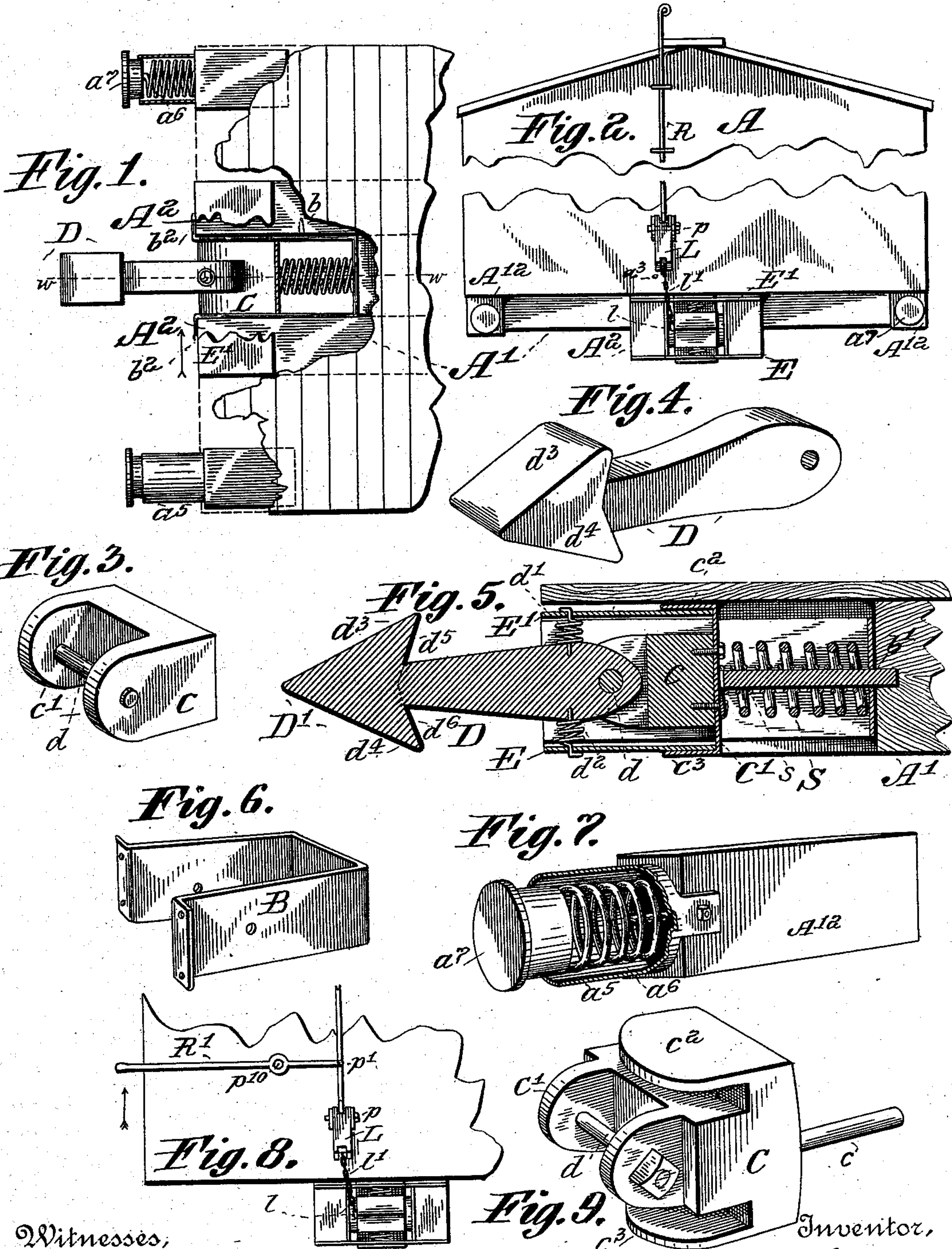


(No Model.)


P. BOGLER.
CAR COUPLING.

No. 402,391.

Patented Apr. 30, 1889.



