

No. 676,154.

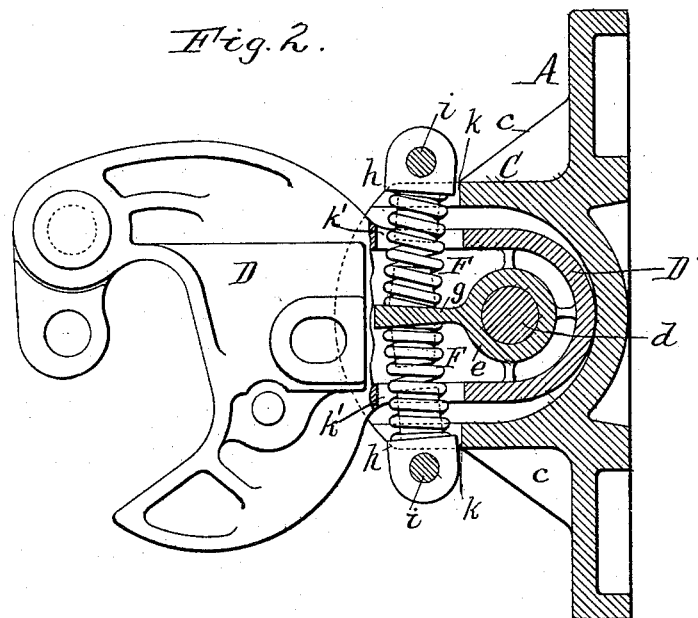
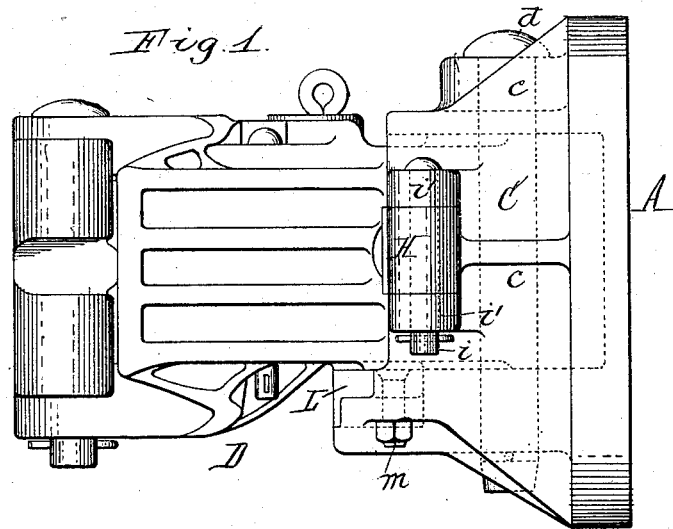
Patented June 11, 1901.

W. F. RICHARDS.  
TENDER COUPLING.

(Application filed June 22, 1900.)

(No Model.)

2 Sheets—Sheet 1



Witnesses:  
Henry L. Deck.  
J. F. Schuyler.

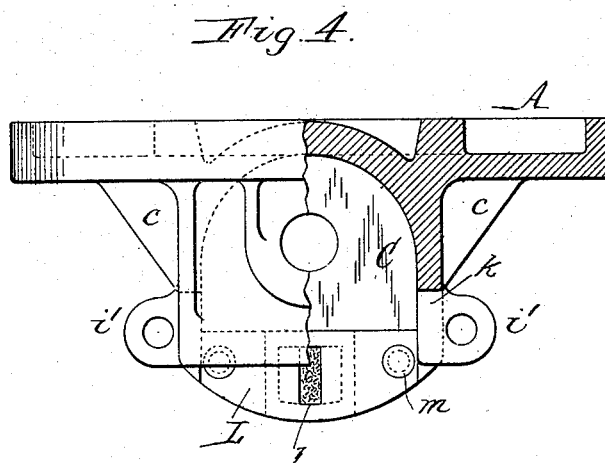
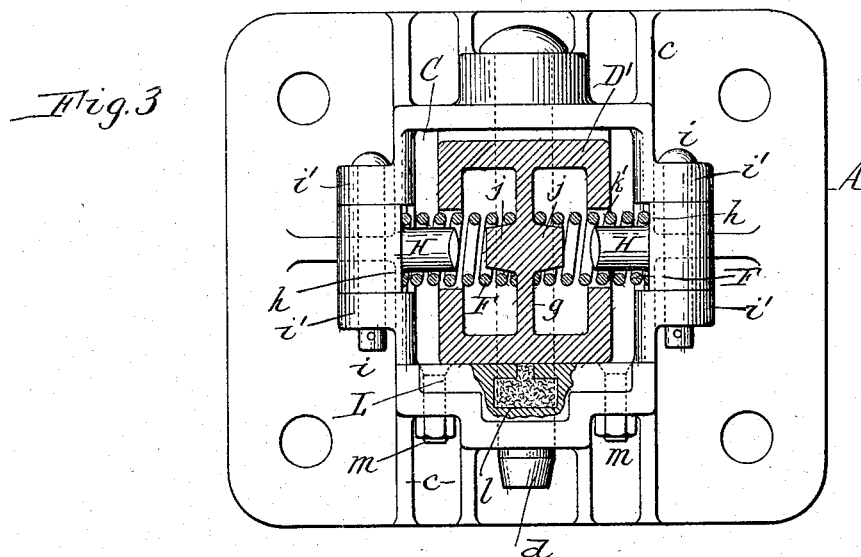
W. F. Richards Inventor  
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2 Sheets—Sheet 2.



