

(No Model.)

M. R. YEOMANS.

CAR COUPLING.

No. 358,421.

Patented Feb. 22, 1887.

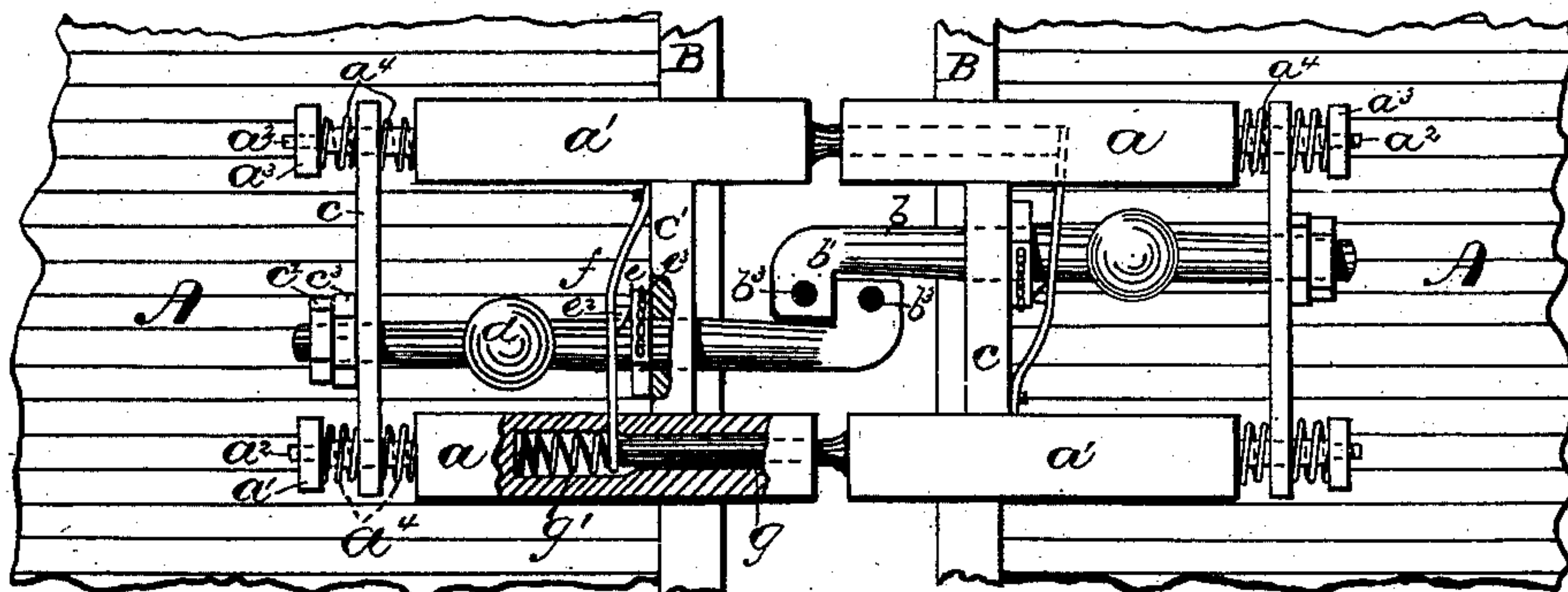


Fig. 1.

