(No Model.)

C. E. MICHAUD

CAR COUPLING.

No. 346,936. Patented Aug. 10, 1886.

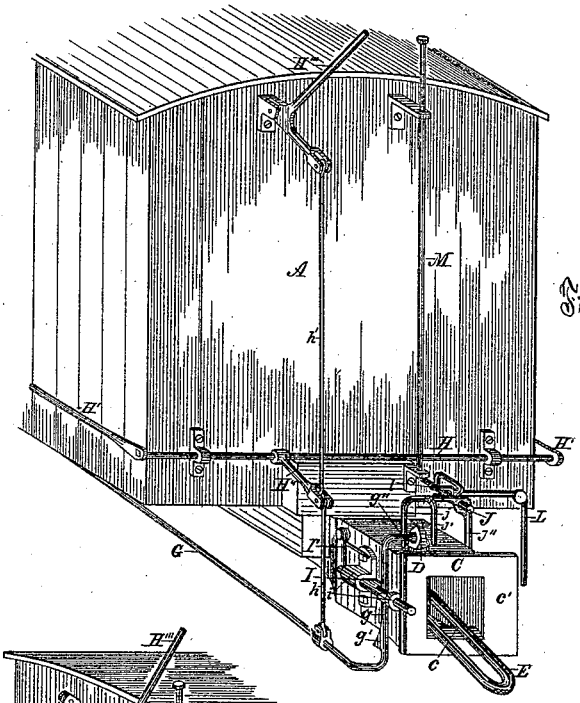

Fig. 1.

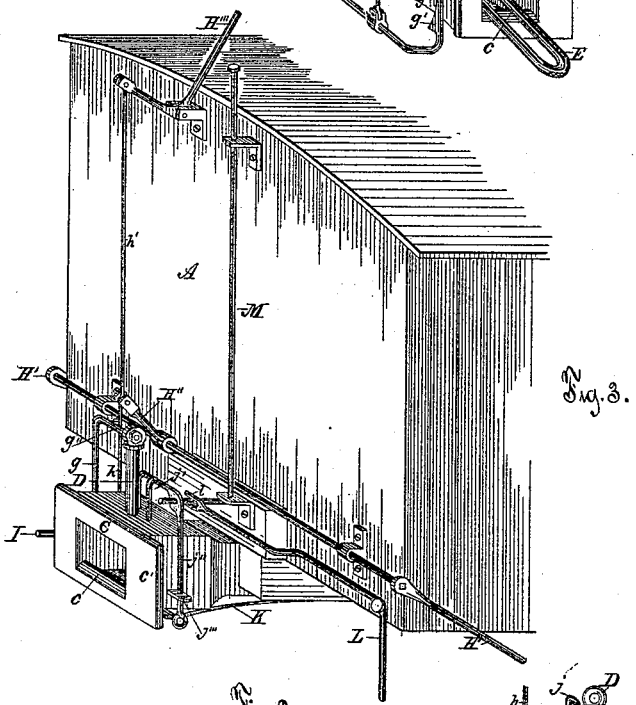

Fig. 3.

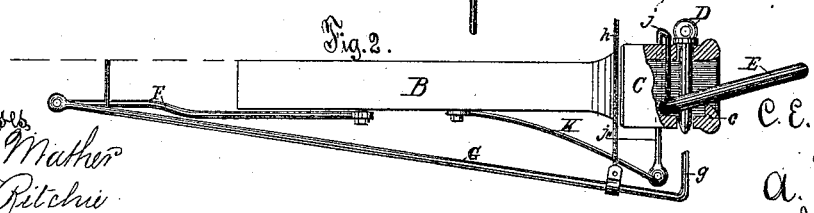

Fig. 2.

Witnesses
A. G. Mather
J. F. Ritchie

C. E. Michaud
Inventor,
A. Harvey
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES EDOUARD MICHAUD, OF ST. MICHEL D'YAMASKA, QUEBEC, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 346,936, dated August 10, 1886.

Application filed May 13, 1886. Serial No. 202,123. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDOUARD MICHAUD, of St. Michel d'Yamaska, in the Province of Quebec, in the Dominion of Canada, have invented new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings forming a part of this specification.

The object of my invention is the construction of an automatic car-coupler, by means of which cars can be coupled and uncoupled without necessitating the attendant going between the cars, and which may be operated from the side or the top of the car, means being provided for properly guiding the coupling-link, the ordinary link now in common use being employed.

Figure 1 is an elevation of the end of a car having my improved coupling attached, and showing the link coupled. Fig. 2 is a longitudinal section of the draw-head, showing the link coupled and the link-guide in operation. Fig. 3 is a perspective view showing the draw-head ready to receive the link.

A is the car fitted with a draw-bar, B, having a draw-head, C, capable of being coupled by an ordinary coupling-pin, D, and link E. The draw-head is hollow, and the lower edge is raised above the rear part of the cavity to form an edge, *c*, acting as a support for the link E, so that the projecting end may be raised by depressing the inner end, as shown in Fig. 2.

