

(No Model.)

J. D. RIPSON.  
CAR COUPLING.

No. 502,205.

Patented July 25, 1893.

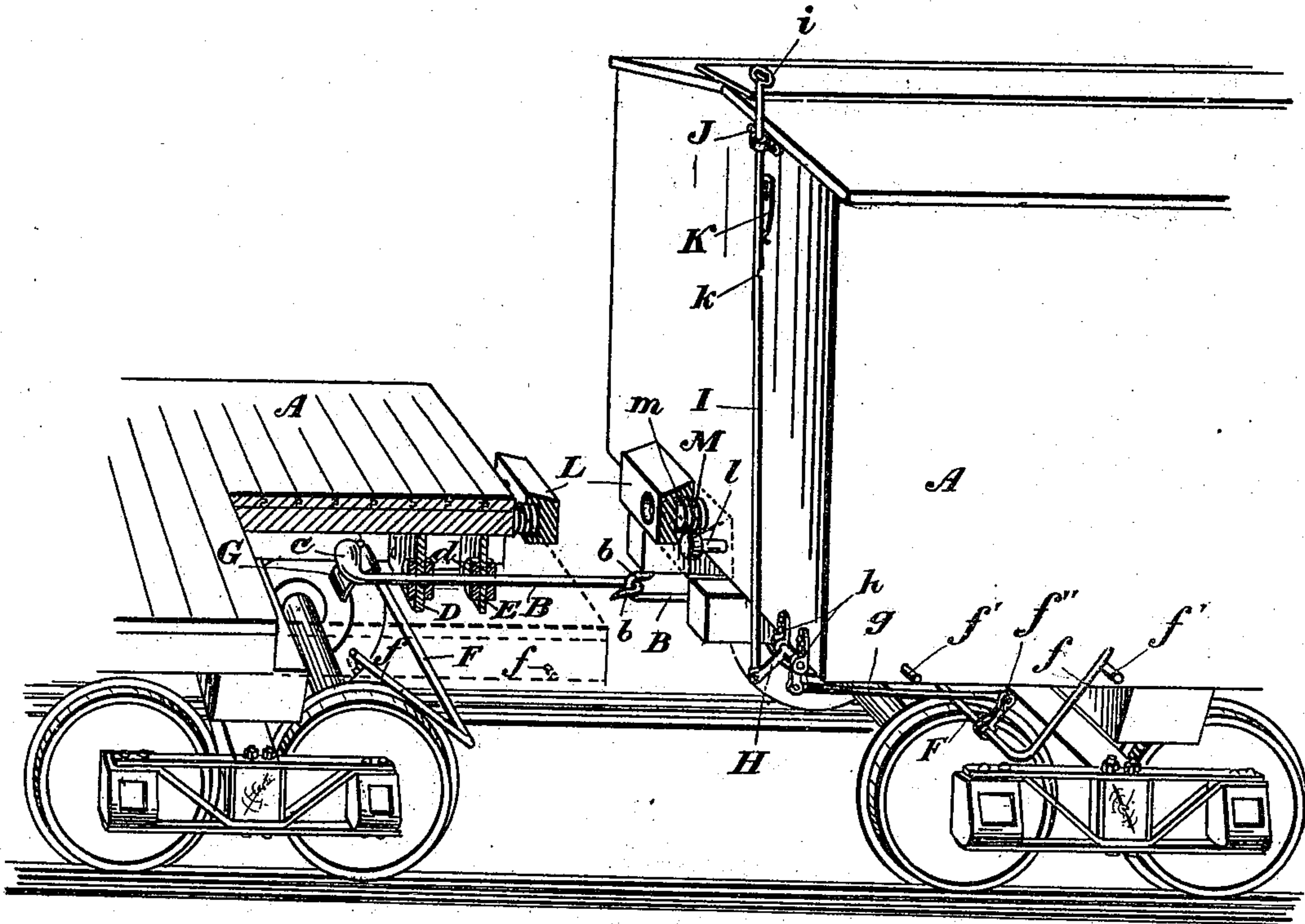


Fig. 1.