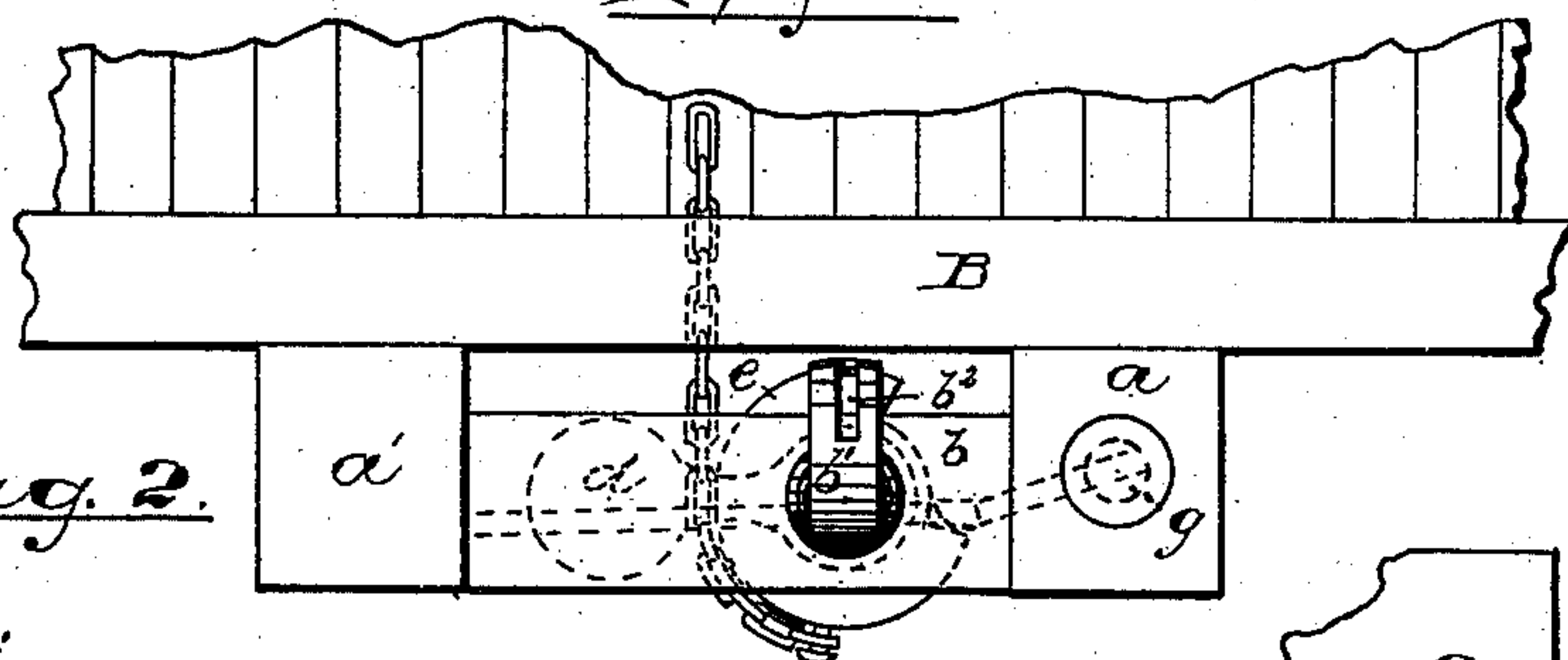


Fig. 2.

