bottom-plan view of one of the draw-heads; Figs. 4 and 5 side views of two forms of the coupling link or hook; and Fig. 6, a side elevation of one of the draw-heads with its coupling-hook locked fast out of the way, as it is when not in use.

In applying my invention, the cars A are constructed in the usual manner, and each provided, as usual, with a draw-head, B, attached in any of the ordinary methods. Instead, however, of making the draw-heads serve also as buffers in the usual manner, I provide each car with two buffers, C, on opposite sides of the draw-head, each buffer consisting of a sliding rod, provided at its outer or forward end with a plate or head, and supported at its inner end by a spring, as shown. These buffers serve to ease or relieve the jar and strain when the cars are brought together, but at the same time permit the draw-heads to meet, for a purpose hereinafter explained. I provide each draw-head on the right-hand side with a pivoted hook or coupling, D, and on the left-hand side with an opening for the hook of the other draw-head to lock into. The coupling-hook is mounted on a transverse rod, *a*, which extends across the opening *b* to form a hold for the hook of the other draw-head, as shown. Each hook or coupling is pivoted at its middle, and has its inner or rear end enlarged, as shown at *e*, so that when the hook is turned up in a vertical position the portion *e* projects beyond the face of the draw-head, as shown in dotted lines in Fig. 2. To the under side of each draw-head I secure a flat spring, E, which bears against the enlarged end *e* of the hook in such manner that it serves both to hold the hook up in a vertical position and to throw it forward after it has passed a certain point.

In operation, the hooks being turned up in a vertical position, are held by the springs E, with their enlarged ends *e* projecting beyond the faces of the draw-heads, as shown in dotted lines in Fig. 2. When the cars are brought together the face of each draw-head strikes the projecting shoulder *e* of the hook on the other draw-head, and thereby tips said hook forward so that the spring throws it down and causes it to lock over the bolt *a* in the other draw-head, as shown, and hold it down.

It will be seen that as both hooks are caused to lock, each over the bolt in the other head, the cars are connected by two independent couplings, so that in case of either one giving way or disengaging the other will still hold the cars. The openings *b* are made of such size as to permit the hooks to play laterally and longitudinally, in order to accommodate themselves to the various movements of the cars without cramping or straining, and to allow the hooks to engage when the heads are out of line. Each hook or coupling is provided on one side with a pin or stud, *d*, which, when the hook is turned up bears on the draw-head, so as to prevent the spring from throwing the hook over back.

In order that cars having my couplings may be connected with those using the ordinary coupling-link and pin, I provide my draw-heads each with a mouth to receive a link, and with a hole, *i*, to receive a coupling-pin. On the side of each draw-head there is a spring-catch or hook, F, as shown in Figs. 1 and 6.

When the coupling-hooks are not to be used they are turned down until the catches F engage over the pins *d*, and hold the hooks from chattering and from swinging out where they would be exposed to danger. The hooks are so shaped that when turned down they shut back in rear of the faces of the draw-heads, as shown in Fig. 6, out of the way, and so as not to be struck by the draw-head of the other car, the other car being supposed to have an ordinary draw-head, using a common link.

As it may sometimes be difficult to release

the coupling-hooks on account of the draw-heads bearing against their shoulders *e*, the hooks may be provided with spring-shoulders, as shown in Fig. 5. When the draw-head of the other car strikes this spring it throws the hook down in the same manner as with the solid shoulder; but in case the draw-heads bear against each other the spring-shoulder will yield and allow the hook to be raised. These springs must, however, be strong enough to overcome the resistance of the other springs, for otherwise it would yield when the draw-head strikes it without throwing the hook forward.

In constructing the draw-heads I propose to divide them horizontally into two parts, and to provide said parts with lugs K, which will embrace the rod *a* between them and prevent it from springing.

Having thus described my invention, what I claim is—

1. In combination with the draw-heads B, the pivoted hooks D provided with the shoulders *e*, and the springs E, constructed and arranged to operate substantially as described.

2. In combination with the pivoted coupling-hooks D provided with the pins *d*, or their equivalents, the spring F, arranged to operate as shown and described.

CHARLES LAWRENCE MILLER.

Witnesses:
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