(No Model.)

I. J. MERRICK.

CAR COUPLING.

No. 285,913. Patented Oct. 2, 1883.

Fig. 1.

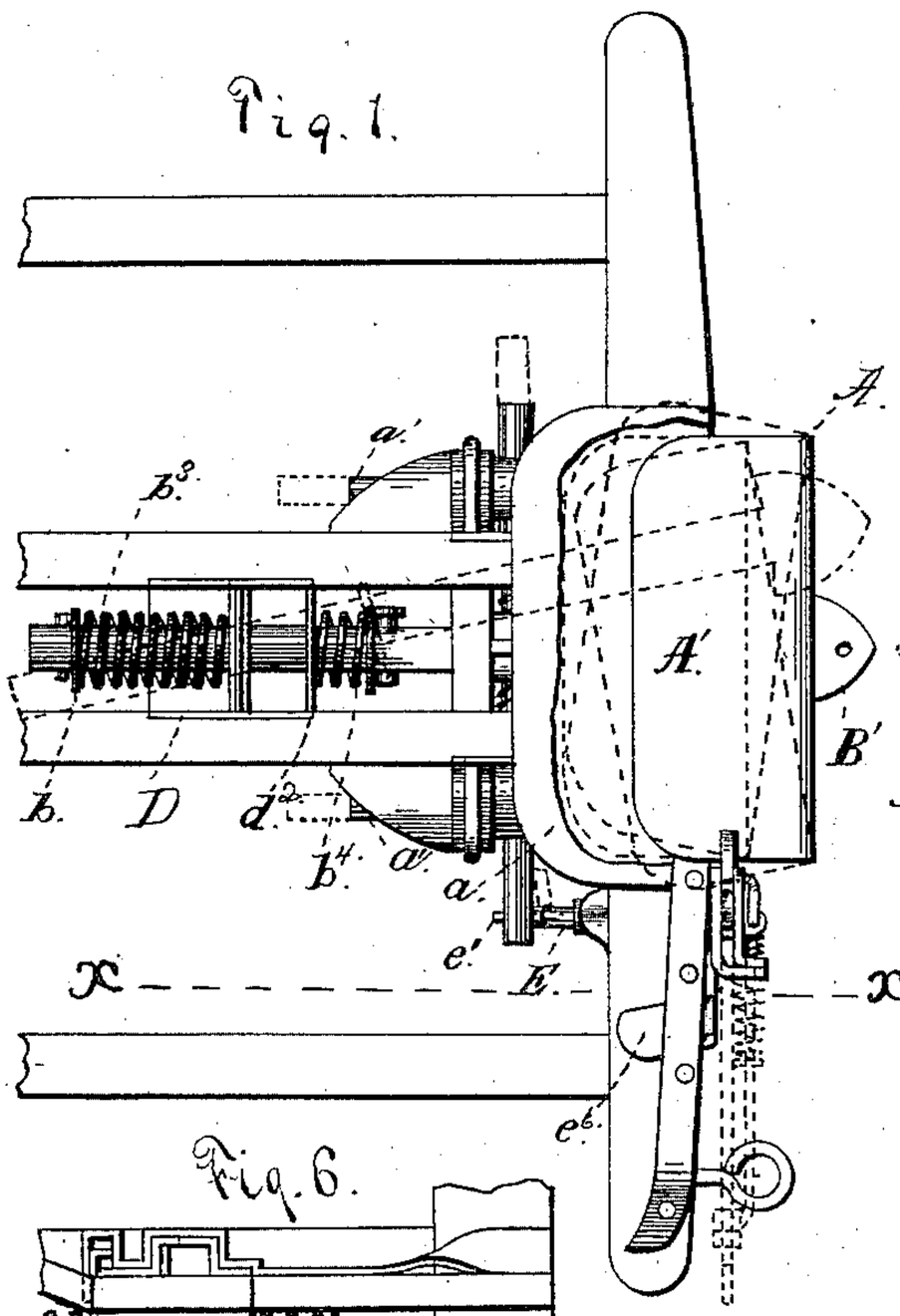


Fig. 2.

