

C. W. HINTON.
CAR COUPLING.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 515,864, dated March 6, 1894.

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To all whom it may concern:

Be it known that I, CHARLES W. HINTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

The object of my invention is to provide an improved interlocking car coupler which will be strong and simple in construction, will consist of few parts and those not liable to get out of order, and which will automatically couple cars together, and whereby the cars may be uncoupled from the side or the top of the car, and in which the coupling or locking pin of the coupler is arranged substantially in line with the axis of the drawhead, whereby all side strain upon the coupler is avoided.

The accompanying drawings illustrate my invention.

Figure 1 is a plan view of two couplers one being shown in its coupled or locked position, and the other being shown unlocked and open in position ready to be coupled upon the other coupling. Fig. 2 is a plan showing the two couplers coupled together. In Figs. 1 and 2 parts are broken away to show the coupling member. Fig. 3 is a side elevation of one of my improved couplers with the coupling pin withdrawn, showing the coupling as it appears when uncoupling the device. Fig. 4 is a front elevation of the same showing the pin withdrawn and resting upon the coupling member.

Like letters indicate like parts in the different views and parts of views.

My improved coupler consists of a draw head A provided with a horizontal slot B and a vertical pin hole *a* arranged substantially in line with the axis of the draw head; a coupling member C hinged in such slot by a pivot *b* arranged substantially at one side of the axis of the draw head A, and comprising a forwardly projecting draft arm *c* provided with a locking shoulder *c'*, a locking lever C' arranged to extend across the draw head rearward of such shoulder and to chamber in the slot in the draw head; such coupling member is also provided with a vertical pin hole *c''* arranged to register with the pin hole *a* in the draw head when the coupling member is in its

coupled position. This is indicated at the left in Fig. 2.

C is a rearwardly projecting pin supporting arm which is arranged to intercept the pin hole in the draw head when the coupling member C is in its uncoupled position to thereby receive and support the pin and hold it in position to drop through the pin hole in the coupling member when such member is forced into its coupled position.

The draw head A is provided upon one side with the forwardly and laterally projecting coupling member retaining arm D and is provided upon its other side with the pivot arm D' which is adapted to allow the pivotal point of the coupling member to be placed far enough to one side of the coupler to cause such member to swing upon its pivot to allow the coupler to open readily when the coupling pin is withdrawn from the pin hole in such member and the two couplers are drawn apart, and to give the proper sweep to the draft arm *c* to allow the end of the draft arm with its locking shoulder to swing easily in between the locking shoulder and the retaining arm of the opposing coupler when the other coupling member is in its coupled position, and still assume such relation with the retaining arm of the other coupler that when the two coupling members are in their coupled position as shown in Fig. 2 the two members cannot be disengaged by a lateral movement of one of the members, the retaining arm D of the other coupler engaging the draft arm *c* before the two locking shoulders are separated, and preventing their total disengagement.

Suitable means are provided to engage with the coupling member C to cause such member to move forward when the coupling pin F is withdrawn from the pin hole *c''* to cause the body of such member to intercept the pin hole in the draw head to thereby support the pin in position to drop through the pin hole in the coupling member when such member is in its coupled position. The means which I have shown for this purpose consists of a vertically reciprocating coupling member actuating slide G which is arranged in a slot *g* in the draw head and is provided with an inclined face *g'* adapted to engage the coupling member C when such member is in its

coupled position, and to force such member forward when the coupling pin F is withdrawn from the pin hole c'' in such member; a chain G' connects the actuating slide G with the coupling pin F and is of such length that when the pin F is elevated sufficiently to withdraw it from the pin hole in the coupling member, the chain G' is drawn taut and further movement of the coupling pin operates to raise the actuating slide G when the inclined face g' engages with the coupling member C and acting thereagainst forces such member forward and causes it to intercept the pin hole in the draw head, so that when the pin F is lowered it rests upon the coupling member C and is supported thereby and by the arm C' until such member is again forced back into the slot in the draw head to cause the pin hole in the coupling member to register with the pin hole in the draw head.

H is a crank lever which has one end h connected with the coupling pin F and has its other end h' arranged at the side of the car and adapted to be operated by the brakeman to withdraw the pin from the coupling without going between the cars.

H' indicates a chain which is attached to the top of the pin and leads to the top of the car (not shown) where it is secured in position to be grasped by the brakeman to uncouple the cars.

I is a slot which is provided in the locking shoulder c' and is adapted to receive an ordinary link therein in order that the car may be coupled to a car provided with the ordinary link and pin coupling.

I' is a pin hole to receive the pin.

The rear face of the coupling member C is arranged to conform to the front wall of the slot B so that when the coupling member is forced back into the slot it is brought into contact with such front wall and is sustained thereby, thus removing any liability of any strain being brought to bear upon the pivot when the coupling member is brought into collision with the other draw head in the act of coupling. By arranging the pin hole in the draw head substantially in line with the axis of the draw head the strain upon the coupling member is brought in line with the axis of the draw head, and all sidewise strain upon the coupling member and upon the pivot of the coupling member is avoided.

