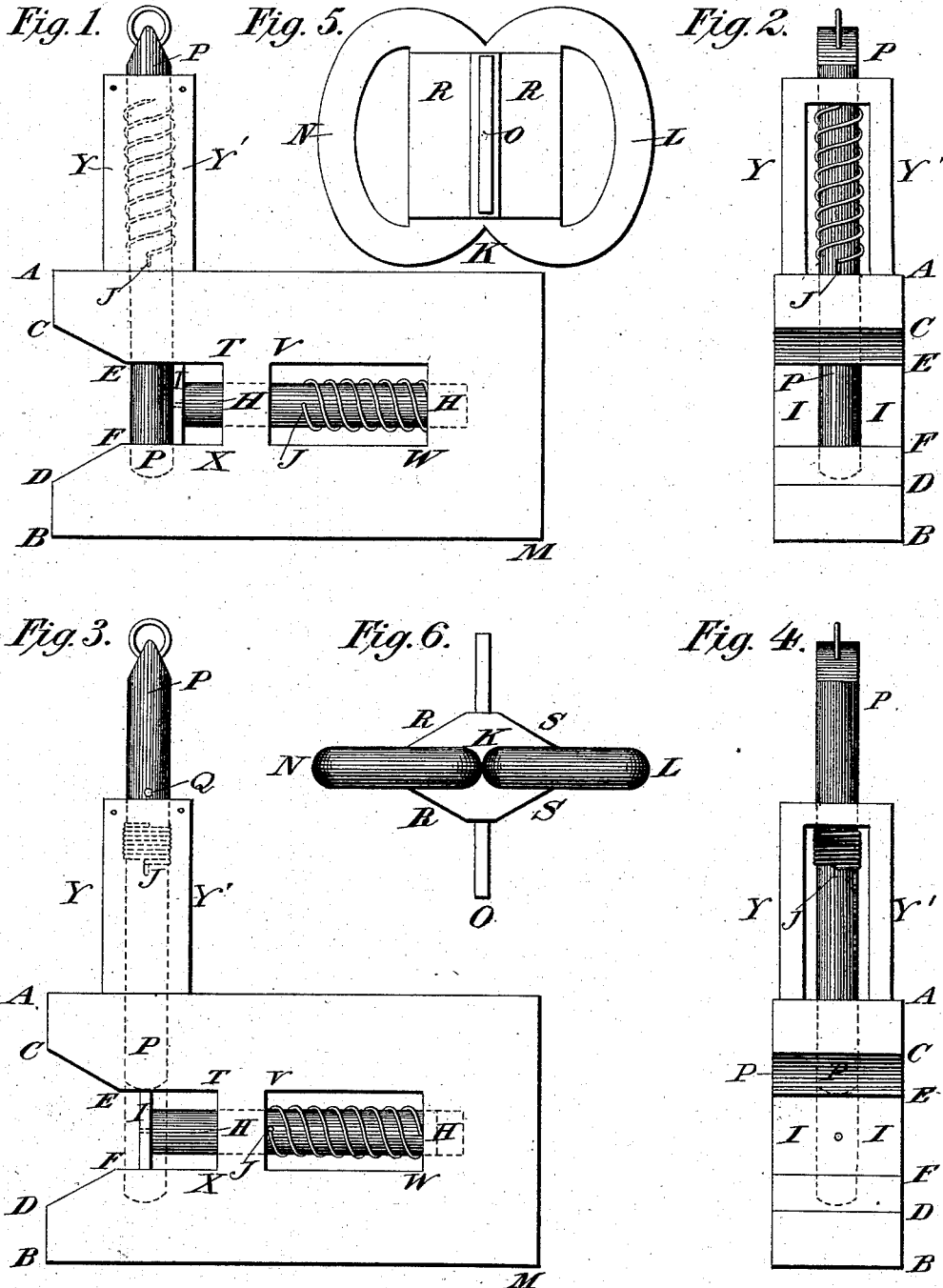


(No Model.)

C. W. TOWNSEND.  
CAR COUPLING.

No. 284,260.

Patented Sept. 4, 1883.



Witnesses:  
G. D. Bryan  
J. L. McHugh

Inventor:  
Charles W. Townsend

# UNITED STATES PATENT OFFICE.

CHARLES W. TOWNSEND, OF CHARLESTON, SOUTH CAROLINA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 284,260, dated September 4, 1883.

Application filed May 9, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. TOWNSEND, of the city of Charleston, county of Charleston, and State of South Carolina, have  
5 invented a new and useful improvement in the construction, arrangement, and combination of the pins, links, and gear for coupling railroad or other cars, of which the following is a specification.

10 The invention relates to the construction and arrangement of the pins, links, and gear for coupling railroad or other cars.

The object of my invention is to provide a combination of coupling-block, pins and links,  
15 and coupling-piece which will automatically conform to any usual adjustment of cars at either end, and automatically couple and uncouple the same, and also to protect such mechanism in its working from the destructive  
20 strain, pressure, and jar incident thereto.