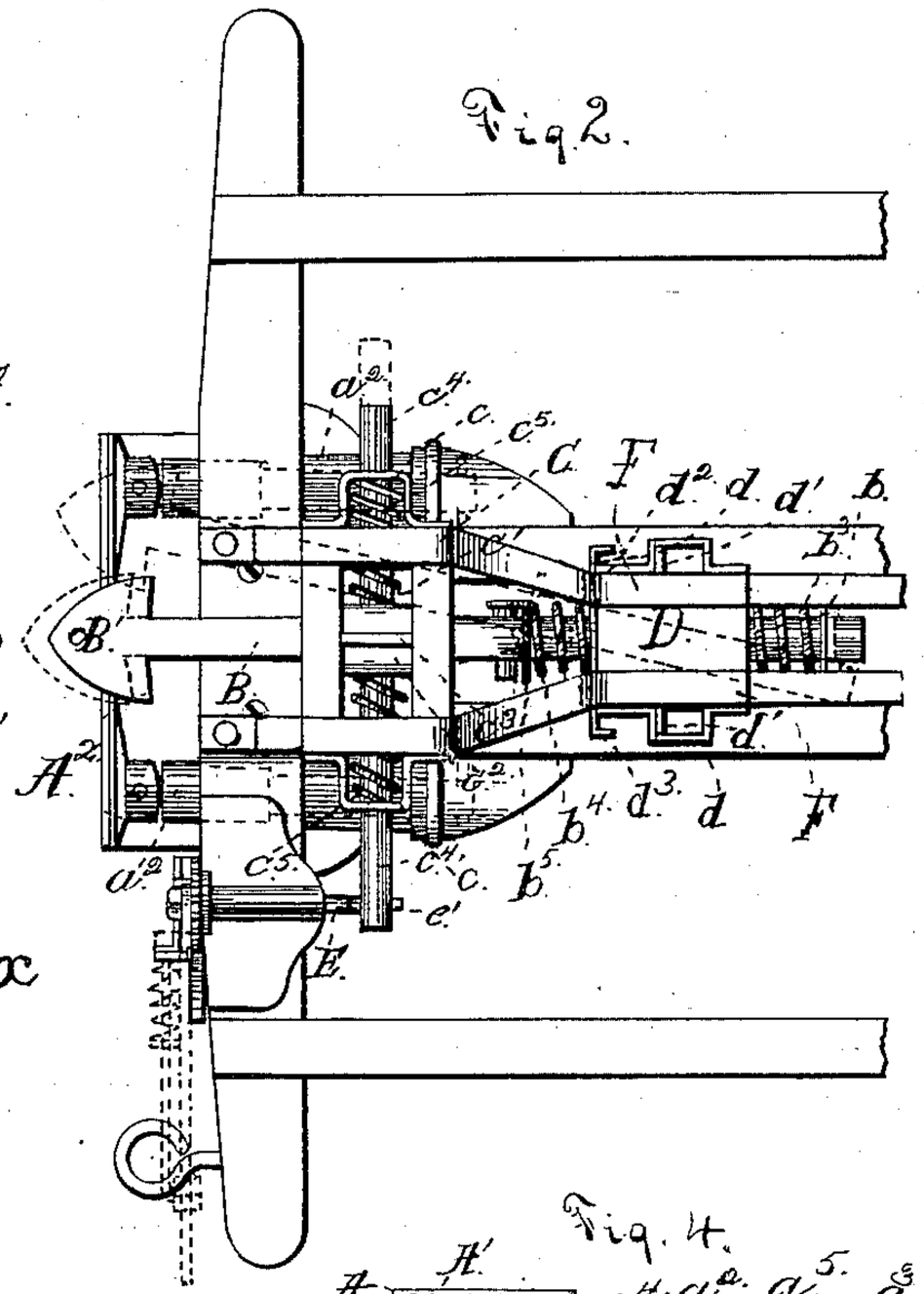


Fig. 6.

