

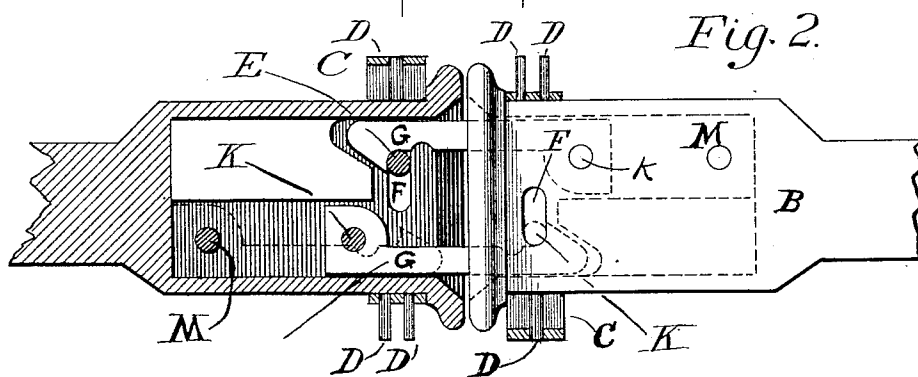
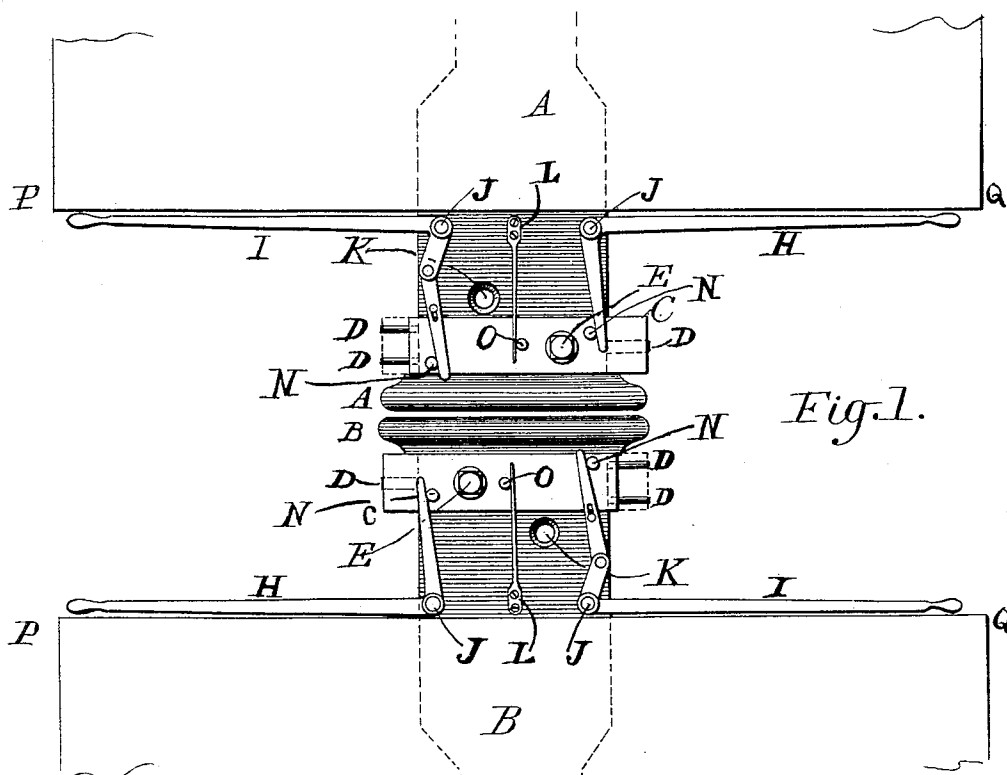
(No Model.)

3 Sheets—Sheet 1.

R. YEISLEY.
CAR COUPLING.

No. 583,106.

Patented May 25, 1897.



Witnesses:

Ernest R. Yeisley
W. H. Schuler

Inventor:

Reuben Yeisley

(No Model.)

3 Sheets—Sheet 2..

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Fig. 3.

