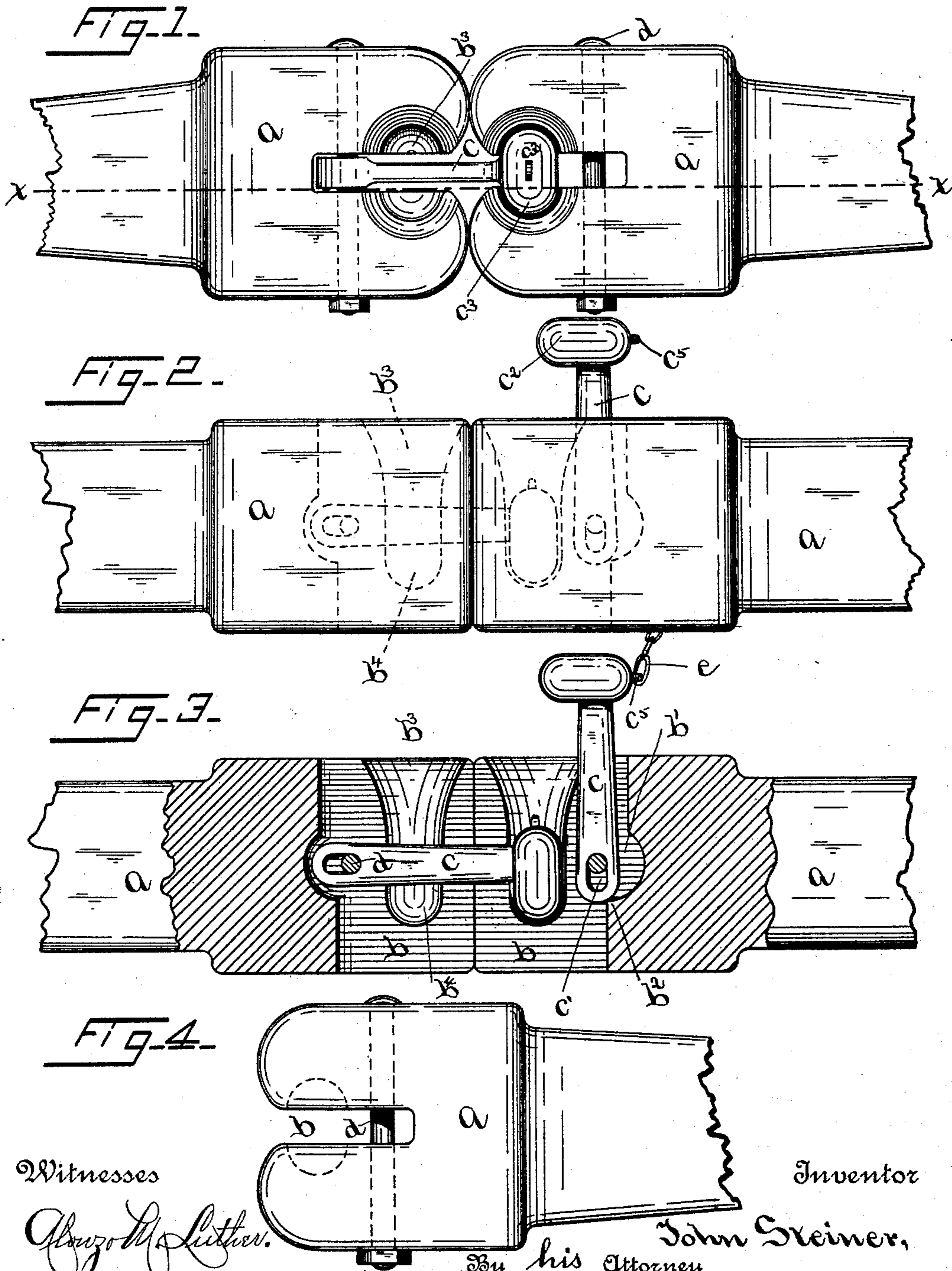


(No Model.)

J. STEINER.
CAR COUPLING.

No. 483,658.

Patented Oct. 4, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN STEINER, OF NORWICH, CONNECTICUT.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 483,658, dated October 4, 1892.

Application filed May 2, 1892. Serial No. 431,598. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEINER, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have made certain new and useful Improvements in Car-Couplings, which improvements are fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings, in which—

Figure 1 is a top view, and Fig. 2 a side elevation, of a coupling of my newly-improved form, the right-hand coupling-bar being removed in Fig. 1. Fig. 3 is a side view of the same, partly in section. Fig. 4 is a bottom side view of one of the draw-bar heads with the coupling-bar removed.