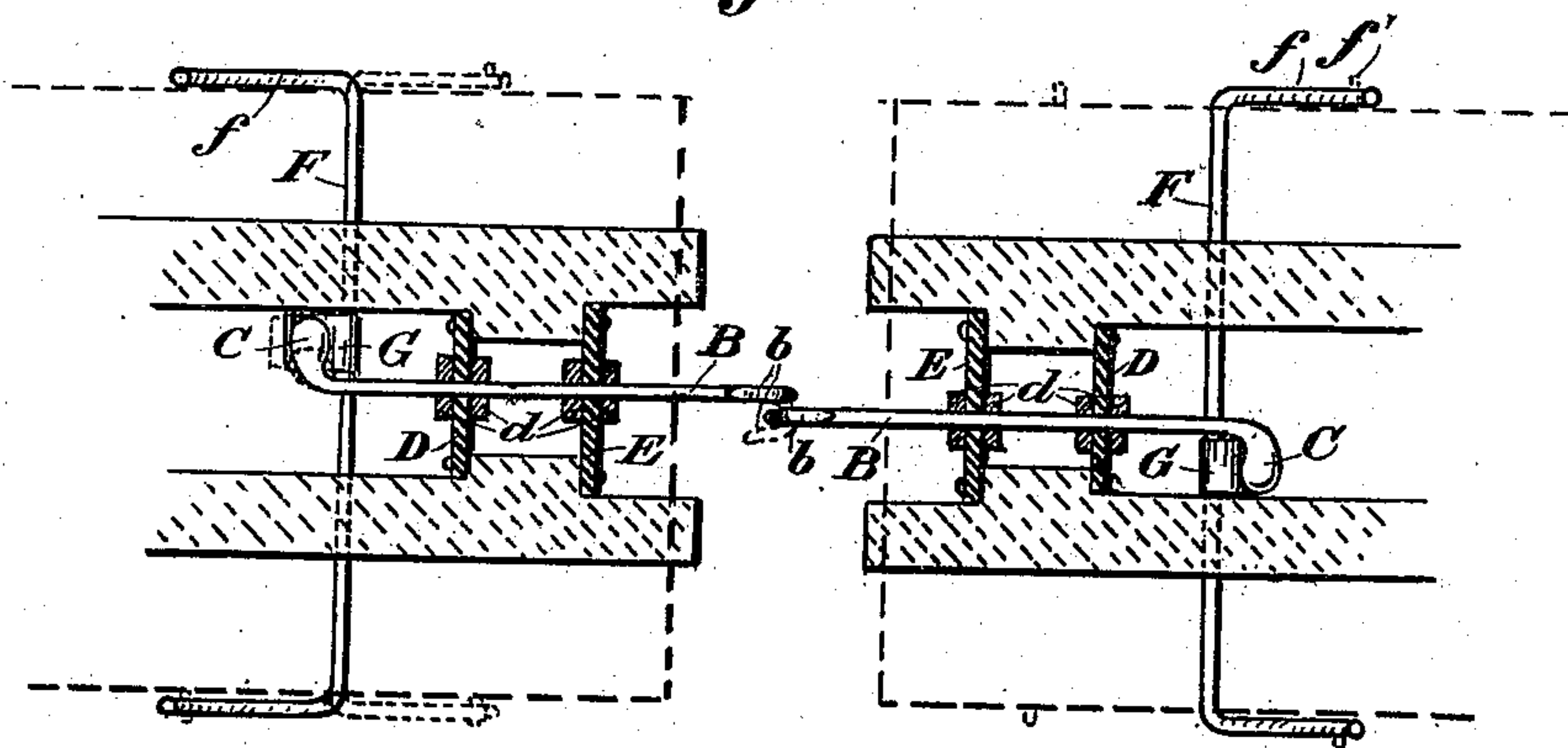


Fig. 2.

Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 502,205, dated July 25, 1893.

Application filed April 18, 1893. Serial No. 470,869. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DANFORD RIPSON, manufacturer, of the town of Thorold, in the county of Welland, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to improvements in car couplings and the object of the invention is—first—to design an extremely simple and cheaply constructed car coupling which may be readily connected to the coupling of the next car without the man going in between the cars and—secondly—of providing means whereby the force of the concussion of the cars may be exerted directly upon the buffers on the bottom ends of the car instead of the draw-bars and it consists essentially—first—of a draw-bar the outer end of which is hooked and the inner end of which is bent in the reverse way to the hook and is enlarged or weighted, such enlarged or weighted end being regulated by gravity and by the tilting plate beneath it attached to the cross rod of the car to hold the hook in a vertical or horizontal position in the manner hereinafter more particularly explained and—secondly—in attaching to the end of the car by studs a buffer which is held flexibly away from the car by spiral springs located in a circular hole at the inner side of the buffer and preferably surrounding the studs.

Figure 1, is a perspective view showing an ordinary box car and flat car coupled, part of the flat car being broken away to show the construction of my draw-bar and mechanism for holding and operating the same. Fig. 2, is an enlarged plan with the tops of the cars removed showing two adjacent cars with their couplings ready to connect, in full lines, and connected, in dotted lines.

In the drawings like letters of reference indicate corresponding parts in each figure.

A, is the body of the car; B, the draw-bar which has a hooked end, *b*, and an enlarged weighted bent end, C.

The draw-bar, B, is supported in the plates, D, and, E, and is held longitudinally in position by the collars, *d*.

