

(No Model.)

P. L. WETMORE.

CAR COUPLING.

No. 330,947.

Patented Nov. 24, 1885.

Fig: 1.

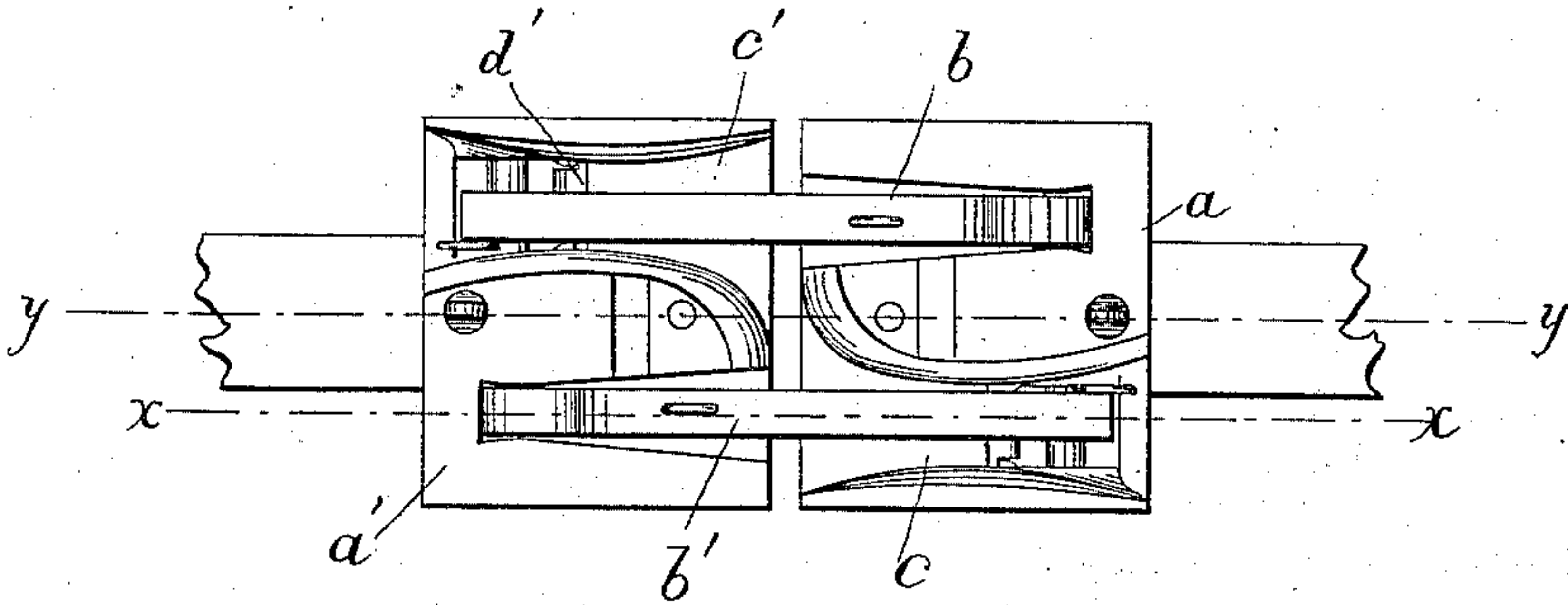


Fig: 2.