Witnesses,
Arthur Ashley,
H. L. Spedden

E. J. S.
c3/  Inventor,
Philip Bogler
By *S. A. H. H. atty.*
Attorneys

UNITED STATES PATENT OFFICE.

PHILIP BOGLER, OF STEWART, MINNESOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 402,391, dated April 30, 1889.

Application filed October 9, 1888. Serial No. 287,661. (No model.)

To all whom it may concern:

Be it known that I, PHILIP BOGLER, a citizen of the United States, residing in Stewart, in the county of McLeod, in the State of Minnesota, have invented a new and useful Car-Coupling, of which the following is a correct description.

The invention relates to that class of self-acting couplings in which the engaging parts are alike upon each end of the car; and the invention consists in certain improvements in the details of construction, which will be hereinafter particularly described and distinctly claimed.

In the drawings, Figure 1 is a plan view, portions being broken out, of a car which is provided with my improved coupling and drawing mechanism. Fig. 2 is a partial end view of the car and its attachments. Fig. 3 is a perspective view of the pivot-block detached. Fig. 4 is a perspective view of the coupling and draw bar detached. Fig. 5 is a vertical section on the line *ww* in Fig. 1, looking in the direction of the arrow in that figure. Fig. 6 is a perspective view of the retaining-plate. Fig. 7 is a perspective view, portions being broken out, showing one of the independent auxiliary buffer-springs and its connections. Fig. 8 is a perspective elevation showing a modification of the bar-lifting appliances represented in Fig. 2. Fig. 9 is a perspective view showing a modified form of pivot-block.

As best seen in Figs. 1, 2, and 5, the bed-frame *A'* of the car *A* has between its center sills, *A² A²*, and overlapping the ends of the same by its flanges *b² b²*, a retaining-plate, *B*, of the rectangular form, most clearly represented in Fig. 6. Besides the perforated holding-flanges *b²* the plate *B* is provided with side perforations to receive bolts *b*, in any desired number, by which it is additionally secured to the center sills; and it has in its transverse inner portion a central perforation, *b'*, to receive the rearwardly-extending guide-bar or spring-carrying spindle *c* of the movable pivot-block *C*.

As best seen in Fig. 3, the pivot-block *C* has at its outer or front extremity lateral jaws *c' c'*, to receive the inner or rear extremity of the coupling and draw bar *D*; and, as seen in Figs. 2 and 5, it is supported upon a

plate, *E*, which extends across and is rigidly secured to the bottom surface of the center sills, *A² A²*.

To the inner extremity of the pivot-block *C* is rigidly secured a holding-plate, *C'*, having an upper flange, *c²*, and a lower flange, *c³*, for engagement, respectively, with the central portion of the broad cross-bar or securing-plate *E'*, which extends across the top surface of the center sills and is made fast thereto, and the corresponding bottom plate, *E*, already described. The bar or spindle *c* of the pivot-block *C* is encircled by a spiral spring, *s*, and this is in turn encircled by a spring, *S*, each of the two springs bearing by its ends against the holding-plate *C'* of the pivot-block, and against the rear transverse portion of the retaining-plate *B*.

At a point near its rear extremity the coupling and draw bar *D* is connected by a pivot-pin, *d*, to the jaws *c' c'* of the pivot-block, and this extremity of such bar is curved above and below in a vertical plane to permit its free movement upon its pivots.

At a short distance in advance of the pivot-block the coupling and draw bar *D* is connected by a spiral spring, *d'*, to the upper securing-plate, *E'*, and by a corresponding spring, *d²*, it is connected to the securing and supporting plate *E*, the two springs operating in conjunction with the pivot-pin to maintain the bar normally in a horizontal plane. At its outer extremity the bar *D* is provided with a broad arrow-head, *D'*, having upper barb, *d³*, and lower barb, *d⁴*, with corresponding upper and lower recesses, *d⁵* and *d⁶*, and having by preference vertical sides, as shown.

