

(No Model.)

S. J. MEEKER  
CAR COUPLING.

No. 560,810.

Patented May 26, 1896.

Fig. 1

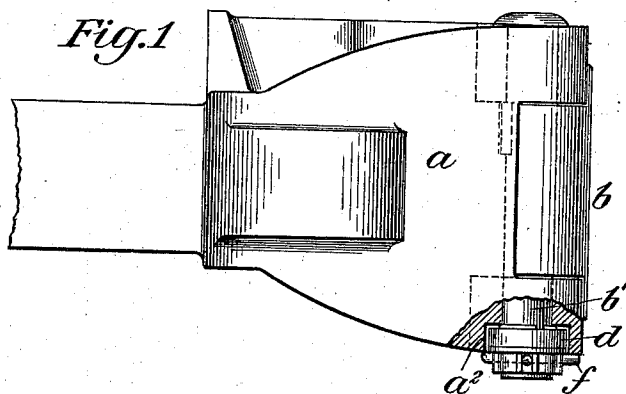


Fig. 2

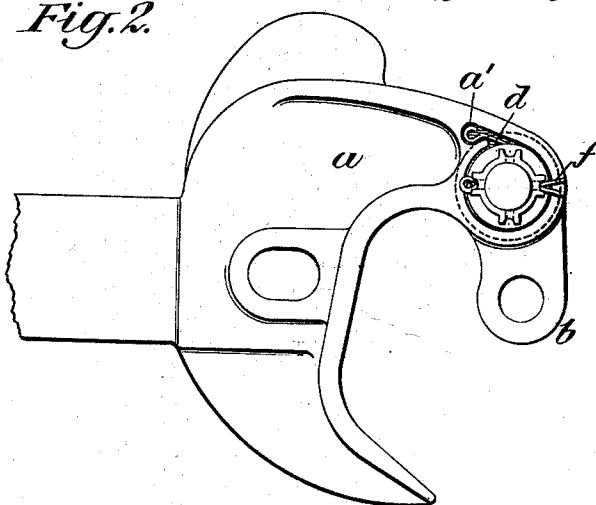


Fig. 3

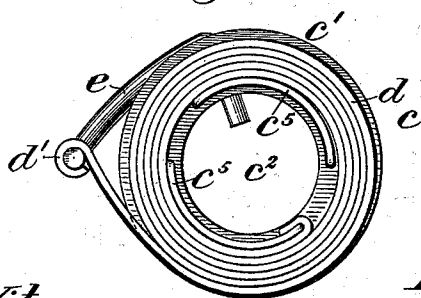


Fig. 4

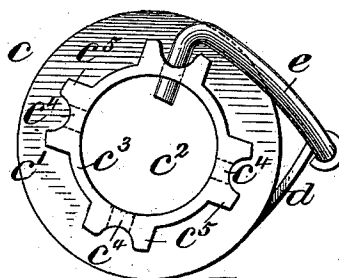
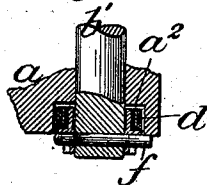


Fig. 5



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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 560,810, dated May 26, 1896.

Application filed March 30, 1895. Serial No. 543,842. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN J. MEEKER, a citizen of the United States, and a resident of Newark, Essex county, and State of New Jersey, have invented new and useful Improvements in Car-Couplers, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

My present invention relates more particularly to a device or means for automatically throwing the hook or knuckle to an open or extended position after being released by its locking pin or device, and has for its objects, first, to provide a spring knuckle-opening attachment of such construction and arrangement as to be capable of being readily slipped or placed in operative connection with a coupler without the necessity of further adjustment or arrangement of the parts forming the attachment to secure such connection; second, to provide for the adjustment of the tension of the spring in its action upon the knuckle, and, third, to removably support the spring or working part of the attachment within an inclosed seat or pocket located wholly within the face-line of the under side of the draw-head, whereby it may be protected from exposure to injury or other accident. These objects I secure by means of the construction and arrangement of parts hereinafter set forth in detail, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a side view of the draw-head of a coupler, with a portion thereof broken away, showing my improved knuckle-opening device or attachment. Fig. 2 represents a bottom view of the same. Fig. 3 represents a plan view of the knuckle-opening attachment detached from the coupler, and Fig. 4 a bottom view of the same. Fig. 5 represents a detail view, partly in section, showing the connection and relative positions of the knuckle pivot-pin, the draw-head, and the knuckle-opening attachment.