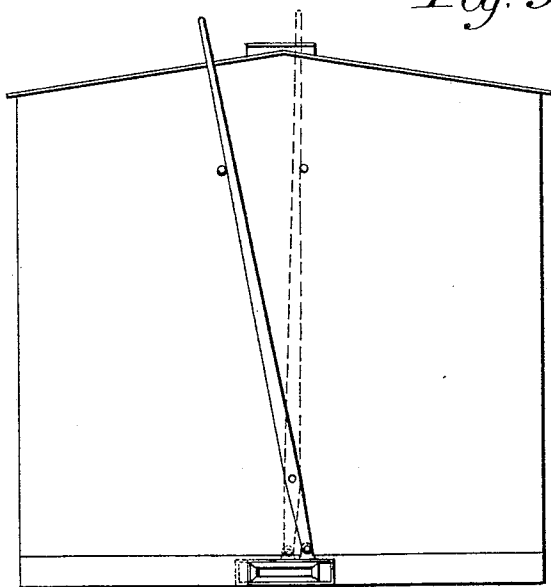
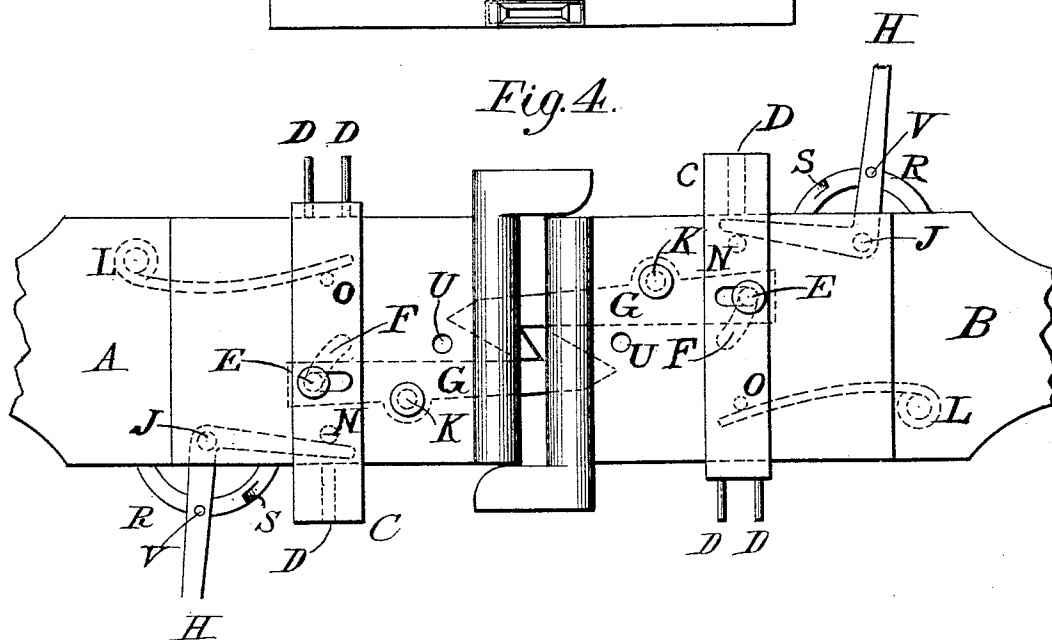


Fig. 4.



Witnesses

Ernest R. Yeisley
[Signature]

Inventor.

Benjamin Yeisley

(No Model.)

3 Sheets—Sheet 3.

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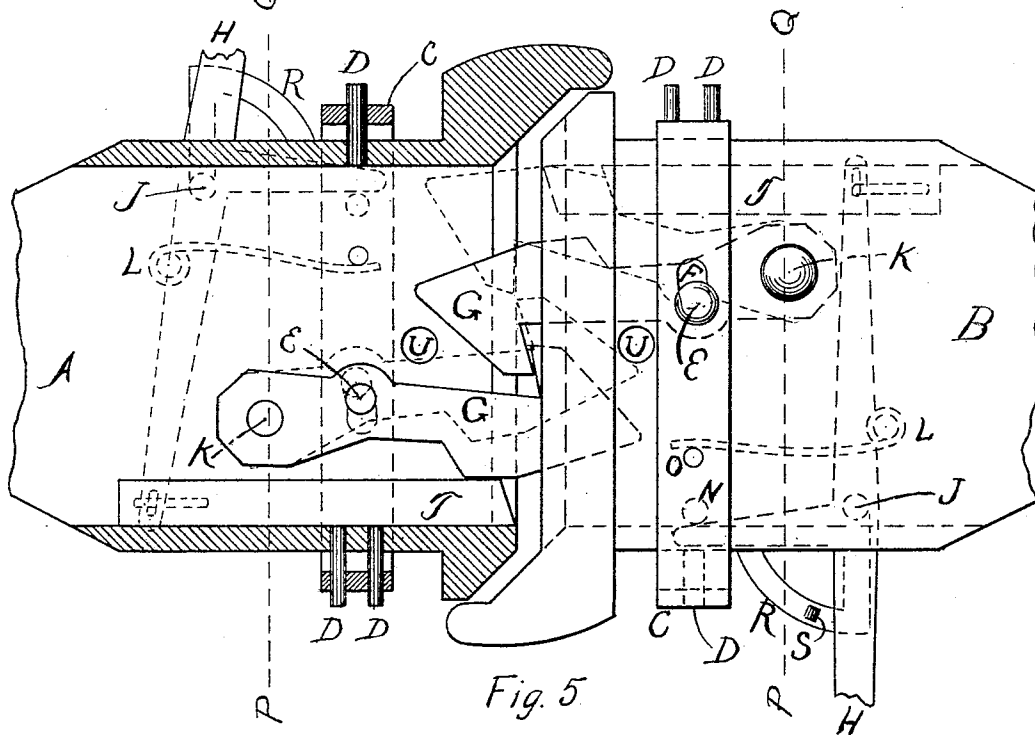