To any suitable loop or lug, *l*, upon the side of the arrow-head *D'* is attached one end of a lifting or uncoupling chain, *l'*, the opposite end of such chain being connected to a lever, *L*, which is secured by a stout pivot-pin, *P*, to the body of the car, or, if it be a platform or flat car, to a suitable standard thereon. At its opposite extremity the lever *L* is provided with an upper operating-rod, *R*, for uncoupling from the roof of the car, and with a lower rod, *R'*, for uncoupling from the ground, alongside the car. A stop, *a³*, may be provided upon a fixed portion of the car to limit the downward movement of the inner end of the lever *L* and its connections.

In the modification represented in Fig. 8 the lever L receives a pivot-pin, p' , and the lower operating-rod, R' , is attached by a pivot-pin, p^{10} , to the body of the car. The heads D' being exactly in line, the attachment of the lifting-chain at the side of each head permits it to pass over or under the coincident head without being obstructed by contact with such lifting-chain, as could not be done if the lifting-chain were connected to the top of the draw-bar, either upon or at a point closely in rear of the arrow-head. There is thus very small space between two connected cars.

It will be seen from the foregoing description and from the drawings that the propulsive strain is exerted primarily directly upon the barbs or hooks of the coupling and drawing bar D, and through such bar successively upon the pin d of the pivot-block, the holding-lugs or plate C' of such block, and the upper and lower securing and supporting plates, E' and E , upon the center sills of the bed-frame, the coupling-block being free to move outwardly and inwardly within suitable limits, and the flanges or lugs c^2 and c^3 being engaged with or disengaged from the transverse plates E' and E , according as the drawing-bar is moved outwardly from or inwardly toward the center of its car.

The springs s and S , the one within the other, at the rear of the pivot-block, will operate in the ordinary manner to break the jar resulting from bringing two cars together; but as a further means for relieving the shock and strain of concussion I provide at the ends of the side sills, A^{12} A^{12} , sockets a^5 a^5 to receive buffer-springs a^6 , which bear at one end against the bottom of the socket and at the opposite end against the inner extremity of buffer-spring head a^7 . As a substitute for these buffer-springs at the ends of the side sills, or as auxiliary thereto, similar sockets and buffer-springs may be applied directly to the exterior surface of the end sills at points coincident with the intermediate sills of the bed-frame.

It being understood that the above-described mechanism is provided at each end of each car, it will be manifest that in bringing two cars together one of the two coincident arrow-heads will rise upon, pass along,

and fall behind the other, and that it is wholly immaterial which of the two may be uppermost, since the result is, unavoidably, to interlock the barbs of the two arrow-heads as one car is moved away from the other; and since the operation of uncoupling may be effected with equal facility from either end of each and every car.

It will be obvious that it is immaterial whether the holding flanges or lugs c^2 and c^3 be formed upon a separate plate, as C' , for subsequent attachment to the pivot-block, as in Fig. 1, or whether the plate C' and its lugs be formed integrally with such pivot-block, as in Fig. 9.

Having described my invention, I claim—

1. The combination, with the bed-frame of the car, having the transverse plates E' and E , of the pivot-block C , provided with horizontal flanges c^2 and c^3 , loosely engaging the plates E' and E and carrying the pivoted draw-bar D , substantially as specified.

2. The combination, with the bed-frame of the car, having the transverse plates E' and E , of the pivot-block C , engaging such transverse plates and provided with the vertical jaws $c'c'$, carrying the spring-supported draw-bar D , and provided also with the rearwardly-extending spring-carrying spindle c , substantially as shown and described.

3. The combination, with the bed-frame A' , of the pivot-block C , having the top and bottom horizontal flanges, c^2 and c^3 , and the vertical jaws $c'c'$, and the draw-bar D , pivoted in the jaws c' , and provided with top and bottom sustaining-springs, d' and d^2 , substantially as specified.

4. The combination, with the pivot-block C , having engaging-flanges, vertical jaws, and rearwardly-extending spindle, of the draw-bar D , pivoted in the vertical jaws of the block C , provided with top and bottom springs and with arrow-head, and having lifting-chain L' , attached to the side of such arrow-head, substantially in the manner and for the purposes set forth.

PHILIP BOGLER.

Witnesses:

JOHN LUITEN,
WILLIAM GROSS.