The object of my invention is to provide a coupling in which shall be combined extreme simplicity of construction, great strength of the operative parts, and convenience of operating.

Referring to the drawings, the letters *a* indicate the customary draw-bars, which may be secured to the car in any convenient manner. The projecting end or head of each draw-bar is cored to provide a peculiarly-shaped cavity consisting in part of a central vertical slot *b*, that extends well rearward in the head and entirely through it at the bottom, as best illustrated in Figs. 3 and 4. Within this slot *b* is hinged a bar *c*, which is of peculiar shape and serves as the locking-bar of my coupling.

One end of bar *c* is of size and shape suitable to fit easily the inner end of slot *b* and is held therein by a strong bolt *d*, that passes through the draw-bar head. The opening in bar *c*, through which bolt *d* extends, is formed as an elongated hole or slot *c'*, that permits a limited endwise play of the bar upon the bolt. This is provided for a twofold purpose—first, to assist in retaining the bar in an upright position when not in service, and, second, to ease the otherwise rigid connection between the several cars of a train.

Referring to Fig. 3, it will be noted that the inner wall of the slot *b* is formed with a recess *b'*, whose lower wall extends toward the outer end of the draw-bar and terminates in a point or angle *b²*, that is below the level of the bolt *d*. When bar *c* is raised to a verti-

cal position, as shown at the right hand in Fig. 3, its slot *c'* permits said bar to drop by gravity until its lower end lies slightly below the level of said point *b²*, which latter then serves to prevent the bar from being swung forward on its bolt until raised sufficiently to clear said point.

The free end of bar *c* is formed with an enlarged head *c²*, that projects beyond the bar proper on all sides and is formed with rounded ends *c³*, as seen in plan, these rounded ends being shaped to conform to substantially semicircular recesses *b³*, extending laterally from the slot *b*. Said recesses *b³* extend well downward in the draw-bar head and terminate in semicircular ends *b⁴*, suitably shaped to receive the lower (rounded) end of the head *c²* of the coupling-bar.

The described recesses in the draw-bar head provide a seat for the head of the coupling-bar with substantial bearings on nearly all sides and of such shape that any deflection of the train of cars (as in rounding curves) permits the head of the bar to rock freely in its seat after the manner of a ball-and-socket joint. This construction relieves the hinged end of the coupling-bar from all torsional strain. The slot *c'*, which I have already described, permits a limited endwise play when the train is started, and thus allows the cars to be separately and successively moved.

It should be understood that only one of the pair of coupling-bars is used at the same time, the companion bar being supported as at the right hand of Fig. 3 when not in use.

The upper end of the head of bar *c* is preferably formed with a loop or staple *c⁵* to receive a chain *e*, whose other end may be carried upward and secured to a freight-car near its roof within easy reach of the trainmen.

Whenever it is desired to couple or uncouple two cars, the coupling-bar *c* may be readily lifted and controlled by means of the chain *e*. The location of said chain and the arrangement of the point *b²*, which supports the coupling-bar in its vertical position, should be particularly noted. (See Fig. 3.) When it is desired to couple two cars, the first movement of the chain serves to draw the end of the bar above the point *b²*. The continued strain of the chain then serves to throw the head of the bar past the center of gravity in a direction

toward the free end of the draw-bar head when it (the coupling) drops into the cavity provided for it in the companion draw-bar.

My device as a whole is very simply and easily molded and not likely to get out of repair with ordinary usage.

I claim as my invention—

1. In a car-coupling, the combination of a draw-head slotted and laterally recessed, as set forth, and a coupling-bar hinged therein, formed with a head corresponding in shape and size with the said lateral recesses, the coupling-bar being slotted, as at c' , to permit a limited longitudinal movement of said bar, and the inner end wall of the draw-head slot being formed with a projection b^2 , that may coact with the end of said bar when the lat-

ter is raised to vertical position, as and for the purpose specified.

2. In a car-coupling, the combination of a draw-head slotted longitudinally and recessed laterally, as set forth, a slotted coupling-bar hinged within the draw-head by a bolt passing through its slot, a fixed point or projection b^2 on the draw-head, adapted to coact with the coupling-bar, as described, when the latter is in its vertical position, and a chain attached to the head of the coupling in the rear of the vertical center of said bar, as and for the purpose specified.

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Witnesses:

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