(No Model.) 2 Sheets—Sheet 1.

G. W. CAMPBELL.

CAR COUPLING.

No. 401,251. Patented Apr. 9, 1889.

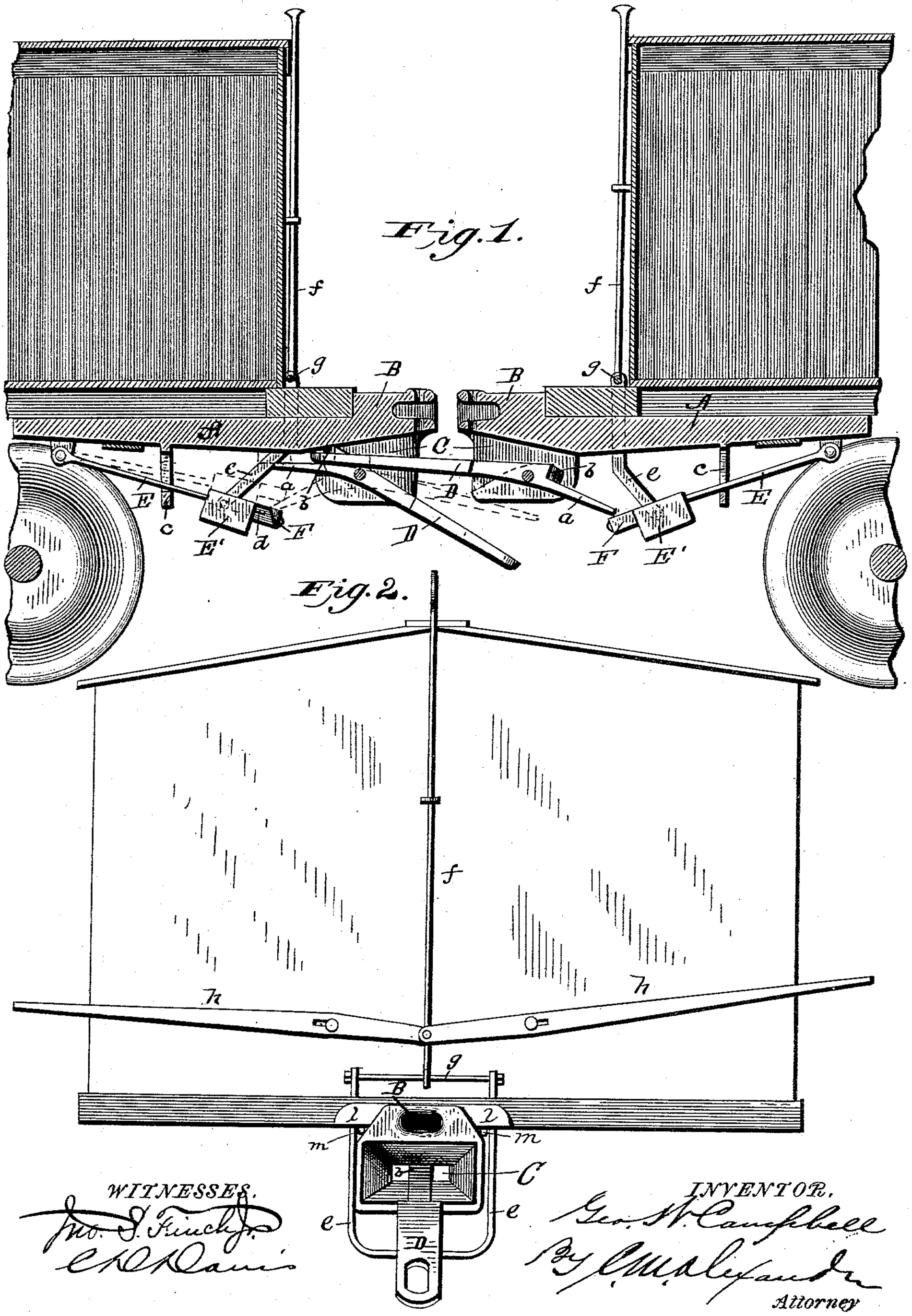

Fig. 1.