My invention consists in the arrangement of two cylindrical pins working on spiral springs encircling them, at right angles to each other in the same plane, inserted into a solid block,  
25 so adjusted that they meet, and either will be forced out by its spring if the other is forced in; and it also consists in applying to this arrangement a solid coupling-piece with links projecting at either end.

30 It finally consists in the particular construction and arrangement of the coupling-block with its pins working on spiral springs, and the coupling-piece with its links.

In the accompanying drawings, in which  
35 similar letters of reference indicate like parts, Figure 1 is a side view, and Fig. 2 is an end view, of the coupling-block and pins working on spiral springs at right angles when the perpendicular spring and pin are down. Figs. 3  
40 and 4 are a side and end view, respectively, of the same when the perpendicular pin and spring are up and horizontal pin and spring are out—*i. e.*, when it is uncoupled and in position for coupling. Fig. 5 is a view looking  
45 downward from above, and Fig. 6 is a horizontal view of the solid coupling-piece with its projecting links.

The solid block A M, which is to be attached to both ends of a car, is cut out so as to  
50 leave C, E, T, X, F, and V W, hollow openings, Figs. 1 and 3. Circular openings are then bored therein at right angles to each other, in

the same plane, for the insertion of the pins P and H. A spiral wire spring encircles each pin P and H. One end of this spiral-wire spring  
55 is inserted into its pin at the point J, where it is held, and whereby the perpendicular pin P cannot descend below frame Y Y', and horizontal pin H cannot be forced out of V W beyond point J. The other end of spiral spring-  
60 wire is loose. These spiral springs act, the one to push downward and hold down pin P, the other to push outward and hold out pin H, and each will act automatically when the other is closed. Pin P passes, also, by a circular  
65 opening through frame Y Y'; and the spiral spring encircling pin P works wholly within the frame Y Y', against the upper wall of which its loose wire end rests, Figs. 4, 2. In the same way the spiral spring encircling  
70 pin H works wholly within the hollow opening V W, against the inner back wall of which its loose wire end rests. Pin H is provided at outer end with a solid plate attached, I, of the width and depth of the opening E F, which,  
75 when pin H is out, is directly under pin P, and acts to hold pin P in position for coupling; and after coupling is shoved back to wall T X, protecting pin H and its spiral spring from  
80 strain and jar.

Q is a small hole in pin P at a point on a line with the top of the frame Y Y', when pin P is up, for insertion of a small pin to hold  
85 pin P up, if necessary, when it is raised for uncoupling.

The body of the coupling-piece is an octagonal-faced solid, each half of which, if bisected, would fit loosely into hollow opening C E F D, with coupling-links L and N projecting on  
90 either side, Figs. 5 and 6, in the same plane, shaped as semi-ellipses to make coupling easy, and to give them play when coupled. The solid plate O passes through this body-piece at right angles to plane of links, Fig. 6, is of the height of A B, and acts, when coupled,  
95 to press against A C above and B B below when cars jam together, and will thereby keep links, springs, and pins free from jar, strain, and pressure. The opening E T X F is made deep enough to hold loosely pin P down, ring L  
100 inserted, and plate I back against wall T X. All of the foregoing blocks, pieces, pins, links, springs, &c., may be made of iron, steel, or other metal, or wood.

The operation of the device is as follows: When link L is inserted and pressed into jaw C D, (see position for coupling, Fig. 3,) it will be guided up plane D F or down plane C E into opening E F, and then link L will press against the plate I, attached to end of pin H, and, shoving it in, will force pin H back (the spiral spring encircling pin H closing under the pressure) until plate I comes close up against the wall T X. Pin P, the support of plate I being thus withdrawn, will, under the automatic action of its spiral spring, be forced down and through the incoming link L, securely making it fast and holding it within jaw E F. To uncouple the cars it is only necessary to pull up pin P, when pin H, with plate I attached, under the automatic action of the spiral spring encircling it, will be forced out, throwing link L out of the jaw E F; and plate I, pin H being fully out, will stop directly under pin P, and the device will, without moving, again be in position for coupling upon insertion of link L.

What I claim is—

In combination with the pins working on spiral springs at right angles, as described, the coupling-piece having at either end a coupling-link or semi-elliptical ring, the body of this coupling-piece being an octagonal-faced solid, through whose center passes at right angle a solid plate, substantially as described, whereby the coupling-link is always kept up and out on a horizontal plane, or nearly so, in position for easy adjustment to and insertion into opposite coupling-jaw, whether directly on its level or a little above or below, and whereby the pressure and jar, after coupling is effected, is mainly confined to such solid plate and such solid coupling-piece and solid block, as set forth.

CHARLES W. TOWNSEND.

Witnesses:

J. P. K. BRYAN,  
F. S. McHUGH.