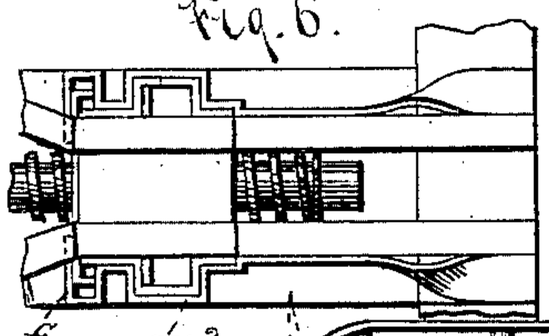


Fig. 4.

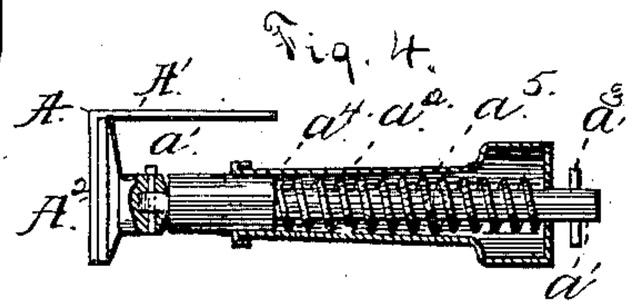


Fig. 3

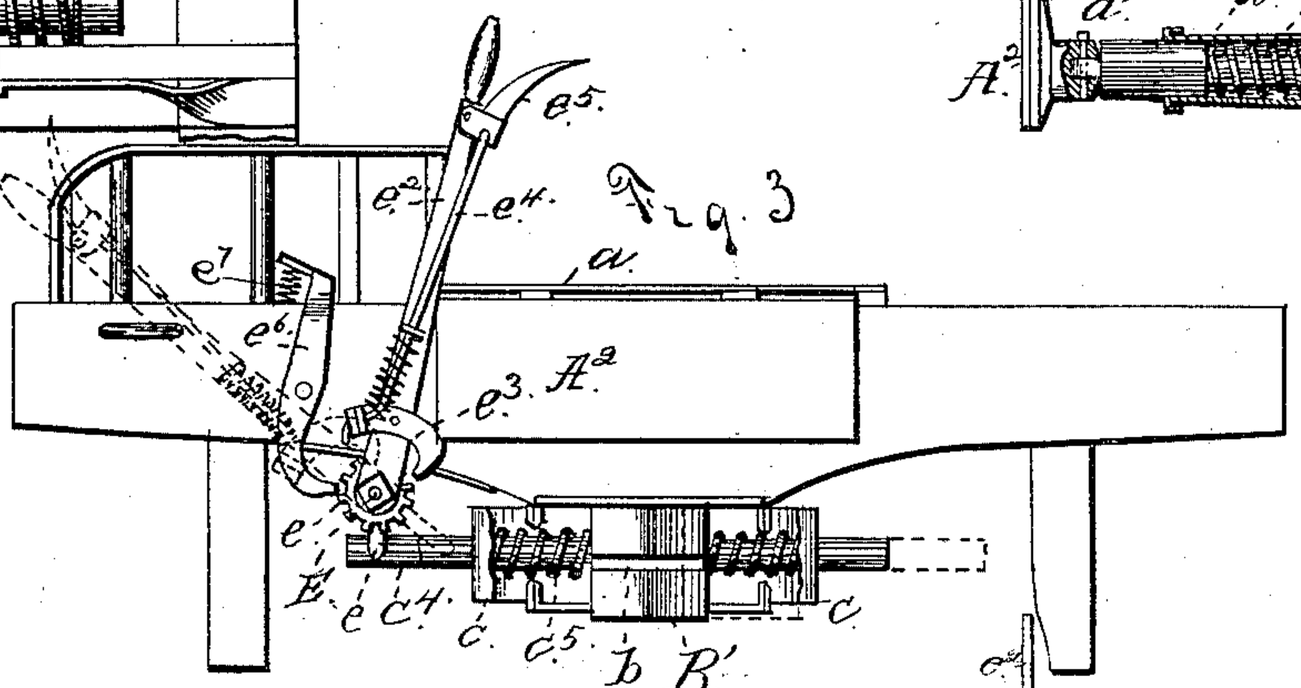
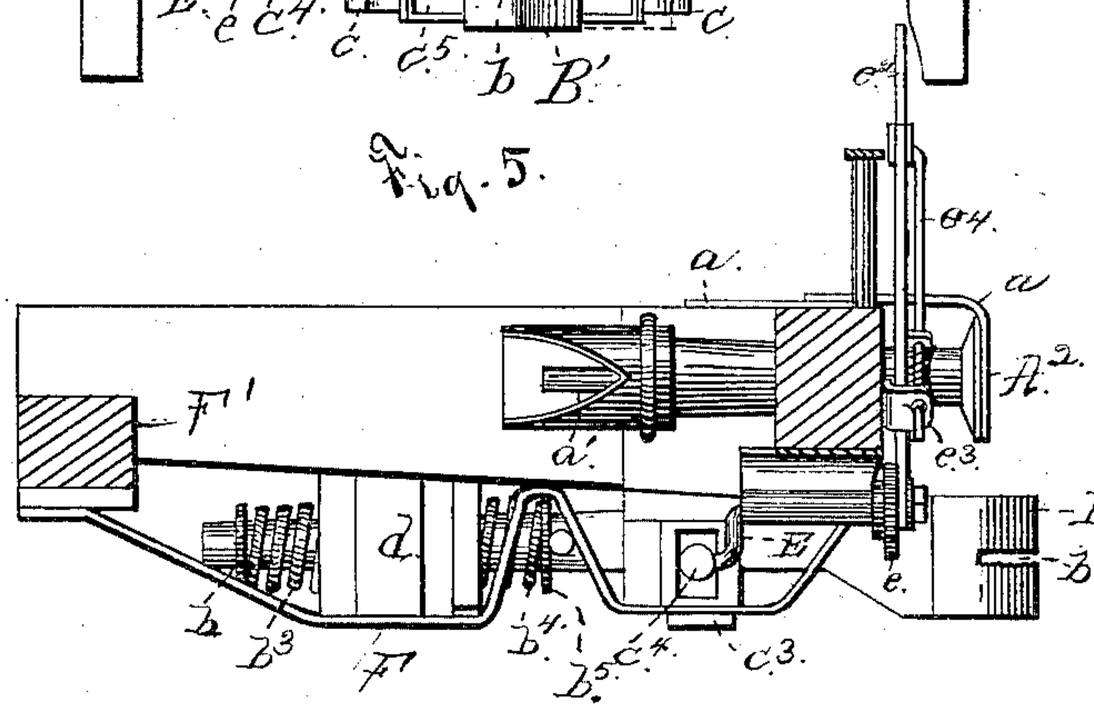


Fig. 5.



Attest.
W. A. Clarke.
R. B. Tripp.

Inventor
Isaac J. Merrick
By
R. B. & A. Lacey
Attys.

UNITED STATES PATENT OFFICE.

ISAAC J. MERRICK, OF CONOTTEN, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 285,913, dated October 2, 1883.

Application filed June 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, ISAAC J. MERRICK, a citizen of the United States, residing at Conotten, in the county of Harrison and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplings; and it consists in the construction, combination, and arrangement of the several parts, as will be hereinafter described and claimed.