In practice, to uncouple the coupler, the crank lever H is actuated to withdraw the pin F from the pin hole c'' in the coupling member C, and when such pin is withdrawn from such pin hole, the chain G' is drawn taut; the lever is actuated to raise the pin still higher, and the chain G' actuates the slide G, and brings the inclined face g' against the coupling lever C' and forces such lever forward as shown in Fig. 3 and causes the body of the coupling member C to intercept the pin hole a in the draw head so that when such pin is lowered it rests upon the coupling member and is supported thereby and by the support-

ing arm until the coupling member is again forced back to cause the pin hole c'' to register with the pin hole a in the draw head. After the pin F is withdrawn from the pin hole in the coupling member, when the couplers are drawn apart, the coupling member C swings upon its pivot b which is at one side of the line of draft, and the locking shoulder c' is thus disengaged from the locking shoulder of the opposing coupler as shown in Fig. 1.

When the coupling member is in the position shown at the right of Fig. 1, the advance movement of the coupler brings the lever C' into engagement with the draft arm c of the opposing coupler, and such lever will be forced back into the slot B in the draw head thereby, thus swinging the coupling member into the position shown in Fig. 2, when the pin F which has been supported by the arm C' and the body of the coupling member C, drops through the pin hole c'' and the coupling is complete.

b' is a stop arranged upon the coupling member to engage the draw head to limit the outward movement of the coupling member C upon its pivot b .

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car coupling comprising the combination of a draw head provided in its outer end with a horizontal slot and with a vertical pin hole arranged substantially in line with the axis of such draw head; a coupling member pivoted in such slot by a pivot arranged substantially at one side of the axis of such draw head and comprising a forwardly projecting draft arm provided at its outer end with a locking shoulder, a laterally projecting coupling lever arranged to extend across the draw head at the rear of such locking shoulder and to chamber in the slot in the draw head, and provided with a stop arranged to engage the draw head to limit the movement of the coupling member upon its pivot, and also provided with a vertical pin hole arranged to register with the vertical pin hole in the draw head when the coupling member is in its coupled position, and with a rearwardly-projecting pin supporting arm arranged to extend across and to close the vertical pin hole in the draw head when the coupling member is in its opened position and to chamber in the draw head when the coupling member is in its closed position; suitable means arranged to reciprocate the pin in the vertical pin hole and suitable means operatively connected with the pin and arranged to throw the coupling member forward to partially close the vertical pin hole in the draw head and to support the pin when the pin is elevated in such vertical pin hole.

2. A car coupling comprising a draw head provided in its outer end with a horizontal slot and with a vertical pin hole arranged substantially in line with the axis of the draw head, and provided upon one side with a for-

wardly projecting pivot arm, and provided upon the other side with the forwardly projecting coupling member retaining arm arranged to engage the coupling member of the other coupler to prevent the lateral displacement of the two members of the couplings when coupled together; the coupling member pivoted to the pivot arm and comprising a forwardly projecting draft arm provided with a locking shoulder, a locking lever arranged to extend across the draw head at the rear of such locking shoulder and to chamber in the slot in the draw head, such coupling member being provided with a vertical pin hole arranged to register with the pin hole in the draw head when the coupling member is in its coupled position, and also provided with the rearwardly projecting pin supporting arm arranged to intercept the pin hole in the draw head when the coupling member is in its uncoupled position, and the coupling pin arranged in the vertical pin hole.

3. A car coupling comprising a draw head having a horizontal slot in its outer end and provided with a vertical pin hole; a coupling member pivoted in such slot and arranged to intercept the pin hole in the draw head when the coupling member is in its uncoupled position, and provided with a vertical pin hole arranged to register with the vertical pin hole in the draw head when such member is in its coupled position; a coupling pin arranged to reciprocate in the vertical pin hole, and suit-

able means operatively connected with the coupling pin and adapted and arranged to engage the coupling member when the pin is withdrawn from the pin hole in such member to cause such member to intercept the vertical pin hole in the draw head.

4. A car coupling comprising a draw head having a horizontal slot in its outer end and provided with a vertical pin hole; a coupling member pivoted in such slot and arranged to intercept the pin hole in the draw head when the coupling member is in its uncoupled position, and provided with a vertical pin hole arranged to register with the pin hole in the draw head when such member is in its coupled position; a coupling pin arranged to reciprocate in the pin hole; the coupling member actuating slide arranged in the draw head and provided with the inclined face adapted to engage the coupling member when such member is in its coupled position to force such member forward when the slide is actuated; the chain connecting the slide with the coupling pin and adapted to actuate such slide after the pin has been withdrawn from the pin hole in the coupling member, and suitable means arranged to reciprocate the coupling pin.

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Witnesses:

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