To explain in detail, *a* represents the draw-head; *b*, the hook or knuckle; *b'*, the knuckle pivot-pin, which, according to my invention, is made fast with the knuckle to be movable therewith, and *c* my improved knuckle-opening attachment. This attachment consists

of a supporting plate or disk *c'*, having a central opening *c<sup>2</sup>* therein to allow the same to be slipped or placed on the lower end of the pivot-pin *b'*, on which it is adapted to be rigidly secured to be movable therewith, and is provided with a flat coiled spring *d* on its upper surface, which is connected at its inner end therewith, and at its opposite end is adapted to extend and be held in a counterpart groove or opening *a'* in the draw-head *a* to form connection with the latter, as shown in Fig. 2. The action of the spring, being thus connected at its opposite ends with the draw-head and with the plate *c'* when the attachment is in position on the coupler, tends to automatically throw the knuckle to an open or extended position after being released by its locking device, as will be understood.

The draw-head, as shown, is provided with a shallow pocket or recess *a<sup>2</sup>* in its under side, which is adapted to receive the spring *d* wholly within the same, and the spring-supporting plate or disk *i'* is adapted to be supported or secured on the pivot-pin *b'* in a position about flush with the under face of the draw-head and form a cap or cover to inclose the said pocket *a<sup>2</sup>* and protect the inclosed spring *d*.

The plate or disk *c'* is provided with a rim or collar *c<sup>3</sup>* on its under side having oppositely-located transverse openings *c<sup>4</sup>* therein, through which the cotter-pin *f*, which passes through the pivot-pin *b'*, is adapted to extend, whereby the said plate may be rigidly and detachably secured on the latter. The rim or collar *c<sup>3</sup>* is constructed with two sets of oppositely-located openings therein, as shown, in order to allow the plate *c'* to be turned or adjusted in a horizontal direction in its position on the pivot-pin, and thereby adjust the tension of the spring *d*, and is also provided with ribs or projections *c<sup>5</sup>* on its outer surface adapted to serve as a bearing or means to enable said rim or collar to be engaged by a wrench or other suitable device whereby the plate *c'* may be held or adjusted against the tension of the spring *d* when the attachment is being connected with or adjusted on the supporting-pin *b'*. The said plate or disk *c'* is also provided on its upper surface with two vertically-arranged flanges *c<sup>5</sup>*, located thereon adjacent to the central opening therein and at opposite sides

of the same, which are adapted in part for the purpose of retaining the spring in its proper position on its supporting-plate, and also for the purpose of securing connection  
5 between the spring and the said plate, which connection is secured by the inner end of the spring being formed with an arm for engaging with the end or vertical edge of one of said flanges, as clearly shown in Fig. 3. By  
10 reason of such detachable connection between the spring and its engaging flanges and the plurality in number of the latter the tension of the spring may also be regulated at this point by changing the point of connection of  
15 the spring from one flange to another, as will be readily understood.