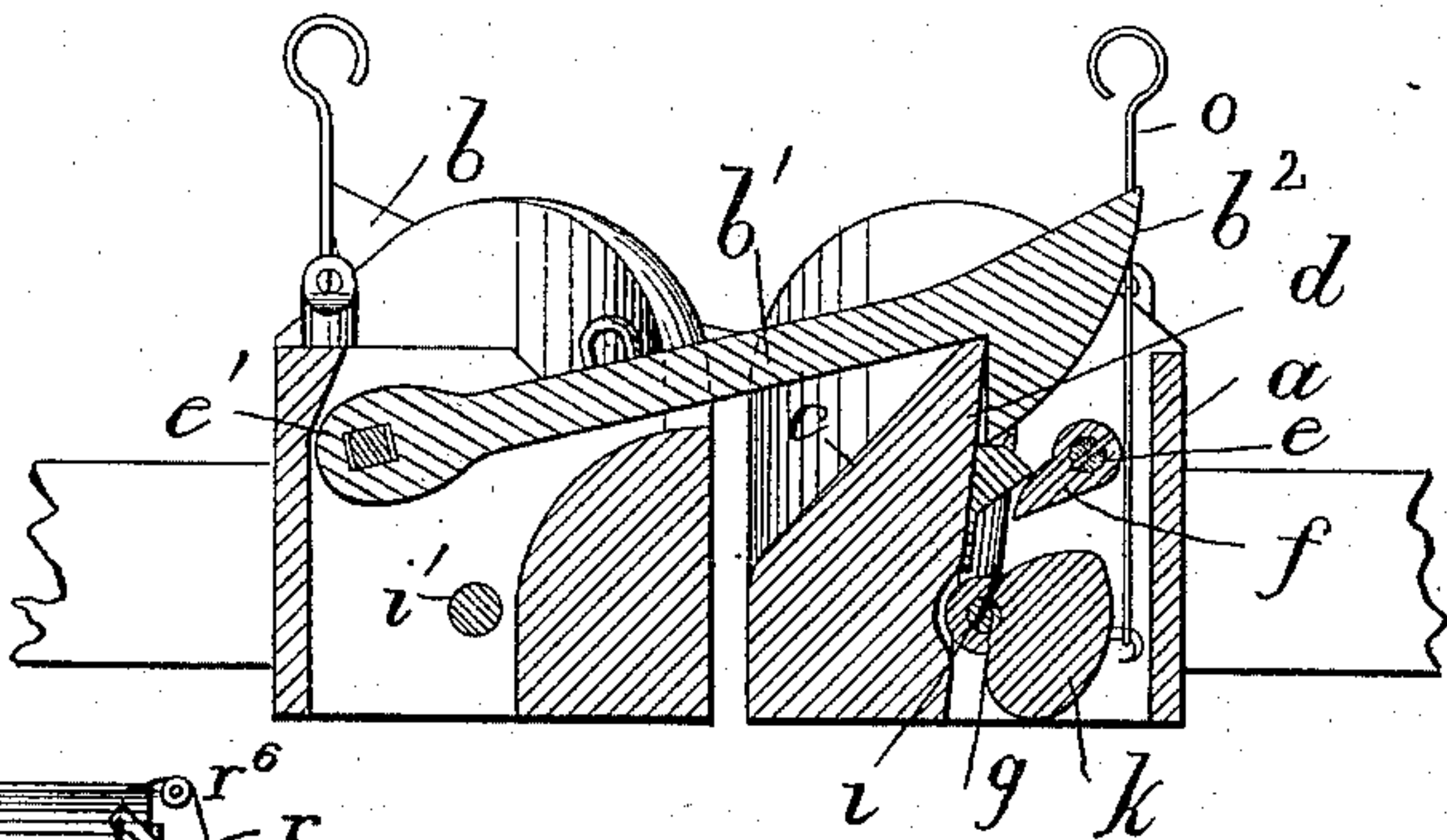


Fig: 4.

