

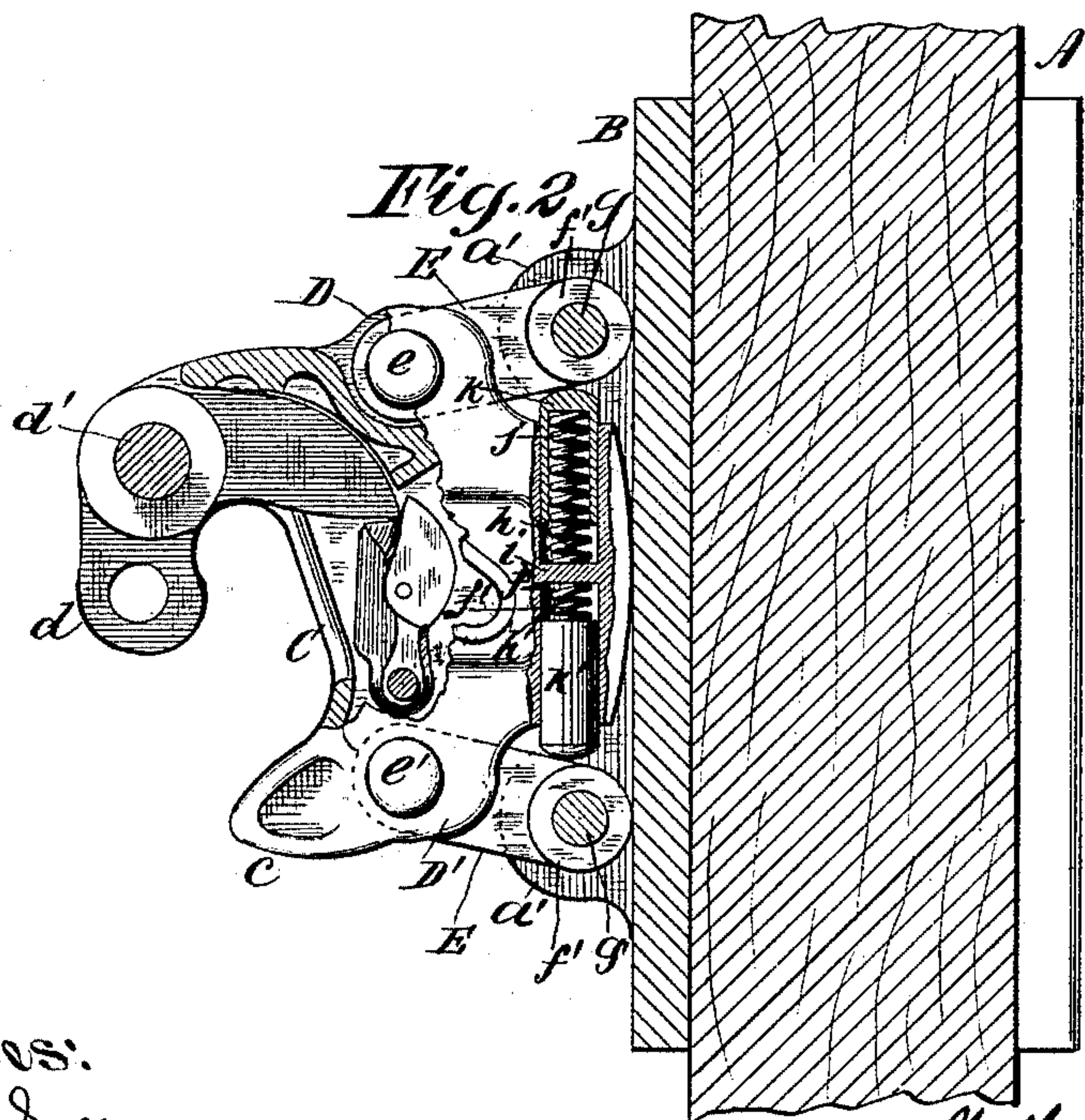