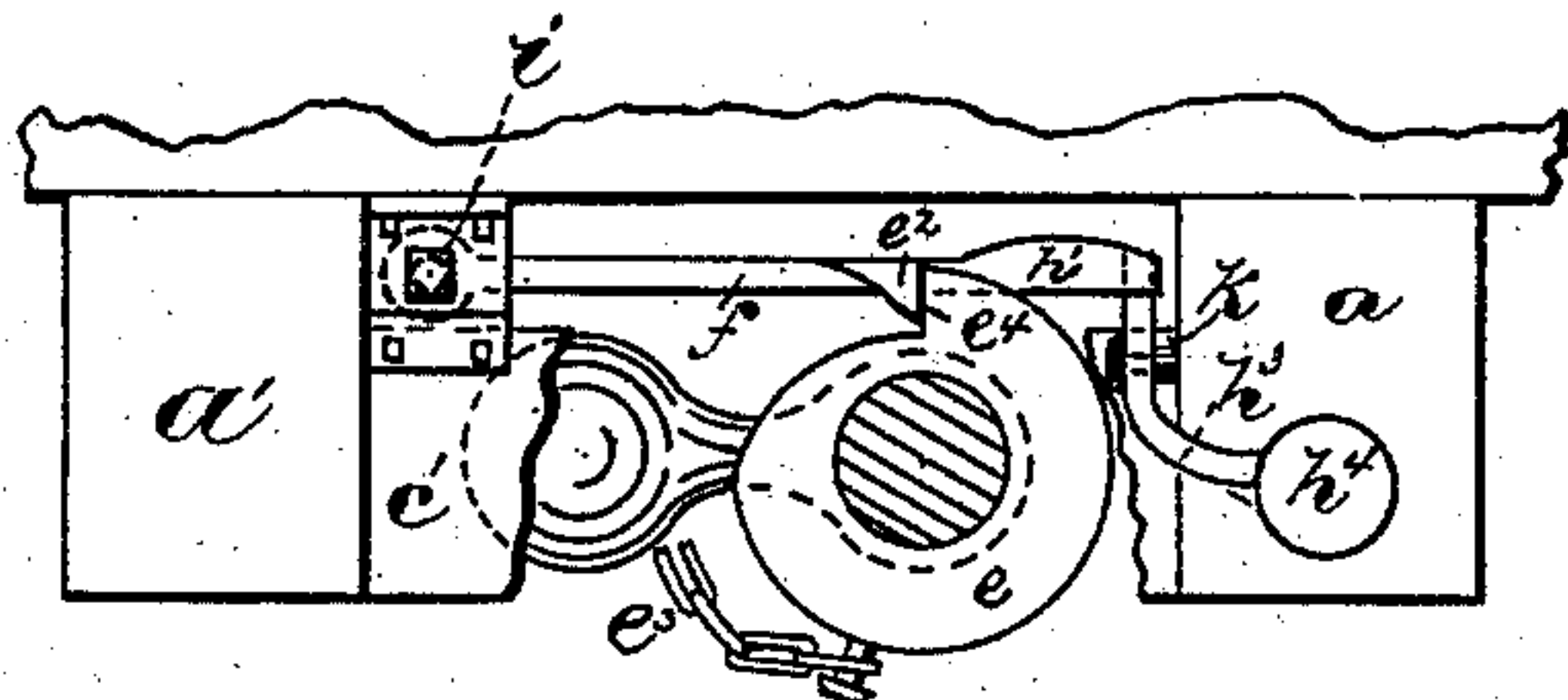


Fig. 3.

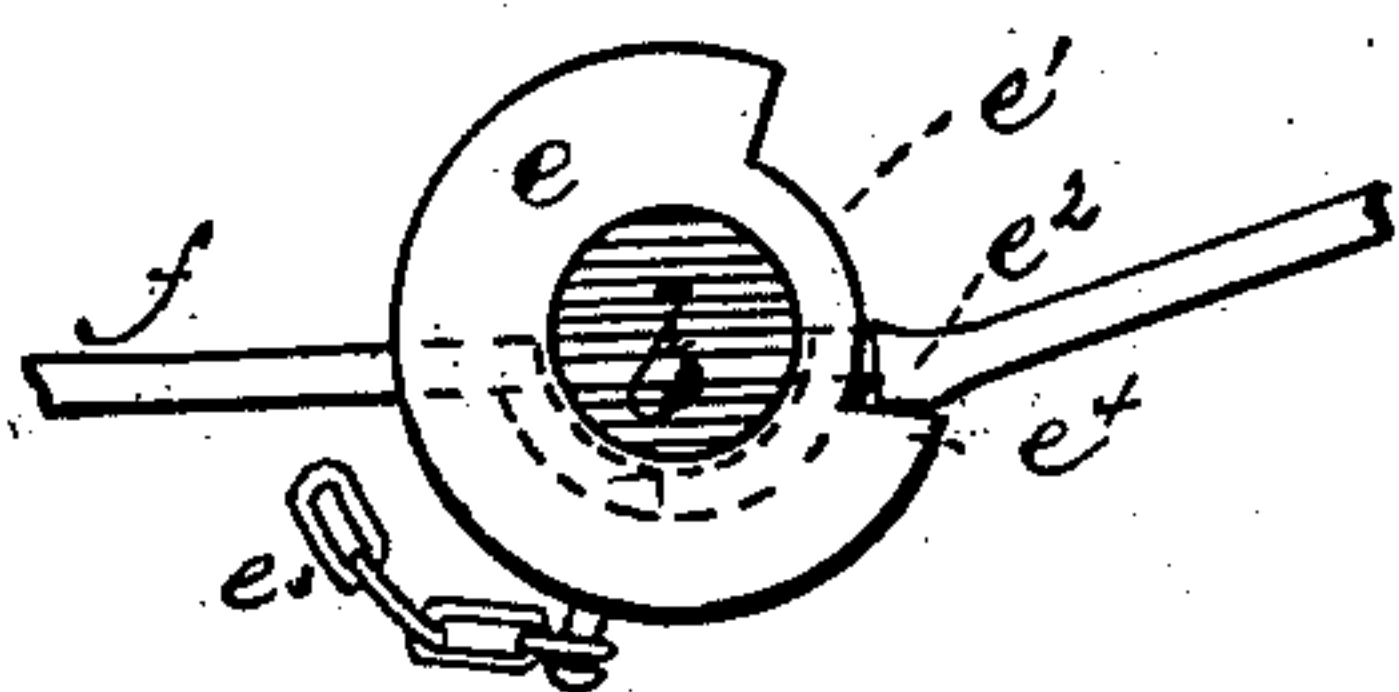


Fig. 5.

