(No Model.) 2 Sheets—Sheet 1.

R. L. GARLICK.

CAR COUPLING.

No. 506,314. Patented Oct. 10, 1893.

Fig. 1.

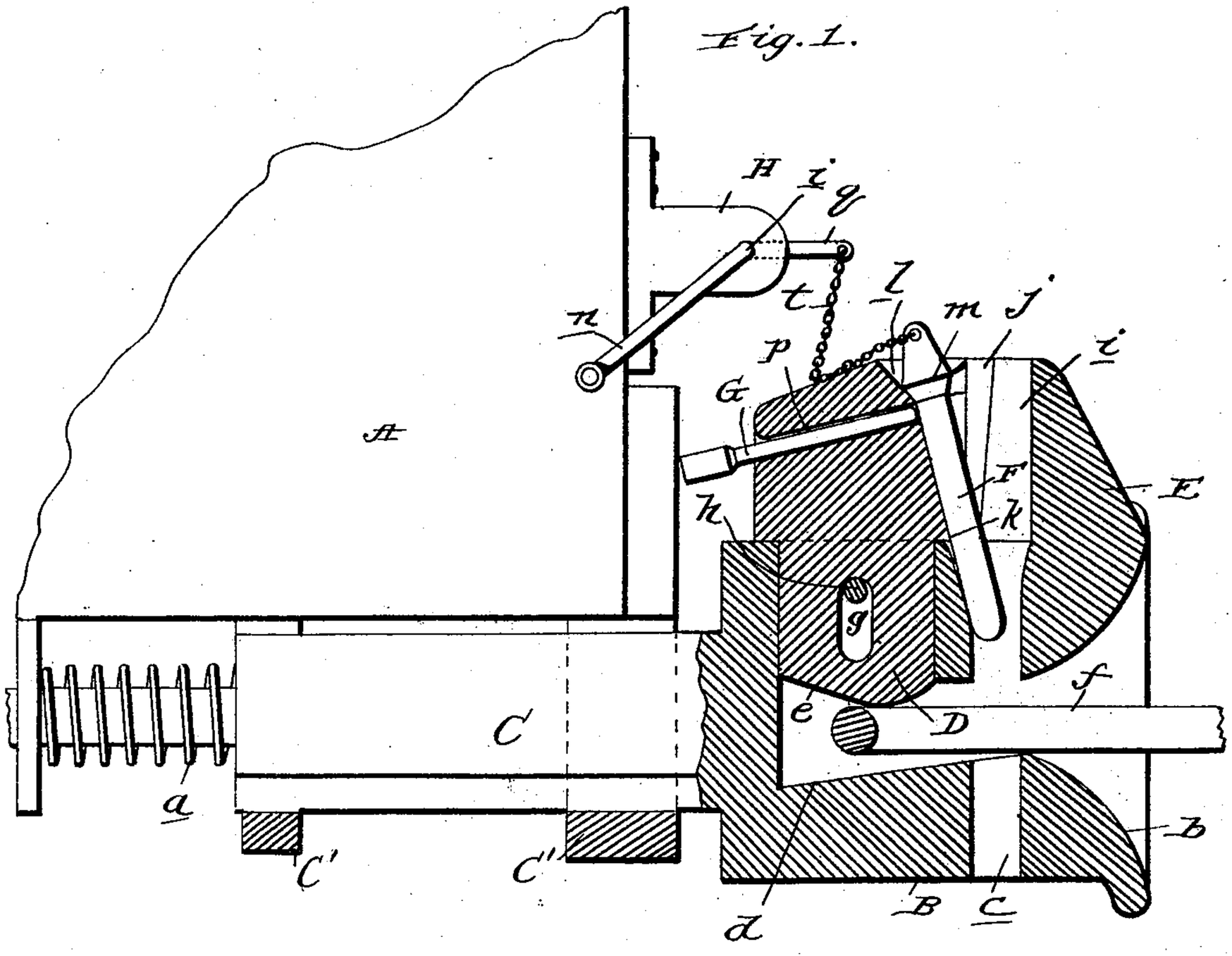


Fig. 3.