Fig. 5

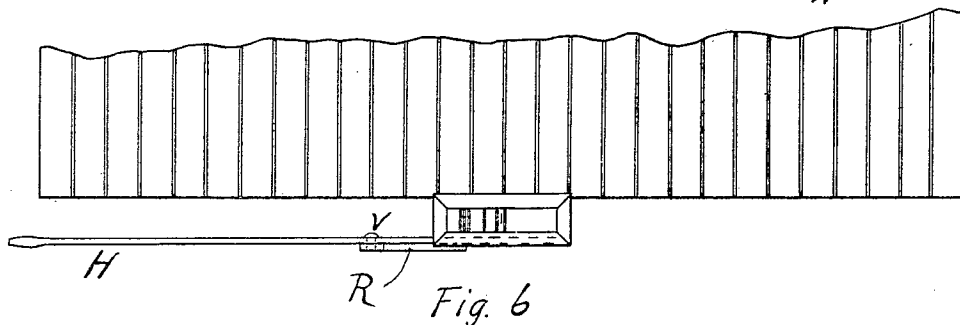


Fig. 6

Witnesses

R. Yeisley
S. L. Burdett

Inventor

Ruben Yeisley

UNITED STATES PATENT OFFICE.

REUBEN YEISLEY, OF WOODBINE, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 583,106, dated May 25, 1897.

Application filed October 26, 1896. Serial No. 610,167. (No model.)

To all whom it may concern:

Be it known that I, REUBEN YEISLEY, a citizen of the United States, residing at Woodbine, in the county of Harrison and State of Iowa, have invented a new and useful Car-Coupler, of which the following is a specification.

My invention relates to car-couplers which connect two cars automatically when moved toward each other to a point at which the couplers come in contact without being set or manipulated by means outside of the couplers themselves, which will permit the cars to be coupled as close together as may be desired, which may be uncoupled by means of levers extended to the side or top of the cars or by the application of forces the source of which may be at some other point, which will be of simple construction and which may be used as an ordinary link-and-pin coupler or with slight modification of form coupled with other automatic car-couplers now in use; and the object of my improvement is to furnish a means of operating the movable parts within the couplers by levers reaching outward toward the side or top of the car, or by forces transmitted from a distance and properly applied at the coupler, and by the action of certain parts of the coupler when they are forced into contact, and also to furnish means of locking and connecting parts of the couplers to prevent accidental unlocking or release. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows a top view of two couplers A and B; and Fig. 2, a horizontal section of the same, being that style of coupler in which each coupler is supplied with a link hinged within the coupler and extending outward, presenting a hooked end which presses into the other coupler, so that when in action the hooked part of each link comes in contact with some part of the opposite coupler. Fig. 3 shows a small end of the coupler shown in Fig. 4 attached to a car, and also shows the attachment of a lever extending upward to enable the coupler to be operated from the top of the car. This illustrates the device used with that style of coupler wherein a hook-link in one coupler extends outward and engages with a similar hooked link in

the coupler which is in contact with it. Fig. 5 shows a horizontal section of a coupler similar to that shown in Fig. 4, but in addition shows another method of operating the links by the device hereinafter described, and also a locking device to prevent the hook-shaped links from becoming disengaged except when the actuating-lever is operated. Fig. 6 shows an end view of the coupler shown in Fig. 5 as attached to the car, showing also the location of the lever for actuating the moving parts of the coupler.