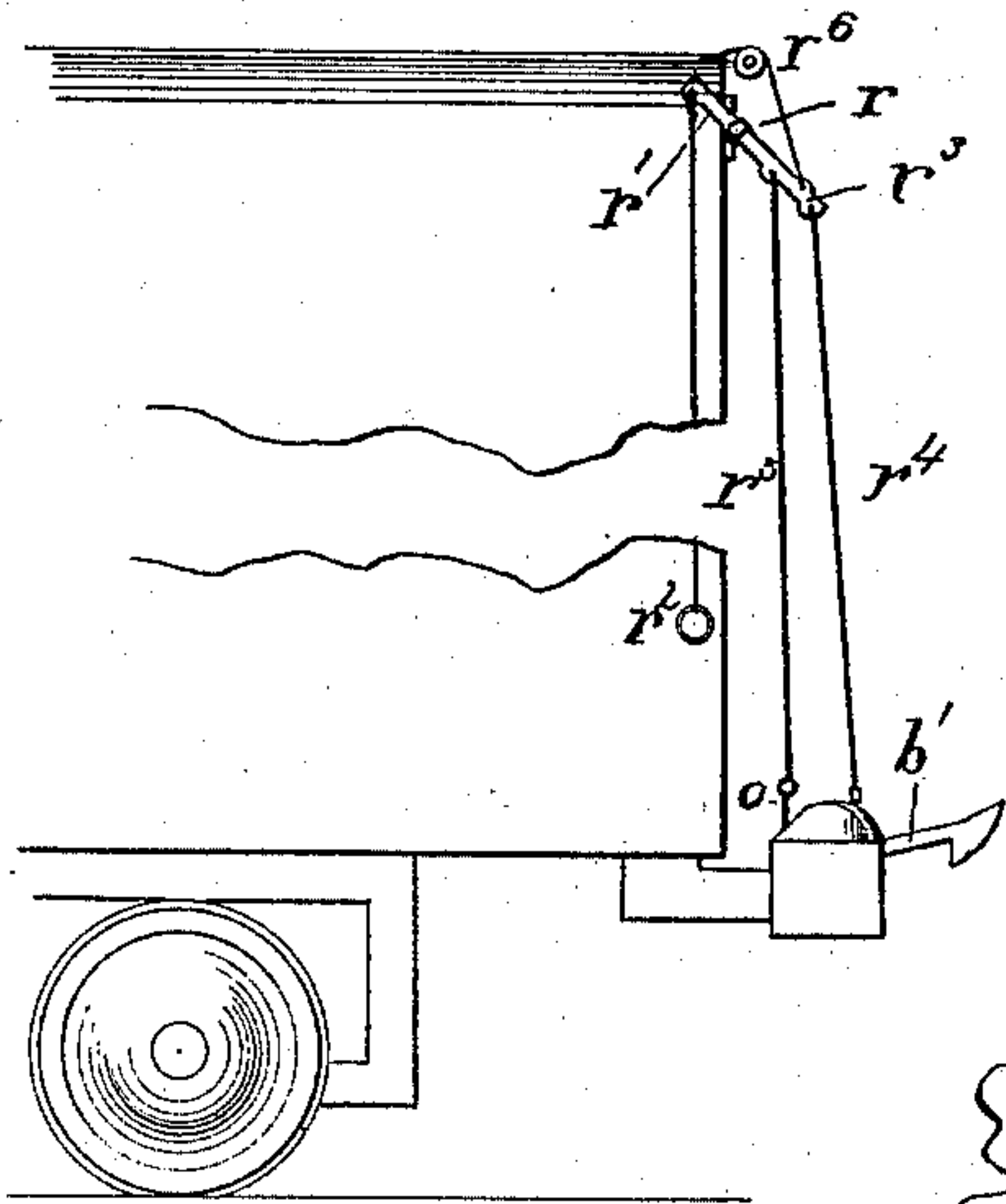
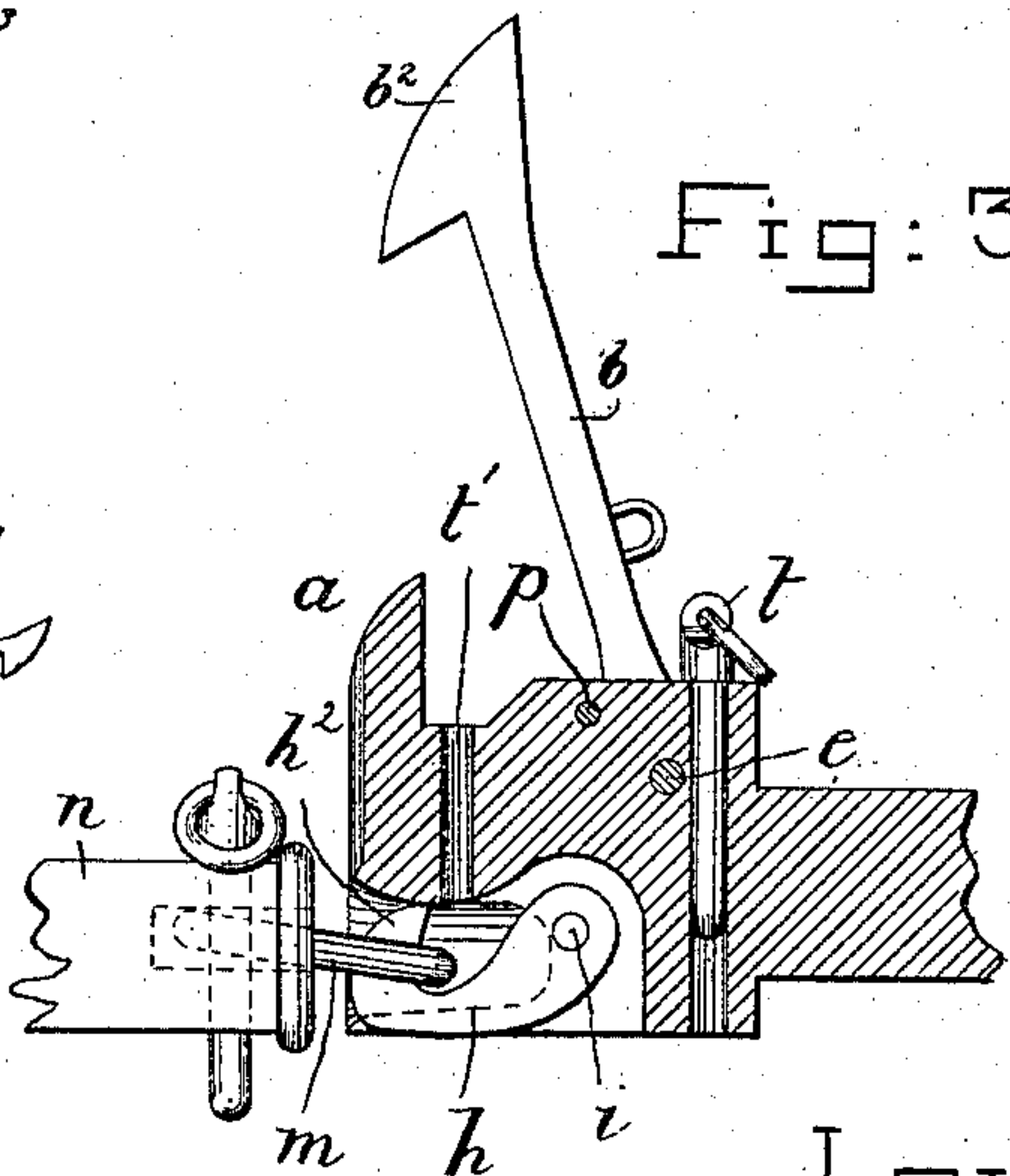