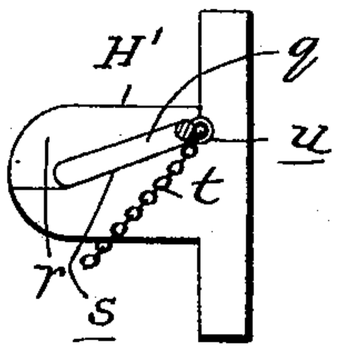
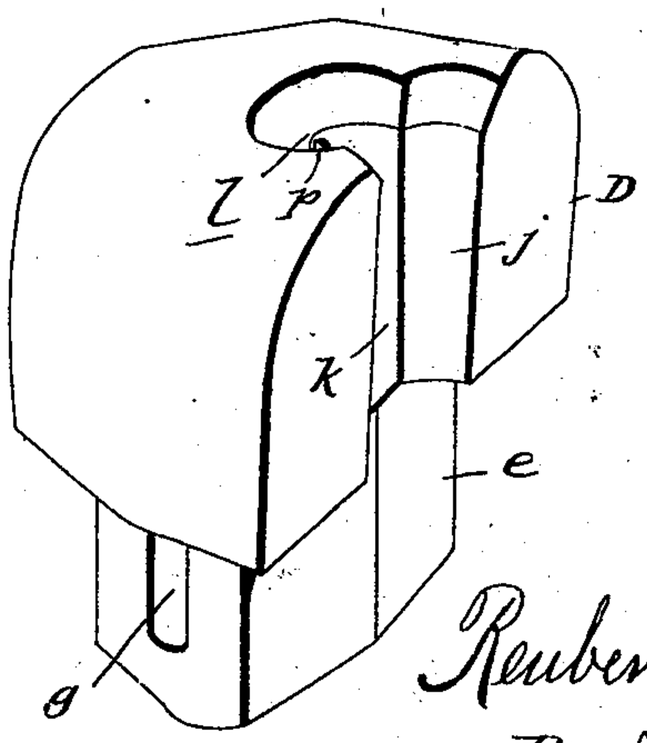


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

R. L. GARLICK.

CAR COUPLING.

No. 506,314. Patented Oct. 10, 1893.

Fig. 4.

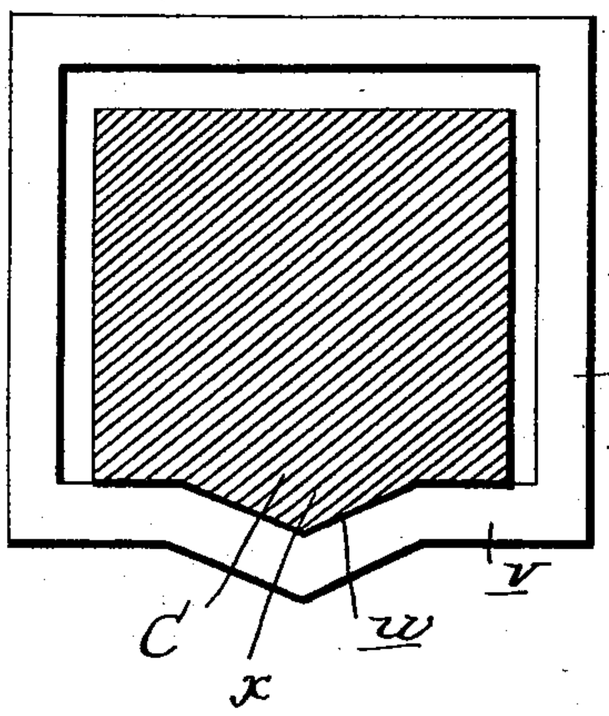


Fig. 5.