Fig. 2.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

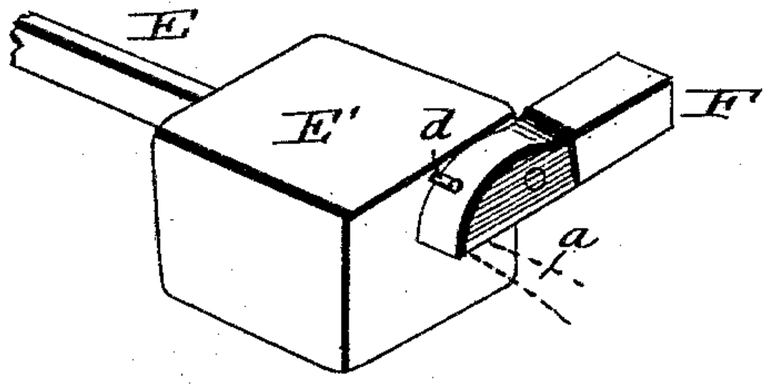

Fig. 4.

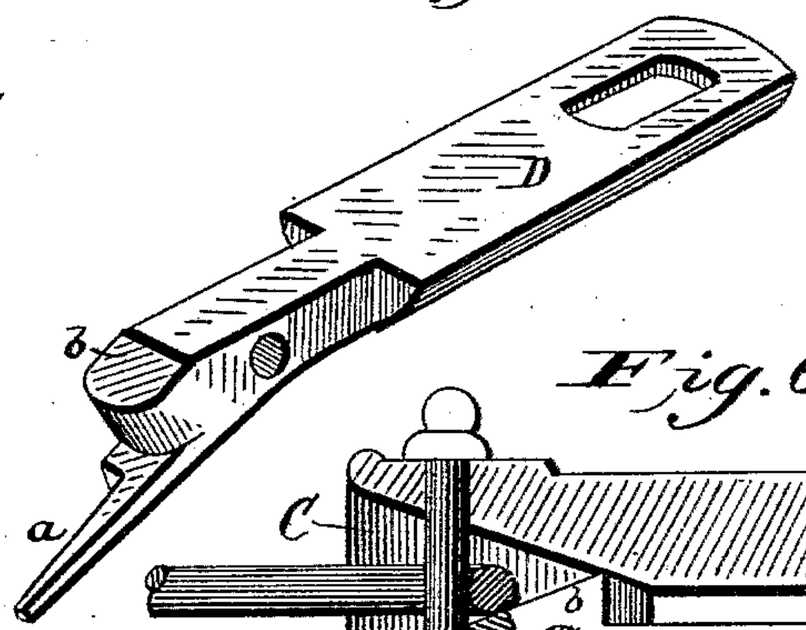

Fig. 6.