Fig: 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 330,947, dated November 24, 1885.

Application filed February 16, 1885. Serial No. 156,064. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL L. WETMORE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Car-Couplings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is embodied in a car-coupling having coupling devices to automatically engage a similar coupling on another car, and also having automatic devices for engaging a link connected with the other car when the latter is not provided with a similar coupling device. When both cars are provided with couplings made in accordance with this invention, they are connected by means of hooks, one pivoted on each coupling and adapted to slide over an incline and engage a shoulder of the other coupling. The engaging-hook of each coupling is connected with and actuates a disengaging device for the hook of the other coupling, so that by moving the hook of either coupling to disengage it from the opposite one the hook of the opposite one is also disengaged from the one in which the hook was moved. Each coupling is also provided with a hook or latch arranged to automatically engage a link carried by the opposite coupling when the other car is provided with a coupling of a different character, and with disengaging or uncoupling mechanism common to both coupling devices.

Figure 1 is a plan view of a pair of draw-heads provided with coupling devices embodying this invention. Fig. 2 is a longitudinal section thereof on line  $x x$ , Fig. 1; Fig. 3, a longitudinal section of one of the coupling devices on line  $y y$ , Fig. 1, the coupling being shown as connected by a link with a coupling or draw-head of usual construction; and Fig. 4, a side elevation of a portion of a car, showing the mechanism by which the coupling devices are disengaged by the operator without passing between the cars.

The two co-operating draw-heads are of similar construction, and the corresponding parts will be marked with the same reference-letters, those of one draw-head having the accent or prime mark ( $'$ ).

The draw-head of each coupling device, as  $a$ , has pivotally connected therewith a latch

or hook,  $b$ , placed at one side of the middle of the draw-head, and at the other side the said draw-head is provided with an inclined portion or striking-face,  $c$ , for the hook  $b'$  of the opposite coupling, the said inclined portion  $c$  terminating in a shoulder,  $d$ , which is engaged by the hook  $b'$  of the other coupling when the cars come together. The draw-head  $a$  of the other car is of similar construction, and the ends of the hooks  $b$  and  $b'$  are inclined, as shown at  $b^2$ , so that they readily slide over the inclined portion  $c c'$  when the cars come together, the hooks falling by gravitation over the shoulders  $d$ . Each hook  $b$  and  $b'$  is connected with an arbor,  $e e'$ , turning in the draw-head, and extending across into the space at the rear of the shoulder  $d$ , where it is provided with a hook-lifting device,  $f$ , (see Fig. 2,) shown in this instance as consisting of a cam-like arm engaging a slide,  $g$ , upon which the end of the hook of the other coupling rests. Thus, if the hook  $b$  is raised to disengage the shoulder  $d'$  of the opposite draw-head, it also operates through the hook-lifting device  $f$  to raise the hook  $b'$  of the opposite draw-head out of engagement with the shoulder  $d$  of the draw-head containing the hook  $b$ , which was raised by the operator. In a similar manner, if the operator raised the hook  $b'$  of the draw-head  $a'$ , the hook  $b$  of the draw-head  $a$  would also be disengaged from the shoulder  $d'$  of the draw-head  $a'$ , thus leaving the cars uncoupled. Each draw-head is also provided at its middle with a hook,  $h$ , connected with an arbor,  $i$ , extending into the space at the rear of the shoulder  $d$ , and provided with a counter-balance,  $k$ , which normally retains the said hook in the position shown in Fig. 3, and in which it will engage and hold a link,  $m$ , of a draw-head,  $n$ , of ordinary construction, or of any kind which may have a common link projecting from the end thereof. The end of the hook  $h$  is inclined, as shown at  $h^2$ , so that when struck by the link of the opposite draw-head when the cars come together the said hook will be turned on its arbor  $i'$ , lifting the counter-balance  $k$ , which, after the end of link has passed over the hook, will throw the latter into engagement with the said link and retain it there, as shown in Fig. 3. The counter-balance is connected with a disengaging device,  $o$ , adapted to be operated