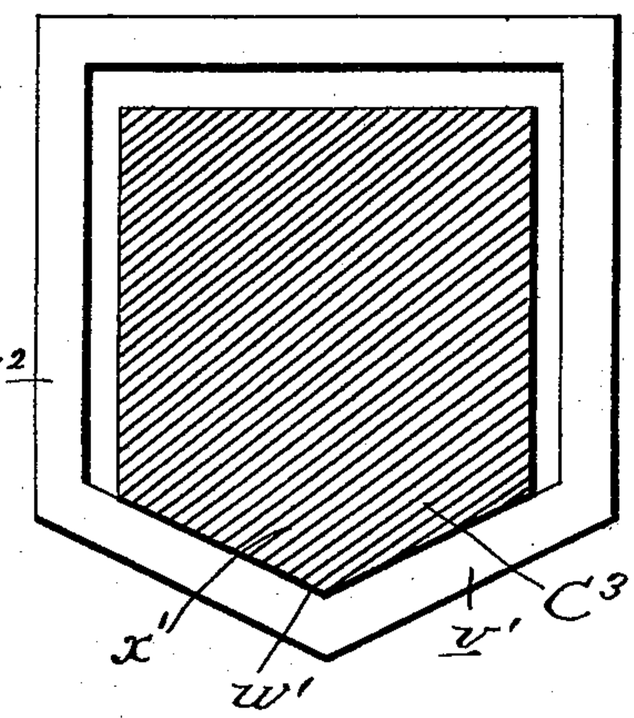
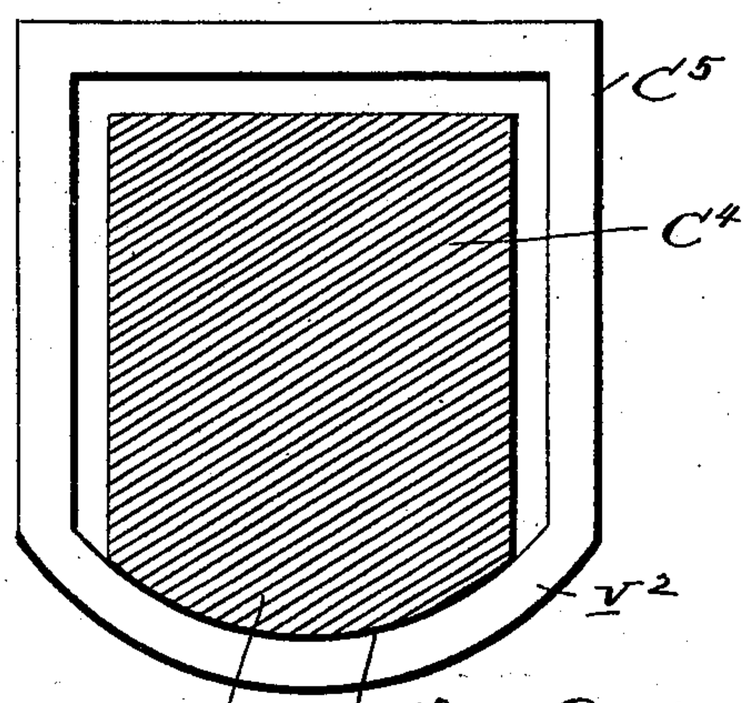


Fig. 6.



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UNITED STATES PATENT OFFICE.

REUBEN L. GARLICK, OF WATERTOWN, SOUTH DAKOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 506,314, dated October 10, 1893.

Application filed February 23, 1893. Serial No. 463,434. (No model.)

To all whom it may concern:

Be it known that I, REUBEN L. GARLICK, a citizen of the United States, residing at Watertown, in the county of Codington and State of South Dakota, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in car couplers, and it has for its general object to provide a coupler embodying a head adapted to support the coupling pin in an elevated position, and mechanism for automatically releasing the pin when the cars come together, so that said pin will take down through the link and effect a coupling.

A further object of the invention is to provide a device through the medium of which a person standing at the side of the car may raise the pin, and means for locking said device in such a position that it will hold the pin in an elevated position and prevent a coupling when the cars come together, and: a still further object of the invention is to provide a draw bar and a stirrup for connecting said bar to a car, so constructed that while the bar may be moved vertically and laterally, it will be caused to resume its normal, central position when released.

Other objects and advantages of the invention will be understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a view illustrating my improved coupler in position upon a car; the draw head and a portion of the draw bar being illustrated in section. Fig. 2, is a perspective view of the weight for inclining the link. Fig. 3, is a detail, side elevation of the bracket for locking the pin-raising device or rock shaft so that it will hold the pin in its elevated position; and: Fig. 4, is a section taken transversely through the draw bar and one of the stirrups, and: Figs. 5, and 6, are similar views of modifications.

Referring by letter to said drawings and more particularly to Figs. 1, to 4, inclusive: A, indicates a car which may be of any approved construction.

B, indicates the draw head of my improved coupler, and C, indicates the draw bar which is mounted in the stirrups C′, and is backed by a spring *a*, as shown.

The draw head B, of my improved coupler is provided with a flaring mouth *b*, and with a pin aperture *c;* and it has the bottom wall *d*, of its throat inclined forwardly and upwardly, as illustrated, for a purpose presently to be described. Seated and adapted to move vertically in an opening formed in the upper wall of the draw head B, is the reduced shank *e*, of a weight D, which has its lower end beveled as shown, and is designed and adapted to bear upon the link *f*, so as to elevate the forward end of the same and enable it to take into a draw head higher than the one in which it is secured. This weight D, is provided in its shank with a transversely disposed slot *g*, and it is connected to the draw head by a transverse bolt *h*, which takes through the slot *g*, as shown.