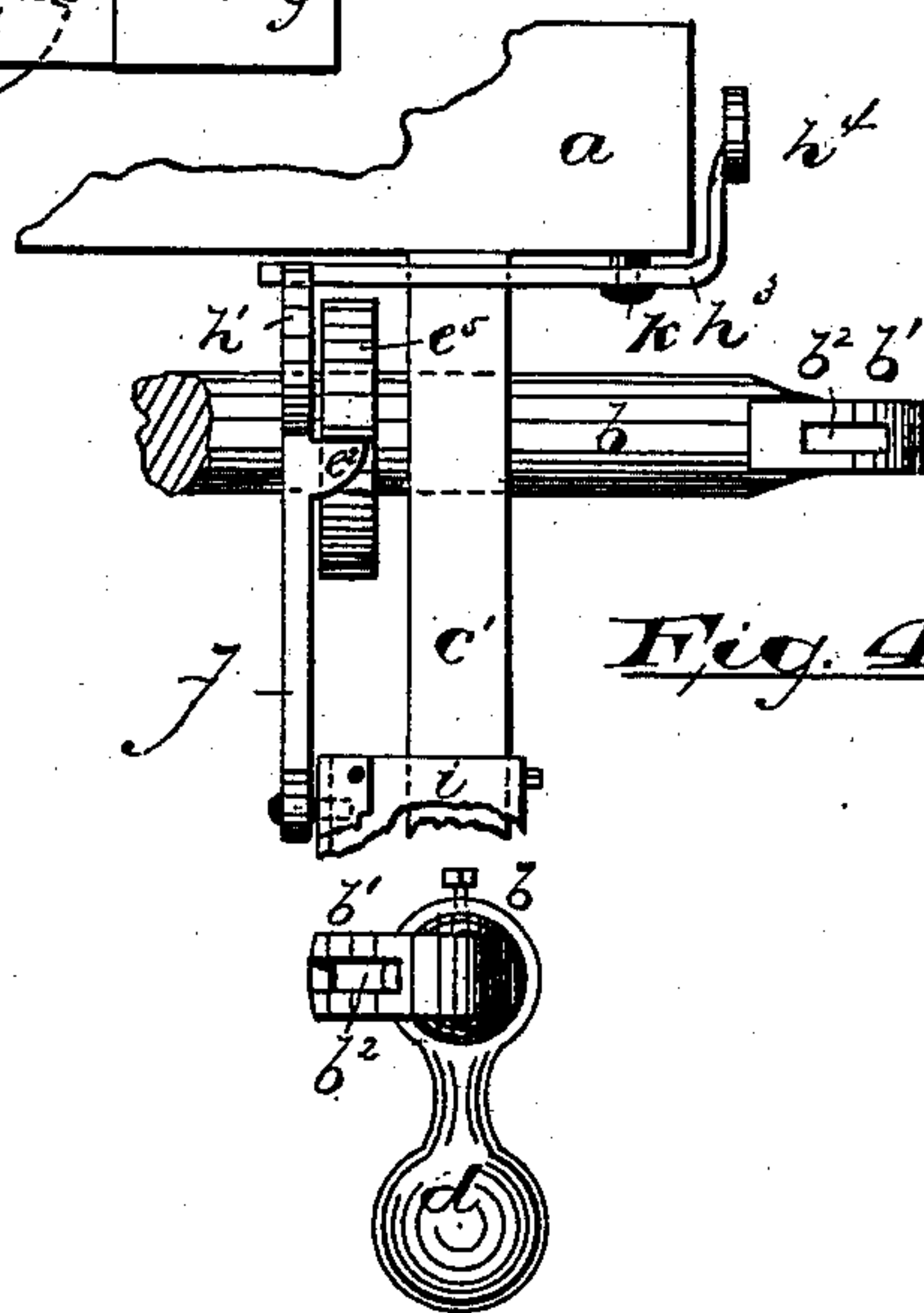


Fig. 4.