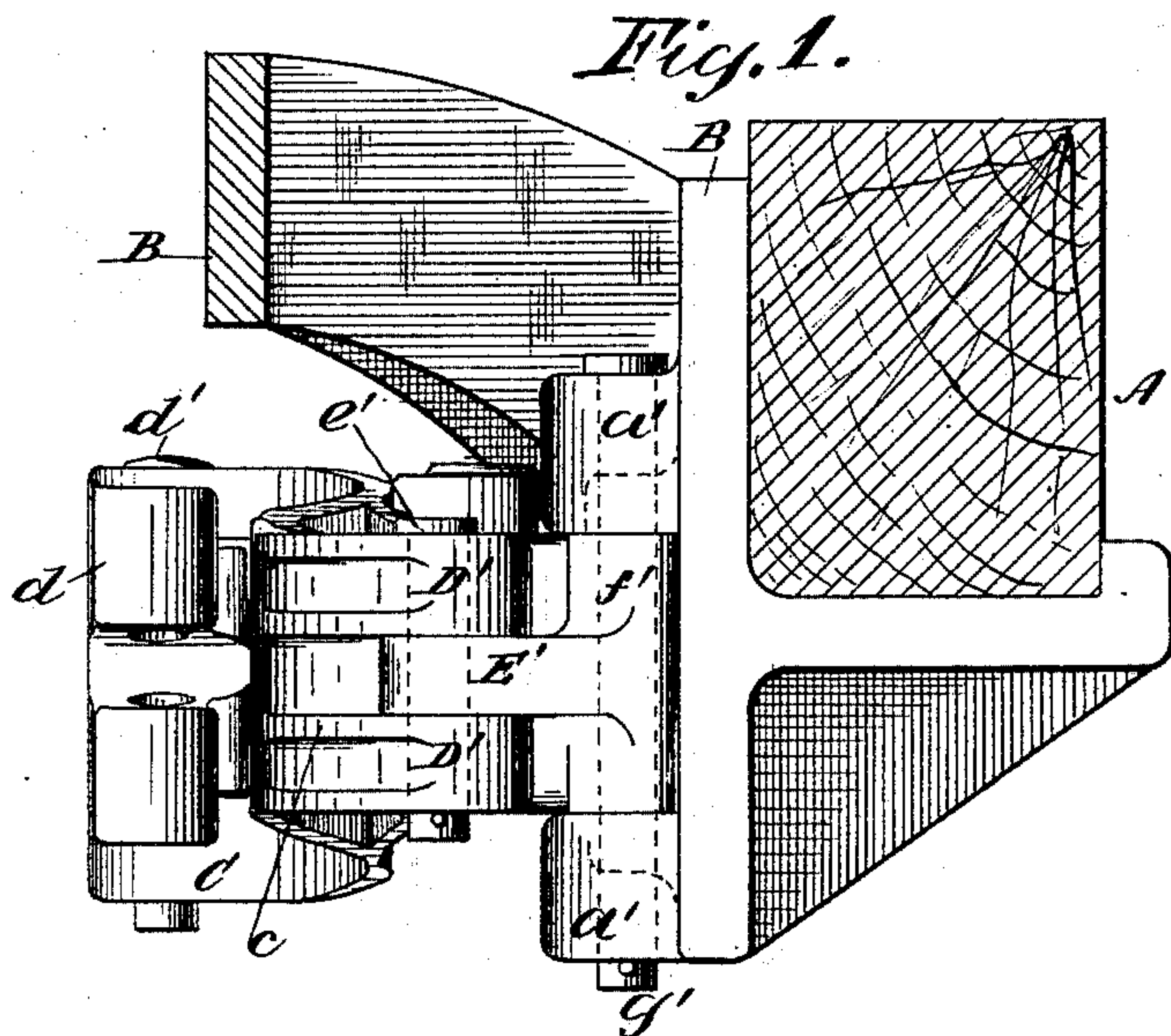
(No Model.)