One of each pair of couplers described will be called A, and the other similar coupler will be called B. Other parts of the couplers having similar office will be lettered similarly throughout the plates.

On coupler A, Fig. 1, is shown a broad flat rectangular collar C, made of iron or steel, a little longer than the width of the coupler. Two guide-pins D D (shown at one end of the collar) are fixed rigidly to the draw-head or main part of the coupler and pass through openings in the collar C. A single pin D on the opposite side of the coupler serves to guide the other end of the collar. Two small studs are also shown on collar C—stud O, against which the spring L presses, having a tendency to move the collar C toward the end guided by the single pin D, and stud N, against which the arm of the lever presses, so that when the lever is pulled away from the car indicated by the line P Q the collar C will move the end having two guide-pins. A compound lever I is also shown, which will permit the collar C to be moved in a similar manner from either side of the car.

In Fig. 2 a link G is shown attached to coupler B by the pin K and having a hooked end which extends into coupler A.

The action of the couplers in coming together is as follows: As coupler B approaches coupler A the taper end of link G strikes against pin E, which passes through the collar C and through the slotted hole F in the draw-head of coupler A, causing the pin E to move sidewise, carrying with it the collar C toward the end guided by the two pins D D. When the couplers are in contact, the link G has advanced so far that the portion forming the hook is opposite pin E. The spring L, which during this action has been pressing

the collar C toward the end having the single guide-pin D, and with it causing the pin E to press against the link G, now causes the pin E to move into the open hook of link G. At the same time the hook G of coupler A and the collar C and pin E of coupler B will have similar action. Being coupled, when coupler B is moved in a direction away from coupler A, it carries with it its link G by means of pin K, but the hooked part of link G coming against pin E, which will now bear against the side of the slotted hole F in the draw-head of coupler A, the motion of the coupler B will thereby be transmitted to coupler A; also, when the above-described motion of coupler B will cause pin E of coupler B to bear against the hooked portion of link G of coupler A, which will also cause coupler A to conform to the motion of coupler B by means of pin K in coupler A.

To unlock the couplers to permit the couplers to separate, either lever H or I of coupler A can be pulled forward, thereby moving the collar C toward D D and the pin E away from and free of link G of coupler B. Similar movement of one of the levers of coupler B will disengage its pin E from the link G of coupler A. As soon as the couplers are moved apart and the levers H and I released the spring L will cause the collar C to move in the direction of pin D, thereby putting them in position for automatically locking when the couplers are again brought together. Should it be necessary to couple one of these couplers with the ordinary "link-and-pin" draw-head commonly in use, pin K may be withdrawn and link G pushed back into the coupler until the pin-hole in the link G is opposite the pin-hole M in the coupler. The pin K is then passed through the hole M, thereby retaining link G. A common link may be extended between the holes F and the pins E used as common coupling-pins.

In Fig. 1 the levers H and I and the spring L are shown above the couplers or draw-heads. They may occupy a similar position under the draw-heads; also, instead of the spring L, as shown, a spring of any other form may be used, or any other device may be used which would give the collar C a tendency at all times to move in the direction of the single guide-pin D; also, instead of the levers H and I other means of moving the collar at will may be employed, such as the piston of an air or steam cylinder, which could act against some part of collar C either directly or by means of levers.

The hole in collar C through which pin E passes is large enough to permit slight motion of pin E in the direction of the tension or pull given to pin E by link G, permitting the strain or thrust of the pull to come against the side of the hole F in the coupler, thereby preventing wear or strain on the collar C. Throughout all the plates one end of the movable collar C is guided by two pins D D, in which direction the lever moves the collar in

the action of uncoupling or unlocking, and the opposite end of the collar is guided by the single pin D, toward which the collar is moved and held by the spring L when the couplers are locked or coupled together or when they are apart.

Other means may be used for guiding the collar than the pins D D and D here shown—*e. g.*, the collar C may slide in a groove on the draw-head, or ridges at each side of the collar may be used as a guide.

On all plates except that showing Figs. 1 and 2 the lever H, hinging at the point J, is shown resting upon a circular-shaped guide R. When the lever H is in its normal position—that is, in the position ready for bringing the couplers together for locking—it is to be held in position by a lug or latch V. While so held the collar C will be free to move in the direction of D D independently of lever H, its motion being opposed to the spring L.