Fig. 6.

WITNESSES:

INVENTOR

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*Jos. C. Farr*

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# UNITED STATES PATENT OFFICE.

MANNING R. YEOMANS, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF  
TO FERDINAND H. WISMER, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 358,421, dated February 22, 1887.

Application filed October 22, 1886. Serial No. 216,924. (No model.)

*To all whom it may concern:*

Be it known that I, MANNING R. YEOMANS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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 ap-

10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 The object of this invention is to provide an improved automatic coupler for cars that will work more effectually when the buffers of said cars come together; also, to provide a more durable and efficient coupler, and to reduce the cost of manufacture.

20 The invention consists in an improved car-coupler and in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

25 Referring to the accompanying drawings, in which like letters indicate corresponding parts in each of the several figures, Figure 1 is a plan of the under part of two cars provided with my improved coupler, a portion being

30 broken away to show certain parts of the same. Fig. 2 is a front elevation of a portion of a car provided with an improved coupler, and showing the draw-head in a raised position. Figs. 3 and 4 are an end elevation and a plan

35 view, respectively, of my improved coupler, showing a certain modified form of gravity-pawl in connection with said coupler; and Figs. 5 and 6 are details of certain parts of the improved coupler.

40 In said drawings, A indicates the body of the car; B, a cross-beam of the platform;  $a$   $a'$ , buffers, which are attached to the car in any suitable manner.

45  $b$   $b$  are draw-bars, and  $c$   $c'$  are lateral braces, through which said draw-bar passes and which are attached to said buffers, the brace  $c$  being attached by means of springs and bolts, and the brace  $c'$  being mortised to said buffer in any ordinary manner. The said draw-bar  $b$

50 is provided with a ratchet-wheel,  $e$ , a weight,  $d$ , a nut,  $c^3$ , a lock-nut,  $c^2$ , and a slotted and

hooked head,  $b'$ . It may pass through a suitable perforation in the brace  $c'$  and then receive the ratchet-wheel  $e$ , which may be secured to it by a set-screw, or in any other ordinary manner. The weight  $d$  is secured to the said draw-bar between the two braces  $c'$  and  $c$ , and at or approximately at right angles to the head  $b'$ , as indicated in Fig. 6. The said bar  $b$  may be reduced in diameter to form a shoulder, which may bear against the brace  $c$ , and then pass through a suitable perforation in said brace and receive the nuts  $c^2$   $c^3$ . The said brace  $c$  is held in position by bolts  $a^2$  and springs  $a^4$ , said bolts passing through suitable perforations in said brace and adapted to receive a nut,  $a^3$ , at the end thereof. Said springs  $a^4$  are disposed on both sides of said brace  $c$ , to which the draw-bar  $b$  is swivelly connected, thus cushioning a blow in either direction on said draw-bar, as in a sudden pull or push.

The ratchet-wheel  $e$  is cut away, as at  $e'$ , Figs. 3 and 5, to provide a seat for a pawl,  $e^2$ , which may be rigidly connected to a spring-bar,  $f$ . The said ratchet-wheel may be provided with a chain,  $e^3$ , attached to it by means of a pin, or in any ordinary manner, the object of said chain being to raise the draw-head by turning the draw-bar from engaging relation with the corresponding draw-head to the disengaged position, as shown in Figs. 2 and 4; and when raised to said position the said pawl  $e^2$  drops automatically into engagement with the ratchet-tooth  $e^4$  of said wheel  $e$  by means of the spring-bar  $f$  and spring  $g$ , thus holding said draw-head in a raised position, and also pushing forward the rod  $g$ .

The buffer  $a$  may be suitably perforated to receive the said rod  $g$ , spring-bar  $f$ , and spring  $g'$ , as indicated in Fig. 1. The drum or ratchet-wheel  $e$  may be turned by connecting the chain  $e^3$  to a lever attached to the end thereof and to the side or to the platform of the car, or in any other ordinary manner. At least one of the draw-heads should be raised when the cars are to be automatically coupled. By this construction, when one or both of the draw-heads are raised, as indicated in Fig. 2, the buffer  $a'$  comes in contact with the rod  $g$ , pushing it inward, and thus releasing the pawl  $e^2$  from engagement with the ratchet-wheel  $e$ , and the



draw-heads are caused to fall automatically into engagement relation with the draw-head of the next car by means of the weight *d*, as indicated in Figs. 1 and 6, thus automatically coupling the cars, as will be understood.