Witnesses:

Henry L. Deck.

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# UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, NEW YORK, ASSIGNOR TO GOULD  
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## TENDER-COUPLING.

SPECIFICATION forming part of Letters Patent No. 676,154, dated June 11, 1901.

Application filed June 22, 1900, Serial No. 21,156. (No model.)

*To all whom it may concern:*

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Tender-Couplers, of which the following is a specification.

This invention relates to car-couplers designed more especially for locomotive-tenders and having a comparatively short shank which is pivoted to swing laterally on the tender and which is yieldingly held in its central position by springs operating against opposite sides of the same.

The objects of my invention are to apply the centering-springs in such manner that they act freely and effectively in all positions of the coupling and to facilitate the removal and replacement of the springs in making repairs or renewing the springs.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of my improved coupler. Fig. 2 is a top plan view thereof, partly in section. Fig. 3 is a sectional front elevation of the coupling. Fig. 4 is a detached top plan view of the bracket to which the coupler-shank is pivoted.

Like letters of reference refer to like parts in the several figures.

A is an upright base plate or bracket, which is secured to the end sill of the locomotive-tender and which is provided centrally with a forwardly-extending rectangular socket C, which is stiffened by suitable ribs c.

D is the draw-head of the car-coupling, and D' its shank, which is pivoted at its inner end in the socket C by a vertical pin d, passing through the shank and the top and bottom of the socket, so that the coupling is capable of swinging laterally in a well-known manner. The shank is hollow and preferably provided with an internal hub or hollow cylindrical boss e, through which the pivot-pin d passes, as shown in Fig. 2.

F F represent centering-springs arranged on opposite sides of the shank D'. The inner ends of these springs bear against opposite sides of an upright web or lug g, which projects forwardly from the hub or hollow boss e, while

their outer ends abut against shoulders h, formed on horizontally-swinging studs or pins H, which enter the springs and are pivoted to the side walls of the socket C by vertical pintles or pins i. These pintles pass through the hubs or knuckles of the studs H and through perforated horizontal ears i', projecting outwardly from the side walls of the socket C.

The lug or web g of the draw-head shank is provided on opposite sides with studs j, which enter the inner ends of the springs, preventing displacement of the same. The springs extend through openings k k', formed in the side walls of the socket C, and the hollow shank, as shown in Figs. 2 and 4.

As shown in Figs. 2 and 3, the springs and their hinged abutment-studs H are arranged transversely of the draw-head shank, the same being preferably arranged to converge forwardly slightly in the central position of the draw-head to obtain a better action of the springs.

By mounting the outer ends of the springs on the swiveling studs or abutments H the spring which is compressed by the lateral movement of the draw-head swings rearwardly in the same measure that the draw-head swings laterally. The springs are thus compressed squarely and evenly in all positions of deflection of the draw-head, and the cramping or uneven crowding of the springs, which is liable to occur when their abutments are rigid, is avoided, thereby allowing the springs to recoil freely and effectively and insuring the return of the draw-head to its central position when the tender passes from a curve to a straight section of track.

The pivot-pins of the abutment-studs are removably held in place by cotters or other fastenings, which permit the ready removal of the pins. Upon withdrawing these pins the abutment-studs and the springs can be readily removed or replaced for renewing a broken spring, and this can be done without requiring the removal of the draw-head from the bracket A.

The bottom of the socket C is preferably provided with a wear-plate or lining L, upon which the draw-head rests and slides in swing-

ing laterally. This wear-plate is comparatively wide and extends forwardly beyond the side walls of the socket, as shown in Figs. 2 and 4. In order to lubricate the contiguous surfaces of the wear-plate and the draw-head, said plate is provided in its upper side with a pocket or cavity *l*, adapted to be packed with saturated waste, which extends to the surface of the wear-plate, so as to lubricate the latter and the under side of the draw-head. The wear-plate is secured to the bottom of the socket *C* by vertical bolts *m*. The car-coupling in service has a tendency to sag, and when this occurs the coupling can be readily raised to its proper level position by loosening the fastening-bolts *m* and interposing a shim or washer of the proper thickness between the wear-plate and the bottom of the socket *C*, the bolts being again tightened after inserting the shim.

I claim as my invention—

1. The combination with a bracket, of a laterally-swinging car-coupler provided with a supporting-shank which is pivoted at its rear end to said bracket, swiveling abutments arranged on opposite sides of the coupler-shank and pivoted to said bracket by vertical pins, and centering-springs arranged transversely of said shank and bearing at their inner ends against opposite sides of the shank

and at their outer ends against said abutments, substantially as set forth.

2. The combination with a bracket, of a laterally-swinging car-coupler pivoted to said bracket, horizontally-swinging pins or studs pivoted to said bracket on opposite sides of the coupler-shank and arranged transversely of the shank, and centering-springs mounted on said pivoted studs and bearing at their inner ends against opposite sides of the coupler-shank, substantially as set forth.

3. The combination with a bracket, of a laterally-swinging car-coupler having a hollow shank pivoted to said bracket and provided in its side walls with openings and on the front side of its pivot with an internal centering-lug arranged lengthwise of the shank, horizontally-swinging studs or pins pivoted to said bracket on opposite sides of the coupler-shank, and centering-springs passing through the side openings of the coupler-shank and mounted on said pivoted studs and bearing against opposite sides of said centering-lug, substantially as set forth.

Witness my hand this 14th day of June, 1900.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,

CLAUDIA M. BENTLEY.