2 Sheets—Sheet 1.

W. F. RICHARDS.
CAR COUPLING.

No. 498,029.

Patented May 23, 1893.



Witnesses:

D. W. Gardner.

Eugene V. Myers

Inventor:

Willard F. Richards
by Ernest C. Corb
his Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

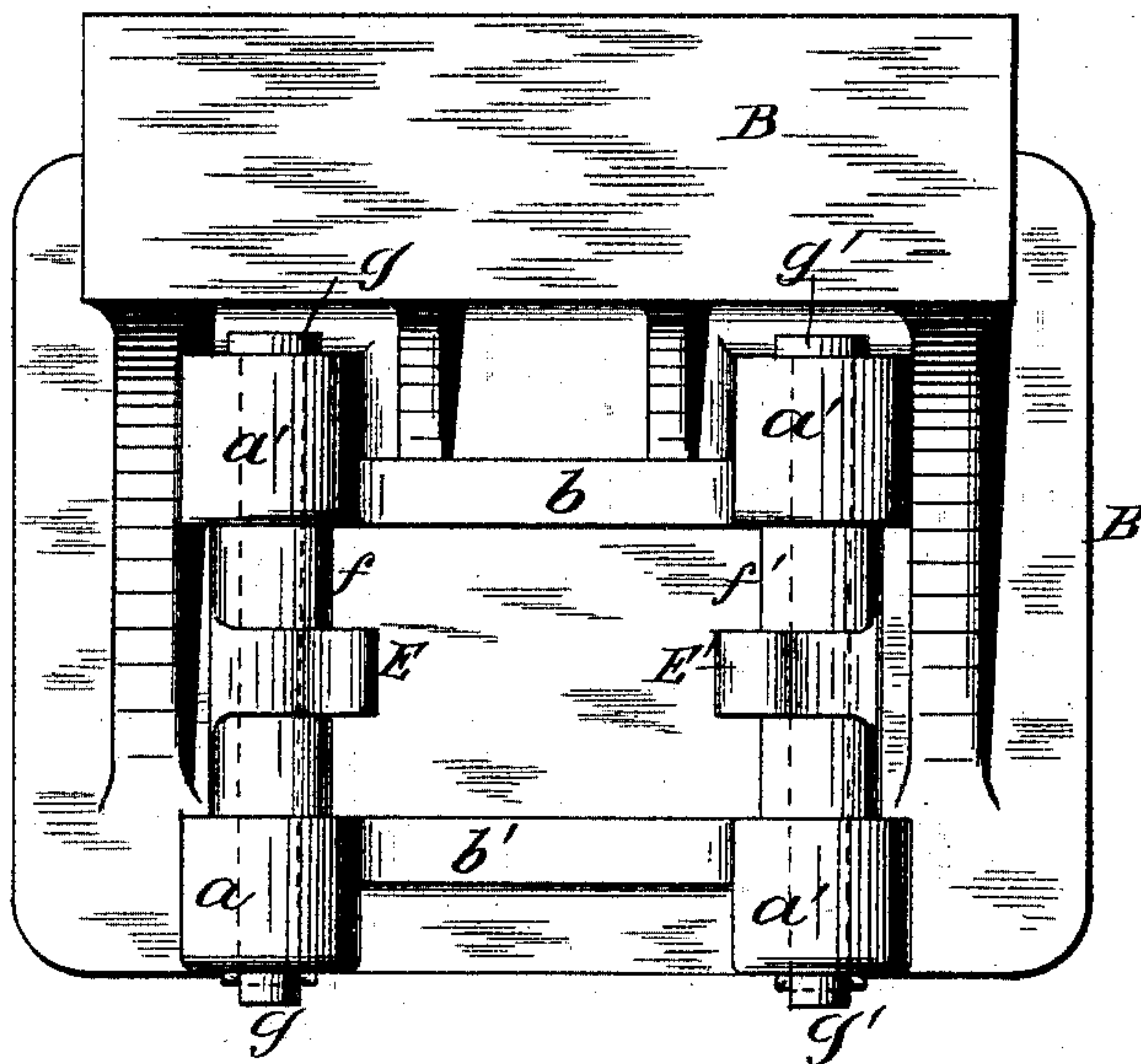
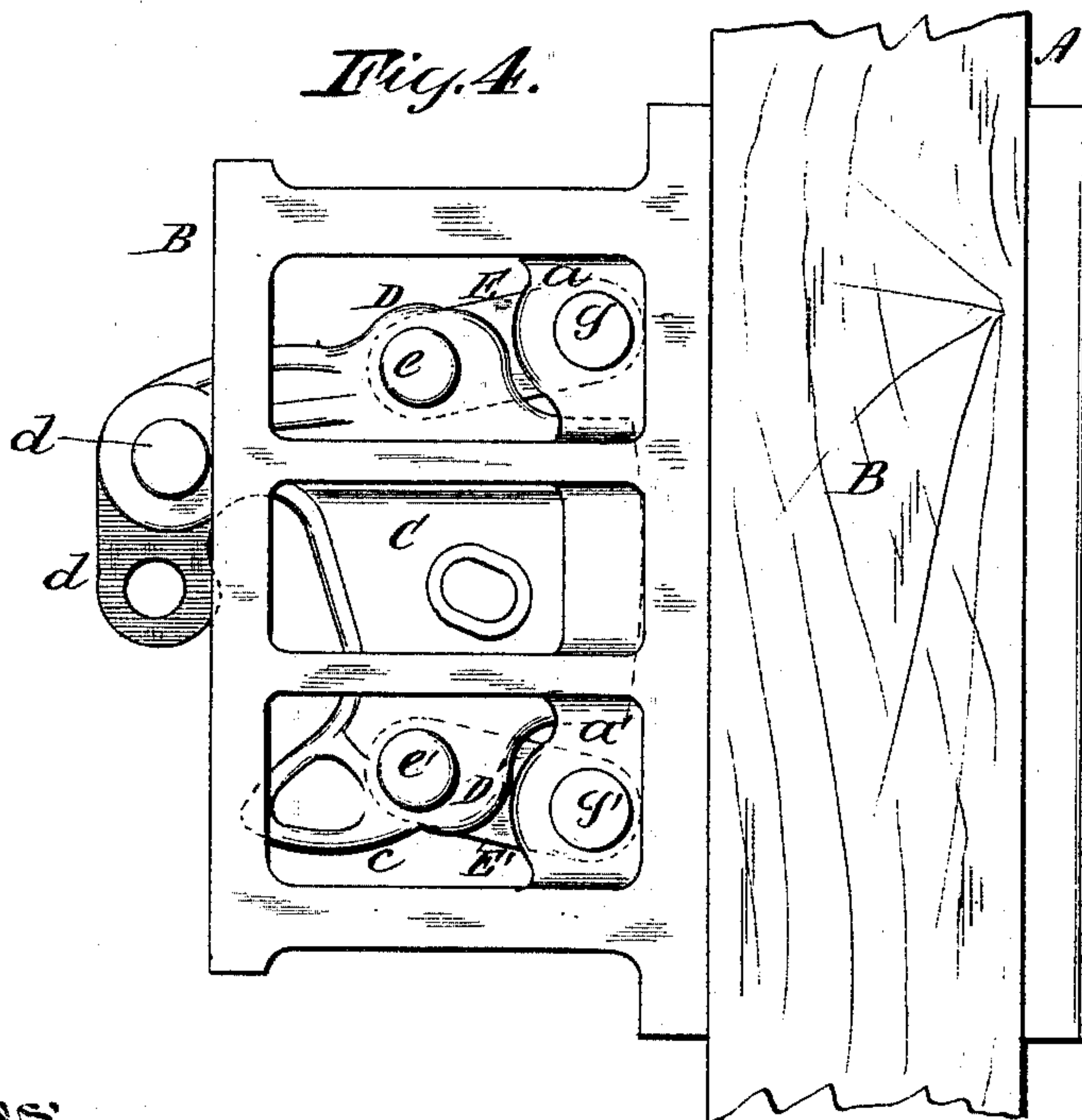