When it is desired to put the coupler in condition to be thrust against another similar coupler without locking thereto, the lever H is moved until it comes in contact with the lug or latch S, thereby moving the collar C to its extreme position in the direction of D D and holding the interlocking parts of the couplers out of contact.

Figs. 3 and 4 show the device as used with car-couplers in which the link G of either coupler engages with the similar link of the opposite coupler. On this style of coupler the lug or extension is made on each draw-head to extend a short distance along the side of the opposite draw-head to prevent lateral motion in that direction, which might tend to disengage the links when in their locked position.

If two couplers of the form shown in Figs. 3 and 4 be apart and the parts in their normal position be brought together, the end of the hook-shaped links G come in contact in such a manner as to cause the ends of the links G to move apart slightly about the axis of the pins K, and so move the pins E and collars C against the spring L. When the couplers are in contact, the hooked parts of the pins G engage by being thrust together by the action of the springs L on collar C and pins E. When the couplers are to be disengaged, one of the levers H is thrown forward, thereby moving collar D in the direction of D D. The pin E, which passes through the slotted hole in the draw-head and through link G, causes the link G to move around the pin K and so draw the hooked end of the link G away from the similar link in the opposite coupler. When this form of coupler is to be used to couple with the ordinary link-and-pin coupler, the pin K may be withdrawn and used as an ordinary coupling-pin through the hole U, or an ordinary coupling-pin may be used instead of the pin K, to be used through the hole U in such cases.

Fig. 5 shows a modification of Fig. 4, showing the arrangements of parts when it is de-

sired to use the collar C between the pin K and the end of the coupler and in addition a sliding piece T, which is actuated by an extension on lever H, which serves as a lock to
 5 prevent hook-links G from becoming disengaged in the case of extreme sidewise motion being caused by the cars to which they are attached or when the cars are passing sharp curves in the roadway. A pin or lug on the
 10 extension of the lever H engages with the slide T, and the motion of the slide T is timed and limited by means of the action of said pin or lug in a slotted hole in the slide L.

In coupler A, Fig. 5, link G is shown resting against the slide T, which limits the movement of the link in that direction. The extreme position of the link in the opposite direction is shown in dotted lines.

In coupler B, Fig. 5, link G is shown engaged with the similar link of the opposite coupler, and in dotted lines it is shown as thrown back out of contact with link G of coupler A, even when the latter is in the position shown in dotted lines, as described above,
 25 the slide T being shown drawn back to permit link G of the coupler A to take its extreme open position.

I am aware that prior to my invention other couplers have been made in which each coupler carries a link with a hook-shaped end, which when in operation pulls against the hooked end of a similar hook or some other part of a similar coupler, and also that other couplers have been made having a link with
 30 both ends hook-shaped. I therefore do not claim the combination of these forms of links with the other parts of the couplers described, broadly; but

What I do claim as my invention, and desire
 40 to secure by Letters Patent, is—

1. The combination with a draw-head provided with a laterally-extending pin-slot, a movable carrier surrounding said draw-head

and provided with a pin-opening registering with said slot, a spring to normally force said
 45 carrier in one direction, a hooked arm pivoted within said draw-head, a slot within said hooked arm, a pin passing through said carrier, draw-head, and working within said
 50 hooked arm, a slide pivoted adjacent to said hooked arm, and a lever to simultaneously actuate said slide and carrier in actuating said hooked arm, said slide controlling the outward movement of said hooked arm.

2. In a draw-head, the combination of the
 55 following instrumentalities, to wit: the draw-head, A, provided with a suitable link-opening, the movable collar, C, surrounding said head, said collar being guided upon the pins,
 60 D, D, the spring, L, to force said collar in one direction, the slot, F, within said draw-head, pin-openings within said collar registering with the slot, F, the support, R, and the pivoted lever, H, working upon said support, R,
 65 and having its angular end working against said collar in tension against said spring, L, as and for the purpose set forth.

3. In a draw-head, the combination of the following instrumentalities, to wit: the draw-head, A, provided with a suitable link-opening, the movable collar, C, surrounding said
 70 head, said collar being guided upon the pins, D, D, the spring, L, to force said collar in one direction, the slot, F, within said draw-head, pin-openings within said collar registering
 75 with said slot, F, the support, R, the pivoted lever, H, working upon said support and having one of its ends working against said collar in tension against said spring, L, the
 80 hooked arms, G, pivoted within said draw-head, and means to movably connect said arms to said collar, C.

REUBEN YEISLEY.

Witnesses:

W. F. SCHULER,
 H. A. QUINN.