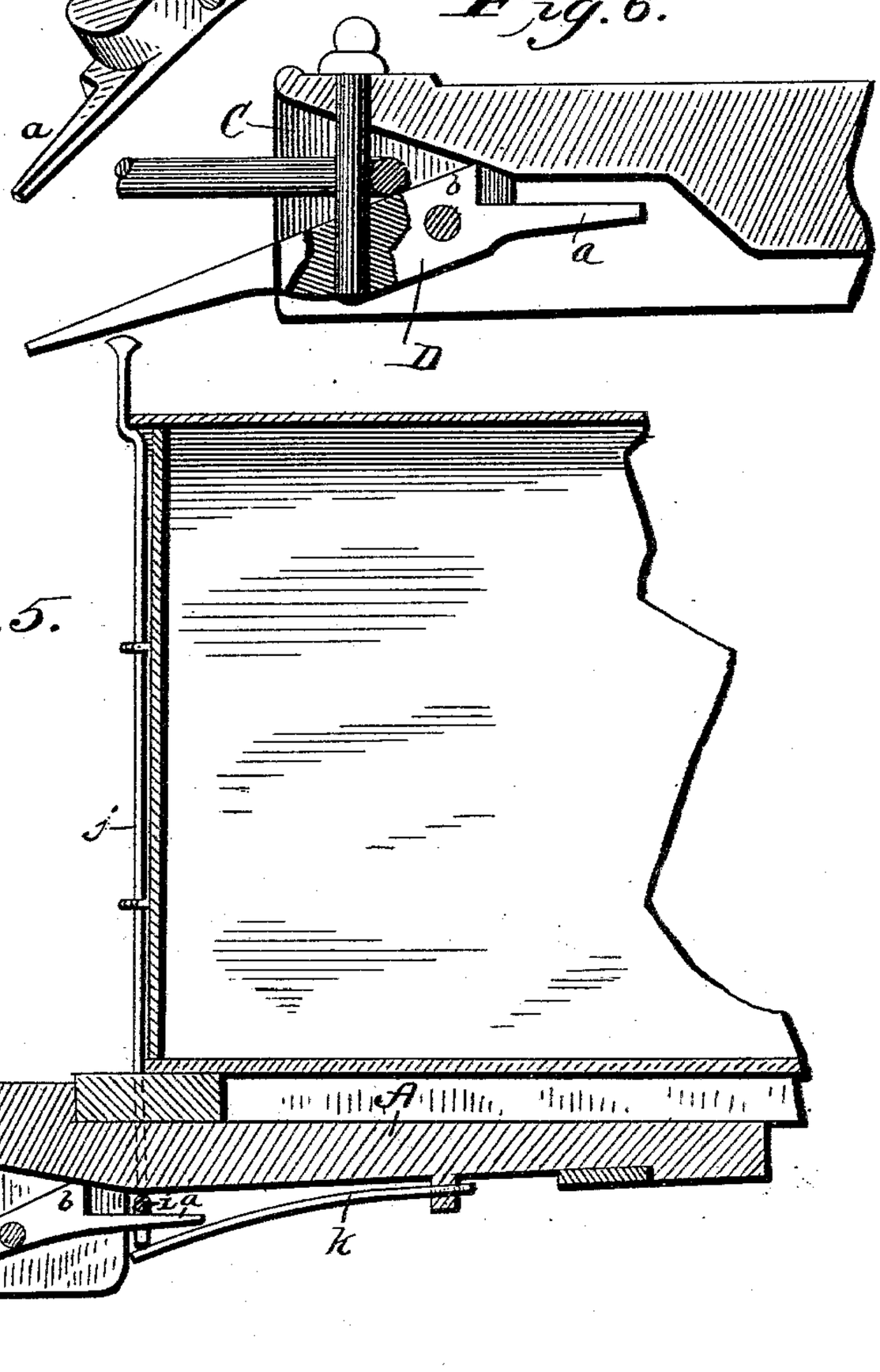

Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE W. CAMPBELL, OF EL PASO, TEXAS, ASSIGNOR OF ONE-TENTH TO JOHN P. PRYOR, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 401,251, dated April 9, 1889.

Application filed January 26, 1889. Serial No. 297,635. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CAMPBELL, a citizen of the United States, residing at El Paso, in the county of El Paso and State of Texas, have invented certain new and useful Improvements in Automatic Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 represents a vertical sectional view of the adjacent ends of two freight-cars of ordinary construction provided with my improved car-couplings; Fig. 2, an end elevation of one of the cars; Fig. 3, a perspective view of the weighted pivoted lever provided with a pawl for tripping the coupling devices; Fig. 4, a detail perspective view of one of the coupling devices, and Fig. 5 a vertical sectional view of one end of a freight-car having applied to it my improved coupler and a modified form of tripping devices. Fig. 6 represents a sectional view of a draw-head, which will be more fully explained hereinafter.

The object of the invention is to provide improved and simple means for automatically and positively coupling the adjacent ends of railway-cars together; and it consists in certain novel features of construction and arrangement of parts, that will be fully hereinafter specified, and particularly pointed out in the claims appended.