Fig. 4.



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Inventor:

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UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO THE GOULD COUPLER COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 498,029, dated May 23, 1893.

Application filed December 6, 1892. Serial No. 454,227. (No model.)

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, and a resident of Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Combined Coupler and Buffer for Locomotives and Tenders, of which the following is a specification.

This invention relates to certain new and useful improvements in combined couplers and buffers for locomotives and tenders, and has for its object the production of a coupling which will be normally held in its central or locking position, but which is nevertheless capable of a limited lateral motion in either direction, thus relieving the strains upon the coupler-heads and adjacent parts now usually experienced in rounding curves, and preserving also, to a great extent, the central line of pull.

Referring to the accompanying drawings illustrating my said invention, in the several parts of which like parts are similarly designated, Figure 1, represents a side elevation of my invention. Fig. 2, is a top plan view of the same in part section without the buffer. Fig. 3, is a front elevation; and Fig. 4, is a top plan view of the buffer and coupler combined.

A, represents a cross or transverse section of the end sill of a locomotive or tender, to which my invention is secured in any usual and ordinary manner.

B, is the buffer having the forwardly projecting perforated lugs or bearings a, a, a', a' , which, as shown in Fig. 4, are connected by the horizontal ribs b, b' , between which works the rear end of the coupler head C. As shown in the drawings, this coupler head is of the standard master car builder's type, having the fixed guard arm c , and the movable rotary knuckle or coupling hook d , pivoted at d' , to engage with a corresponding knuckle or coupling hook on a car. In view of the purposes for which this coupler is specially designed, however, the said knuckle or coupling hook d , may be cast integral with the coupler-head C, if desired. At opposite sides of the coupler-head C, and in the same vertical plane with each other, are the projections or lugs D, D' , forming bearings for the outer ends of the lateral links E, E' , which are

pivoted at said ends in the said bearings by the pins e, e' . The inner ends of the links E, E' , are provided with the extended hubs f, f' , of a height or length to, fit neatly between the projecting lugs a, a, a', a' , on the buffer A, where they are retained and pivoted by the pins g, g' .

As shown in Fig. 2, the rear end of the coupler C, is provided with two recesses h, h' , in line with each other, and at right angles to the longitudinal line of the coupler. These recesses are preferably separated by the partition or web i , and each contains a coil spring j, j' , which have their outer ends incased within loose thimbles, or caps k, k' , impinging against the links E, E' , respectively. It will be noticed that the links E, E' , are not parallel to each other, but converge toward their outer ends, while their inner ends are constantly impinged by the spring caps k, k' , actuated by the springs j, j' , which are placed in position under a slight initial compression; the object being to constantly hold or draw the coupler head C, to its normal position, viz., to the central line of pull. It should also be remarked that the rear end of the coupler C, passes between and travels upon the transverse ribs b, b' , of the buffer, forming a back bearing to hold the coupler head in its longitudinal position, and keep it from sagging when the link pins become worn.

The operation of my device is as follows: When the coupler is not engaged, the springs j, j' , hold it positively in its proper coupling position, where it may engage with, and be engaged by, a corresponding coupler. When the coupler is engaged with its mate, and any force is experienced producing a lateral strain upon said couplers, as for example, when rounding a curve, the coupler head C, will swing to one side or the other a limited distance upon the pins or pivots e, e' , and g, g' , and between the transverse ribs b, b' , of the buffer. By this movement, causing a change in the position of the links E, E' , one of the coil springs j, j' , in the recesses h, h' , is extended and the other compressed, the compressed spring exerting its tension and tending to force the coupler head C, to its normal or central position, which is immediately assumed upon passing to a straight track, or upon

removing the force exerted to move the coupler head out of its said normal position.

If desired, the springs j, j' , may be dispensed with and the device still be operative, as in this type of coupler it is not absolutely essential for the coupler head to, be in its exact coupling position, but in practice, I prefer to employ the said springs and make the action of the coupler rapid and positive.

10 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a combined locomotive tender coupler and buffer, the combination of a rigid buffer and a coupler pivoted thereto by links 15 and being capable of a limited lateral movement with relation to said buffer, substantially as described.

2. A coupler provided with spring pockets or recesses, in combination with springs in 20 said pockets, and links pivoted to said coupler at a point beyond and in front of said springs and a rigid buffer to which the inner

ends of said links are pivoted, substantially as described.

3. A coupler pivoted to a rigid buffer by 25 lateral links converging at their outer ends, and normally held in a central position by means of springs confined in recesses in said coupler and impinging with opposing forces upon the said links, substantially as de- 30 scribed.

4. A buffer having perforated lugs or projections and two horizontal ribs or webs, in combination with a coupler head pivoted in said lugs by lateral links, and having a bearing and working between the horizontal ribs 35 or webs, substantially as described.

Signed at Buffalo, in the county of Erie and State of New York, this 17th day of November, A. D. 1892.

WILLARD F. RICHARDS.

Witnesses:

ROBERT GIRVEN,

L. S. CONSTANTINE.