In the drawings, Figures 1 and 2 show, respectively, the upper and lower sides of the bumper and the coupling mechanism supported on a detached portion of the framing of the car. Fig. 3 is an end view of same; and Fig. 4 is a detached sectional view. Fig. 5 is a sectional view about on line *x x*, Fig. 1; and Fig. 6 is a detail view, all of which will be described.

The platform A is made in the ⌐ shape shown, with its horizontal or top plate, A′, extended under the guard-plate *a*, suitably secured on the car-platform. The perpendicular or vertical plate A^2 of the platform hangs down in front of the car-platform, as shown.

To the rear side of the plate A^2, I swivel the forward ends of the rods *a′ a′*, which rods extend back within suitable tubular sheaths or sleeves, a^2 a^2, with their rear ends extended in rear of the said sleeves, as shown, and provided with retaining-pins a^3. On the said rods *a′*, I form the shoulder a^4, and a coil-spring, a^5, is placed on the rod and bears between the shoulder a^4 and the rear ends of the sleeve or casing, and serves to hold the rods *a′*, and consequently the platform A, out in the positions shown in full lines when the said bumpers are not depressed by the meeting and coupling of the adjoining cars. This platform A, it will be seen, is yielding, either in a direct rearward direction or at an angle, so that when two cars provided with this adjustable platform are coupled together there will be a continuous platform between them, the plates A^2 of the platform A resting closely against each other and inclining readily as the cars round a curve.

The coupling-bar B is preferably constructed with the arrow-head B′, and is extended rearward through the casing C and the boxing D. On the near end of the coupling-bar I fix a button, *b*, or other suitable stop, and in its forward end I cut the slot *b′* to permit the insertion of a link when it is desired to couple to a car not provided with arrow-headed coupling-bar, and a vertical pin-hole is formed through the arrow-head, leading through the slot *b′*, to receive a pin in such cases.

The casing C is preferably constructed with offsets *c* in its opposite sides, and has openings *c′* formed through its upper and lower plates. Within this casing I place the carrier c^2, through which the coupling-bar is passed, and which is provided with lugs *c′*, which extend through the openings *c′* in the casing and serve as guides and retaining means for the carrier. To the opposite sides of the carrier I swivel one end of the rods c^4, which extend laterally through the casing. Springs c^5 are placed on the rods c^4 and bear between the carrier and the sides of the casing and hold the coupling-bar normally in the line of motion, as will be understood on reference to the drawings.

A rod or shaft, E, is suitably journaled in the framing of the car, near the sides thereof, and is provided on its outer end with the gear or ratchet wheel *e*, and on its inner end with the crank *e′*, the latter being coupled in the manner shown, or other suitable manner, with one of the rods c^4, so as to move the carrier, and consequently the coupling-bar, from side to side as the shaft is revolved or rocked in its bearings. In order to operate the shaft, I provide the hand-lever e^2, preferably pivoted at its lower end on the shaft E, and provided with the pawl or detent e^3, arranged to engage the wheel *e′*, and connecting rod e^4 and handpiece e^5, all operating as will be understood on reference to the drawings. I also provide the foot or stop pawl e^6, which is pivoted on the end of the car-platform and may be operated to engage the wheel *e*, and thereby lock the shaft E, and consequently, by reason of the connections before described, the coupling-bar,

at any suitable point desired; also to permit the taking of a fresh hold by the detent or operating-pawl of the hand-lever.

To the framing in rear of the casing C, I secure the boxing D, which has the offsets *d* formed on its opposite sides. Within this boxing I arrange the plate *d'*, the ends of which extend into the offsets *d*, and this plate works forward and back within the said offsets, as will be seen on reference to the drawings. The rear end of the boxing D is open, and its forward end is closed by the plate d^2, the ends d^3 of which are turned back alongside the boxing, and it is made long enough to slide back and forth across the face of the boxing. The coupling-bar, it will be seen, is passed through the plates *d' d²*, and coil-springs b^3 b^4 are placed on the said bar, the former bearing between the plate *d'* and the button *b*, and the latter between the plate d^2 and a button or stop, b^5, secured on the bar B, between the boxing D and the casing C.