Referring to the accompanying drawings by letter, A designates the draw-bar, provided with the usual draw-head, B, for the reception of the ordinary link and pin in case it becomes at any time necessary to couple draw-heads of the ordinary construction. Below the draw-head B is formed another draw head or mouth, C, pivoted in a slot in the lower portion of which is an inclined coupling bar or link, D, the forward end of which is beveled. This link is provided with a rearwardly-extending finger or arm, *a*, and on its upper face, back of its pivot, with an abutment, *b*, which latter rests against the roof of the lower draw-head, C, and holds the coupling-link in its normal position. Pivoted to the rear end of the draw-bar is a forwardly-extending lever, E, provided with a weight, E′, on its forward end, the lever being guided in its vertical movements by means of a slotted guide, *c*. Pivoted on the face of the weight E′ is a weighted automatic tripping-pawl, F, which is supported in a horizontal position by a pin, *d*, inserted in the face of the weight. When the weighted lever is elevated, as shown in dotted lines in Fig. 1, this pawl automatically catches over the extension or finger *a*, as will more fully hereinafter appear. To elevate this weighted lever, I may employ any suitable system of levers; but I prefer the arrangement shown. In this arrangement I employ connecting-links *e e*, a vertical rod, *f*, extending to the top of the car and attached to these links by means of a rod, *g*, and two pivoted levers, *h h*, extending to the sides of the car. By these means the coupling devices may be operated from either side or the top of the car. The normal position of the coupling devices is that shown in Fig. 2 and on the left-hand side of Fig. 1.

In operation, when the cars come together, the higher one of the coupling-links will ride up the inclined face of the other link and automatically catch over the shoulder *b* thereon, as shown in Fig. 1, and the cars be automatically coupled together. It will thus be observed that the devices will operate as well with cars of different heights as with cars of the same height. In case it is desired to couple to an ordinary draw-head it is evident the draw-heads B may be brought into use. When it is desired to uncouple the cars, they are, as usual, first backed together, and then one of the weights E′ (the one that is to the rear of the inclined link) is elevated by means of its operating levers and rods until it strikes against the bottom of the draw-head. As the weight is elevated, the weighted pawl F, being suitably beveled upon its upper side, will be automatically tripped and catch over the finger *a* on the rear of the inclined link, as shown in dotted lines in Fig. 3. Then when the weight E′ is released it will fall a short distance, and by means of the pawl carry the rear end of the link D down until its shoulder *b* releases the other link, the forward end of the tripped link resting against the forward end of the draw-head of the adjacent car, as clearly shown in dotted lines in Fig. 1, and the pawl being prevented from yielding upwardly by the pin *d*. The cars are then

free to be drawn apart, and when they are drawn apart the coupling devices will automatically assume their normal position.

In lieu of the devices shown in Figs. 1 and 2 for operating the coupling devices, I may employ an arrangement similar to that shown in Fig. 5. In this figure I arrange transversely of the bottom of the car, immediately above the extension *a*, a rod, *i*, which is depressed by means of an operating-rod, *j*, secured on the end of the car. A spring, *k*, secured to the draw-bar, holds the bar *i* normally up against the bottom of the draw-bar. When it is desired to uncouple the cars, the bar *i* is simply depressed and the cars drawn apart, the spring serving to return the bar *i* to its normal position, ready for another operation.

Instead of making the draw-head B separate from and above the lower draw-head, C, I may employ the latter alone, and do away entirely with the former and insert the coupling-pin, as shown in Fig. 5.

As shown in Fig. 2, the draw-bar is supported by means of lateral lugs or ears *l l*, cast upon opposite sides of the draw-head, and rods *m m*, secured upon the end beam of the car.

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

1. The combination of a draw-head and draw-bar, an inclined coupling-link pivoted in the mouth of the said draw-head, and provided with an extension, *a*, and an upwardly-extending shoulder, *b*, and means for engaging the said extension, substantially as described.

2. The combination, with a draw-bar and draw-head, of an inclined coupling bar or link, D, pivoted in the mouth of the draw-head, and provided with an upwardly-extending shoulder, *b*, and a rearward extension, *a*, and a pivoted weighted lever and its pawl, substantially as described.

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

GEORGE W. CAMPBELL.

Witnesses:

CHAS. D. DAVIS,
JNO. S. FINCH, Jr.,
CHAS. D. JOST.