The attachment consisting of the spring and its supporting-plate constructed and arranged substantially as described, when not  
20 in connection with a coupler, is adapted to be held with its parts in their assembled operative position, whereby the attachment may be readily slipped on the end of the pivot-pin and be placed in operative connection with  
25 the coupler by means of a coupling rod or device *e*, which is removably connected at one end with the plate *c'* by passing through one of the openings *c'* therein and at its opposite end is removably connected with the outer  
30 end of the spring *d* within an opening formed by a loop *d'* at the end of the same, as shown, which said loop also forms an enlarged head to insure a more positive connection of the spring with the draw-head, as shown in Fig.  
35 2. The spring *d* is held by said coupling device with a proper degree of working tension thereon and with its outer end in proper position for ready entry or insertion into its counterpart groove in the draw-head, as  
40 shown. The attachment when thus arranged may be readily slipped in operative connection with the coupler and the cotter-pin be passed through one of the openings *c'* and into the pivot-pin to make proper connection  
45 between the attachment and the pivot-pin, at which time the coupling device *e* may be readily removed from its connection with the attachment and the latter be left free to act, as will be readily understood.

50 The combination, with the attachment, of the coupling device *e*, whereby said attachments may be handled, commercially, separate from the coupler and in form for ready connection with the latter, I claim as one of  
55 the important and essential features of my invention.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

60 1. In a car-coupler, the combination with the draw-head having a pocket or recess in its under side, of the swinging hook or knuckle having a connecting arm or pin projecting through said pocket provided with a plate or  
65 disk removably secured thereon in a position about flush with the under surface of the draw-head, whereby an inclosed accessible

pocket is formed within the surface-line of the draw-head, the said plate being provided with a flange or projection on its upper surface, and a coiled spring removably supported  
70 within said pocket in the draw-head and on its covering-plate, having connection at its opposite ends with the said flange or projection and with the draw-head respectively, substantially as described and for the purpose  
75 set forth.

2. In a car-coupler, the combination with the draw-head and the swinging hook or knuckle having a connecting arm or pin, of a  
80 plate or disk supported on said pin, provided with a flange or projection on its upper surface, and a coiled spring supported on said plate having one end connected with the flange or projection thereon, and its opposite  
85 end connected with the draw-head, substantially as described and for the purpose set forth.

3. In a car-coupler, the combination with the draw-head and the swinging hook or  
90 knuckle having a connecting arm or pin, of a plate or disk supported on said pin, provided with flanges or projections on its upper surface, and a flat coiled spring supported on said plate having one end constructed for detachable and adjustable connection with the  
95 flanges or projections thereon, and its opposite end connected with the draw-head, substantially as described and for the purpose set forth.

4. In a car-coupler, the combination with the draw-head and the swinging hook or knuckle having a connecting arm or pin, of a  
100 plate supported on said arm, provided with a flange or collar on its under side having an opening therein whereby the plate may be removably secured on its supporting-arm by a pin or its equivalent, and a flat coiled spring supported on said plate having one end connected therewith, and its opposite end connected  
105 with the draw-head, substantially as described and for the purpose set forth.

5. In a car-coupler, the combination with the draw-head and the swinging hook or knuckle having a connecting arm or pin, of a  
115 plate supported on said arm, provided with a flange or collar on its under side having a series of oppositely-located openings therein whereby the plate may be removably and adjustably secured on its supporting-arm by a  
120 pin or its equivalent, and a coiled spring supported on said plate with one end connected therewith and its opposite end connected with the draw-head, substantially as described and for the purpose set forth.

6. A knuckle-opening attachment for car-couplers, consisting of a plate or disk having means for detachable connection with an arm or pin of the coupler-knuckle, and with means for supporting and retaining a coiled spring  
130 thereon, a coiled spring supported upon said plate or disk with one end connected therewith, and a device having a removable connection with the outer end of said spring and

with the said plate or disk, substantially as described and for the purpose set forth.

7. In a car-coupler, the combination with the draw-head and the swinging hook or knuckle having a connecting arm or pin, of a plate supported on said arm constructed for detachable and adjustable connection therewith and provided with a flange or collar on its under side having ribs or projections on

its outer surface, and a coiled spring supported on said plate having one end connected therewith, and its opposite end connected with the draw-head, substantially as described and for the purpose set forth.

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Witnesses:

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