In the operation of coupling it is desirable that the adjoining cars be provided with the arrow-heads and the mechanism before described, so that when they come together the arrow-heads will slide along each other until the heads have passed each other, when the springs c^5 will force the arrow-heads into connection, automatically coupling the cars, and by means of the springs b^3 b^4 the coupling-bar is capable of a yielding back-and-forth movement. The carrier c^2, and the casing C and boxing D, together with the plates *d' d²*, all constructed and arranged substantially as described, provide convenient means for securing the ends before described.

In order to hold the foot-pawl e^6 clear of the wheel *e* when it is not desired to lock the latter, I provide the coil-spring e^7, arranged under the upper bent end of said pawl, as most clearly shown in Fig. 5, and operating, in a manner readily understood, therefrom.

It is usually desirable to strengthen the boxing D and casing C, and to attain such end I use the brace-bars F, which are fixed at their forward ends to the front bar of the truck-framing, and extend under the boxing and casing in the manner shown in Figs. 2 and 5, and are secured at their rear ends to the cross-bar F' of framing. They are also bent down and secured to the framing between the boxing and the casing, adding additional firmness to the said parts. I also provide brace-bars F^2, which are only illustrated in Figs. 5 and and 6, being omitted from Fig. 2 to prevent confusion. These braces are secured to the beam F', and extend forward and are bent around the offset *d* of boxing D, and thereby brace the same. These braces are then extended outward, and their forward ends, *ff*, are bent in, in front of the plate d^3, in such a manner as to prevent the same from moving forward, and at the same time not interfering with the lateral movement of said plate. The said plate, by means of the square hole through which the coupling-bar B passes, is to hold the bar B from turning. The angle at the back of the arrow-head is to be cut at such angle as will hold them coupled, and no more hooked than needed to accomplish that end, so they will not be too hard to uncouple. The levers are to be suitably guarded, the guard to be passed under the finger-rod on the hand-lever, fitting close on the hand-lever and foot-pawl, and then fastened to the front timber of the car.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a car-coupling, of the platform A, having the vertical plate A^2, and the top horizontal plate A', the supporting-rods *a'*, having their forward ends swiveled to the platform near the opposite sides of the latter, the tubular sheaths or sleeves surrounding the supporting-rods *a'*, and the coil-springs a^5, substantially as and for the purposes set forth.

2. In a car-coupling, the combination, substantially as hereinbefore set forth, of the boxing D, having offsets, the plate secured within the boxing D, between the said offsets, the plate d^2, placed over and sliding across the face or front of the boxing D, the casing C, having upper and lower openings, *c'*, the carrier sliding within the casing, and having guides or lugs projected through the openings *c'* thereof, interposed springs c^5, the coupling-bar, and means for operating the same, as specified.

3. In a car-coupling, the combination of the casing C, the carrier c^2, placed and operating within the said casing, rods c^4 c^4, swiveled to the opposite sides of the carrier, and extended laterally through the casing C, interposed springs c^5, the coupling-bar B, passed through the carrier and having its rear end secured to the car by a pivotal connection, and means for operating the coupling-bar, substantially as and for the purposes set forth.

4. The combination, substantially as hereinbefore set forth, of the boxing D, having offsets *d*, plates *d'*, casing C, carrier c^2, rods c^4, springs c^5, coupling-bar B, springs b^3 b^4, shaft E, suitably journaled, and having the ratchet-wheel *e* secured on one end and the crank *e'* on its opposite end, coupled with one of the rods c^4, hand-lever e^2, having its operating-pawl arranged to engage the ratchet-wheel *e*, and the stop-pawl e^6, as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC JONSON MERRICK.

Witnesses:
ALEXANDER SCOTT,
F. P. BROWN.