Means are provided for raising the pin D either from the side or the top of the car, and for lifting it as nearly as may be in a vertical line. For this purpose the draw-bar is provided with a rearwardly-projecting arm or bracket, F, to the rear end of which is pivoted a long lever, G, situated by the side of the draw-head, and bent upward in front to form a vertical limb, *g*, which has a bend, *g''*, at the top, passing through an eye in the head of the coupling-pin D. The object is to have the arm G as long as possible, in order that the limb *g* may practically move in a straight line, although in reality the line it describes is part of a circle. This arm G is connected by a rod, *h*, to a lever, H'', on a rocking shaft, H, which is journaled to the rear of the car, and provided at each end with a lever-arm, H', and by a rod, *h'*, to a bell-crank lever, H''', pivoted near the top of the car. The vertical limb *g* of the arm G is provided at the rear with a catch, *g'*, adapted to rest upon a longitudinal slide, I, carried in bearings *i* on the side of the draw-head C, and pressed forward by a spring, I', to project beyond the face of the draw-head, and provided with a laterally-projecting shoulder adapted to carry the catch *g'*. The face of the draw-head C is made broader on the side opposite to that on which the slide I is carried, so as to form a flange or extended face, *c'*, to insure the head coming in contact with the projecting end of the slide I. The catch *g'* on the vertical limb *g* is situated near the lower end, so as to keep the coupling-pin D raised and out of the way of the entering link.

J is the link-guide. It consists of a fork having three prongs, *j j' j''*, two of which enter the draw-head by suitable perforations from the top, immediately behind the coupling-pin, the lower ends of the same being adapted to come into contact with the inner end of the link and depress the same, tilting it upon the ridge *c*, so as to raise the outer end. The prong *j''* passes down by the side of the draw-head through a guide, *j'''*, and its end is bent at a right angle, so as to bear against a spring, K, which keeps the fork raised. The upper end of the fork has a straight back, to afford a suitable bearing for a finger, *l*, forming part of a lever, L, pivoted to the rear of the car, the finger *l* being also engaged by the lower end of a rod, M, reaching to the top of the car, and carried at the rear of it in a suitable bearing near the top; or the finger *l* may be fast to the rod M and the lever L suitably connected thereto. For platform-cars the rod M would be entirely dispensed with.

It will be seen that the coupling-pin may be lifted from either side of the car (by the levers H') or from the top, (by the lever H''',) and that the link-guide may be operated from the top of the car (by the rod M) or from the side of the car, (by the lever L.)

The device operates as follows: For coupling, the link E is inserted and coupled in one of the two adjacent draw-heads, as shown in Fig. 1. If the projecting end of the link is too

low for entering the mouth of the opposite draw-head, the link-guide I is pressed down, either by pressing down the rod M or by pulling the lever L outward, the inner end of the link being thereby depressed and tilted upon the ridge *c* and the free end raised, as shown in Fig. 2. The adjacent draw-head which is to be coupled must have first had the coupling-pin D raised by pulling down one of the handles H′ or pulling back the lever H‴, thereby lifting the free end of the arm G until the catch *g′* on the vertical limb *g* has passed and engaged the shoulder on the slide I, which will keep the limb up, and with it the pin D, as shown in Fig. 3—a preparation which will have been performed previously by uncoupling the car. The two draw-heads now coming in contact, the face *c′* will strike the projecting end of the slide I, thereby pushing it back and the shoulder out of engagement with the catch *g′*, thereby allowing the limb *g* and the pin D to drop and secure the link E in the head C.

I claim as my invention—

1. The combination of the draw-head C, ridge *c*, extended face *c′*, coupling-pin D, bracket F, long arm G, vertical limb *g*, catch *g′*, curved end *g″*, rocking shaft H H′ H″, rods *h h′*, lever H‴, slide I, spring I′, guide J, spring K, lever L, and rod M.

2. The combination of the draw-head C, ridge *c*, extended face *c′*, coupling-pin D, bracket F, long arm G, vertical limb *g*, catch *g′*, curved end *g″*, rocking shaft H H′ H″, rod *h*, slide I, spring I′, guide J, spring K, and lever L L′.

3. The combination of the draw-head C, ridge *c*, extended face *c′*, pin D, bracket F, arm G *g g′ g″*, and slide I I′.

4. The combination of the rocking shaft H H′ H″, rods *h h′*, lever H‴, and arm G.

5. The combination of the draw-head C, ridge *c*, extended face *c′*, and slide I I′.

6. The combination of the draw-head C, ridge *c*, fork J, prongs *j j′ j″*, bent end *j‴*, spring K, lever L L′, and rod M.

7. The combination of the draw-head C, ridge *c*, link D, fork J, prongs *j j′ j″*, and suitable operating devices.

8. The combination of the draw-head C, bracket F, arm G, limb *g*, catch *g′*, bend *g″*, and pin D, all substantially as shown and described, and as and for the purpose set forth.

Signed at St. Michel d'Yamaska, Province of Quebec, Canada, this 27th day of April, A. D. 1886.

C. E. MICHAUD.

Witnesses:
L. W. LAFLEUR,
E. TURCOTTE.