F, is a cross-bar provided with an end han-

dle, *f*, and a central tilting plate, G, extending inwardly as shown. The cross-bar, F, is suitably journaled in bearings in the bottom of the car and the movement of the handle, *f*, is controlled by the stop pins, *f'*.

*f''*, is an arm extending upwardly from the cross-bar on a line with the handle, *f'*. The arm, *f''*, is connected by the rod, *g*, to the lower arm of the bell-crank, H, which is pivoted in a bracket, *h*, beneath the end of the car.

I, is a rod connected at the bottom to the outer arm of the bell-crank, *h*, and passing through the bracket, J, on the end of the car as shown. The rod, I, is provided at the upper end with the handle, *i*.

K, is a spring catch secured at the end of the car and designed to engage with the notch, *k*, in the rod, I.

L, is the buffer which is supported on the studs, *l*, and is held normally away from the end of the car by the springs, M, in the recesses, *m*, behind the buffer. The force of the two cars coming together is received by such buffer on each car.

It will be noticed on reference to Fig. 2, that the draw-bars, B, of each two cars to be connected are set to the right of the center of the car, so that they will just pass each other when the cars come together.

Having now described the principal parts involved in my invention I shall briefly describe the operation of my coupling. Normally when the handles, *f'*, are thrown back into the position shown in full lines in Figs. 1 and 2, the bent weighted end of the draw-bar, B, is inclined at an angle downwardly and rests upon the tilting plates, G, in which position the hooked end of the draw-bars are held in the vertical position indicated in Fig. 2 and to the right hand side of the coupling shown in Fig. 1. When so held the hooked ends will readily pass each other. Immediately upon the ends passing each other when the cars are being thrown together the arm, *f''*, of either car is thrown against the opposite stop pin to that against which it is shown in both figures and thereby the tilting plate, G, is raised so as to throw the weighted bent end of the draw-bar to a slanting position up-



wardly in which position it is retained by such tilting plate. When the weighted bent end has an upward inclination as shown the hooked end is in a horizontal position and as  
 5 the preceding car is drawn forward the horizontal hooked end catches the vertical hook of the draw-bar of the next car so as to firmly couple the cars together.

Before uncoupling, the handle, *f*, is thrown  
 10 back into the position shown in the drawings and particularly demonstrated in the broken away portion of the flat car in Fig. 1, so that the tilting plate, *G*, rests downwardly. The hooked end, *B*, still clasps the vertical hook at  
 15 the end of the opposite draw-bar but immediately upon the car being pushed backwardly against the point of the hook, the tilting plate, *G*, being now down the bent end, *C*, of the bar, *B*, will fall upon the tilting plate, *G*, there-  
 20 by serving to raise the hook, *b*, of the draw-bar, *B*, of the flat car in this instance to the vertical position. Immediately upon the car then being drawn forward the hooked ends being both vertical will pass each other and  
 25 the cars will be uncoupled.

Instead of using the handle, *f*, which is designed for use by the man on the ground it will be seen that the rod, *I*, on the end of the box-car may be drawn upwardly by the han-  
 30 dle, *i*, so that the notch, *k*, engages with the spring catch, *K*, it will place the hook, *b* on the end of the draw-bar, *B*, in a horizontal position.

To restore the hooked end of the draw-bar  
 35 to its vertical position it is merely necessary for the man on the top of the car to press the rod, *I*, downwardly so as to relieve the notch, *k*, from the catch, *K*, and bring the handle, *f*, against the stop pin, *f'*, as before described.

What I claim as my invention is—

1. In a car coupling the draw-bar, *B*, supported as specified and having the hooked end, *b*, and weighted bent end, *C*, and means whereby the weighted bent end is raised and lowered as and for the purpose specified. 45

2. In a car coupling, a draw-bar provided with the hooked outer end supported in plates slightly to one side of the center of the car and held in position longitudinally by col-  
 50 lars attached to the draw-bar and having a weighted bent inner end which is lifted by a tilting plate secured on a rod journaled in the bottom of the car and provided with handles as shown and lowers of its own gravity as and for the purpose specified. 55

3. The combination with the draw-bar, *B*, provided with the hooked end, *b*, supported in the plates, *D*, and, *E*, and held in position longitudinally by the collars, *d*, and having a weighted end, *C*, of the tilting plate, *G*, rod, *F*, arm, *f''*, rod, *g*, crank, *H*, vertical rod, *I*,  
 60 provided with a handle, *i*, having a notch, *k*, and the catch *K*, as and for the purpose specified.

4. The combination with the draw-bar, *B*,  
 65 supported as specified and having the hooked end, *b*, and weighted bent end, *C*, and means whereby the weighted bent end is raised and lowered, of the buffers, *L*, supported on the studs, *l*, and held normally from the end of  
 70 the car by the springs, *M*, as and for the purpose specified.

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Witnesses:

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