Instead of the spring-actuated pawl, as indicated in Figs. 1 and 2, a gravity-pawl may be used, as indicated in Figs. 3 and 4, said pawl being placed above said ratchet-wheel, and consisting, essentially, of a gravity-bar, *f*, pivoted to a plate, *i*, which may be secured to the brace *c'* and the platform cross-beam *B*, said bar being provided with a pawl, *e'*, and a weight, *h'*, and being adapted to drop automatically, so that the said pawl *e'* will fall into its seat *e'* in the ratchet-wheel *e* when said wheel is turned as above described, thus holding the draw-head in the position indicated in Figs. 2 and 4.

The end of the gravity-bar *f* may rest upon a lever, *h'*, pivoted at *k* to the side of the buffer *a*, and bent so as to extend in front of said buffer, as indicated in Figs. 3 and 4, and provided at the end with a broad bearing-surface, *h'*. Thus when the cars come together the buffer *a'* comes in contact with the bearing-surface *h'* of the lever *h'*, raising said lever, as will be manifest, and in turn raising the gravity-bar *f* and disengaging the pawl *e'*, thus automatically dropping the weight *d*, which turns the draw-head *b'*, so that it will lie in a horizontal plane, and by this means coupling the draw-head with the corresponding one of the next car. The said draw-head may be provided with a slot, *b'*, adapted to receive an ordinary link, such as are used more especially on coal and freight cars, and also a perforation, *b'*, to receive an ordinary pin, thus enabling a car provided with an improved automatic coupler to be coupled to a car with the ordinary link-and-pin coupling. The said draw-bar, together with its automatic operating device, may be attached to the bottom of the buffers by employing suitable angle-plates and braces, thus providing for the improved coupler to be attached to cars of different heights. The draw-bar *b*, draw-head *b'*, ratchet-wheel *e*, and weight *d* may be cast integral—that is, in one piece—which is advantageous when the coupler is to be attached to the bottom of the buffer, as above referred to.

I do not wish to limit myself to the exact construction and proportion of parts herein shown, as it is evident that changes may be made in those particulars without departing from the spirit or scope of my invention.

I am aware that a weighted draw-bar adapted to turn pivotally to engage the co-operating draw-bar when released by contact with the said co-operating draw-bar is not broadly new; nor is it new to project a repressible releasing-rod, such as the one marked *g*, from a buffer, and I do not claim the same herein; but in the improved device the releasing re-pression-rod arranged in the buffer, and which takes a portion of the impact as the cars come together, is separate and away from the draw-head, so that its freedom to turn pivotally when released is not impaired.

Having thus fully described my invention, what I claim as new is—

1. In a car-coupler, the combination, with a gravity-actuated hooked draw-bar and buffers *a a'*, of a releasing device extending in front of one of the said buffers and adapted to be operated by contact with the corresponding buffer of a connecting car, substantially as set forth.

2. In a car-coupler, the combination, with a gravity-actuated hooked draw-bar, of a ratchet drum or wheel and a chain, *e'*, adapted to turn said hooked draw-bar from engaging to disengaging relation with the draw-bar of a connecting car, a pawl to engage the said ratchet, and a repression-rod to release the said pawl from the ratchet-wheel, substantially as set forth.

3. In a car-coupler, the combination, with buffers and suitable cross-bars, of a gravity-actuated hooked draw-bar passing through a suitable perforation in one of said cross-bars and swiveled to the other of said cross-bars, bolts *a'*, carrying the latter of said cross-bars, and springs arranged on opposite sides of the said latter of the cross-bars, to hold said cross-bar in place and cushioning it against a blow from either the direction of a pull or push, substantially as set forth.

4. In a car-coupler, the combination, with the buffers, suitable cross-bars, and a gravity-actuated hooked draw-bar, of a ratchet-wheel, a pawl, *e'*, rod *f*, spring *g'*, and rod *g*, said rod *g* adapted to disengage said pawl *e'* when pushed by the corresponding buffer of the co-operating car, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of October, 1886.

MANNING R. YEOMANS.

Witnesses:

OSCAR A. MICHEL,  
WM. S. CORWIN.