from the top or side of the car, as hereinafter described, by which the said counter-balance may be raised and the hook *h* depressed, so as to disengage the link which may be held by it.

5 When the coupling device *h* is to be used, the hook *b* may be raised, as shown in Fig. 3, and supported on a pin, *p*, inserted in a suitable opening in the draw-head, thus preventing the said hook *b* from interfering with the opposite

10 car.

Both coupling devices *b h* of a car may be operated simultaneously from the top or side of the car by the devices shown in Fig. 4, consisting of a rock-shaft, *r*, extending transversely across the end of a car, and provided with actuating arms *r'*, connected with handles *r<sup>2</sup>* at the sides of the car to enable the operator to actuate the device when standing on the ground. The rock-shaft *r* is also provided with an arm, 20 *r<sup>3</sup>*, connected by chains or links *r<sup>4</sup> r<sup>5</sup>* with the hook *b b'* and disengaging device *o* of the draw-head of the said car, so that by depressing the handle *r<sup>2</sup>* and arm *r'* the arm *r<sup>3</sup>* is raised and lifts the hook *b* or *b'* and the counter-balance *k* or *k'*, thus disengaging the coupling 25 from that of the opposite car, whether the latter be of the same or of different construction from that forming the subject of this invention. The arm *r<sup>3</sup>* may also be operated by a chain or link, *r<sup>6</sup>*, extending to the top of the car. The draw-head is provided with a socket to receive the usual coupling-pin, *t*, and with a socket in which the said pin may be inserted to engage a link in the opening of the draw-head containing the hook *h*, the said pin being 35 used in case the hook *h* should be broken or deranged.

I claim—

1. A car-coupling device comprising a draw- 40 head provided with a pivoted hook, and an inclined striking face and shoulder for co-operating with a corresponding hook of another similar draw-head, and a hook and connected counter-balance for engaging a coupling-link, 45 whereby the coupling device may be made to

co-operate either with a draw-head of similar construction or with an ordinary draw-head having a link, substantially as and for the purpose described.

2. A car-coupling device comprising a draw- 50 head provided with a pivoted hook, and an inclined striking-face and shoulder for co-operating with a corresponding hook of another similar draw-head, and a hook and connected counter-balance for engaging a coupling-link, 55 whereby the coupling device may be made to co-operate either with a draw-head of similar construction or with an ordinary draw-head having a link, and uncoupling mechanism connected with both of the said hooks, whereby 60 both may be simultaneously disengaged or uncoupled by the operator without passing between the cars, substantially as described.

3. The combination, with the draw-head provided at one side with a stationary inclined 65 face and a shoulder, of a hook pivoted at the other side of the draw-head, and a disengaging device comprising the lifting-arm *f* and slide *g*, operatively connected with the said hook, and actuated thereby to disengage the 70 corresponding hook of the opposite coupling from the said stationary shoulder, substantially as described.

4. The draw-head provided with an inclined face and a shoulder, and the pivoted hook for 75 engaging the corresponding face and shoulder of the opposite coupling, combined with a hook-disengaging device connected with the said pivoted hook, and uncoupling mechanism also connected with the said hook, whereby 80 the same may be disengaged or uncoupled by the operator without passing between the cars, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two sub- 85 scribing witnesses.

PAUL L. WETMORE.

Witnesses:

JOS. P. LIVERMORE,  
W. H. SIGSTON.