E indicates an enlargement which is suitably connected to or formed integral with the upper side of the draw head B, in advance of the pin opening *c*. This enlargement E, is designed to protect the weight D, from damage when the cars come together, and it is provided in its rear side with a vertical recess *i*, which aligns with the pin opening *c*, and is designed to serve in conjunction with a similar recess *j*, in the weight D, to form a passage for the coupling pin F. The recess *j*, of the weight D, communicates with a groove *k*, as better shown in Fig. 1, and this groove *k*, which has its rear wall inclined upwardly and rearwardly, as illustrated, communicates in turn with a countersunk seat or opening *l*, formed in the upper side of the weight D. By this construction it will be readily perceived that when the coupling pin F, which has a beveled head *m*, is pulled upwardly and rearwardly, it will seat itself in the groove *k*, and its head will engage the wall of the seat or opening *l*, and it will be supported in its elevated position, so as to allow a link to enter the draw head.

In order to unseat, and displace the pin F, so that it will take down through the link when the cars come together, I provide the slidable bolt G, which takes through a bore *p*, formed in the weight D, as shown. This

bolt G, normally bears at its forward end against the pin F, and its rear end extends rearwardly of the weight D, whereby when the cars come together and the draw head is pushed rearwardly, the said bolt will engage the front of the car and will be thereby pushed forwardly so as to unseat the pin.

Journaled in suitable brackets H, H′, upon the front of the car, is the rock shaft I, for raising the coupling pin, which shaft is preferably provided at its ends with cranks *n*, whereby it may be readily rocked by a person standing at the side of the car. This shaft I, is provided at an intermediate point in its length with a crank branch *q*, with which the pin F, is connected as shown, so that when the shaft is rocked rearwardly, the pin will be pulled upwardly and rearwardly into its seat.

In order to enable a trainman standing at the side of a car to prevent the pin F, from falling when the cars come together, I provide the bracket H′, with a recess *r*,; the bottom wall *s*, of which serves to form a stop for the crank branch *q*. By this construction it will be readily perceived that when the shaft I, is rocked rearwardly so that the branch *q*, rests upon the wall *s*, the chain *t*, will meet a dead center at *u*, and the pin will be held elevated, but on the other hand, it will be seen that when the shaft is rocked forwardly so that the branch *q*, will rest upon the forward end of the wall *s*, the pin will be permitted to fall when it is unseated as before described.

As better illustrated in Fig. 4, of the drawings, the stirrups C′ which are of a general rectangular form, have the middle portion of their lower bar *v*, depressed so as to form a seat *w*, for the reception of the longitudinal projection *x*, upon the under side of the draw bar C. This draw bar C, is smaller in cross-section than the stirrups C′, and is consequently free to move therein; and the projection *x*, of the said draw bar is of a shape in cross section corresponding to that of the seat *w*, whereby it will be seen that while the draw bar may be moved vertically or laterally so as to carry its draw head against the draw head of another car, it will be caused, when released, to resume its normal, central position, which is an important desideratum. By reason of the draw bar being permitted to move vertically and laterally as just described, it will be further seen that a great portion of the strain upon the draw bars, incidental to the swaying of the cars, will be removed which is an important advantage.

In Fig. 5, of the drawings I have illustrated a modified form of stirrup C^2, the lower bar *v*′, of which is of an obtuse form as shown so as to form a seat *w*′, for the lower side of the draw bar C^3. This lower side of the bar C^3, is beveled from its edges to its longitudinal center, as illustrated so as to form the projection *x*′, which is designed to rest in the seat *w*′ when the bar is in its normal position.

In Fig. 6, of the drawings I have shown a stirrup C^4, which has its lower bar v^2, rounded or concaved to form a seat w^2. This stirrup C^4, is designed and adapted to be employed in conjunction with the draw bar C^5, which has a convex projection x^2, upon its lower side as shown,

In all of the constructions illustrated in Figs. 4, to 6, it will be seen that when the draw bar is moved out of its normal position, and is released it will return to its normal position and rest upon the middle of the lower bar of the stirrup.

It will be seen from the foregoing description that my improved coupler is very simple, durable and easily operated and that it is well adapted to withstand the shock and jar, which is an important desideratum.

Having described my invention, what I claim is—

1. In a car coupler, the combination with a draw head having a pin opening, a recess *j*, a groove *k*, communicating with the recess *j*, and the pin opening and having its rear wall inclined upwardly and rearwardly, and a countersunk seat *l*, communicating with the groove *k*; of a coupling pin having a head at its upper end adapted to rest in the countersunk seat *l*, substantially as specified.

2. In a car coupler, a coupling pin, in combination with a draw head having a pin opening and a suitable means for supporting the coupling pin in an elevated position, and a slidable bolt carried by the draw head; the said bolt being adapted to engage the coupling pin and being also adapted to be pushed forwardly when the draw head is pushed rearwardly, so as to push the pin from its seat, substantially as specified.

3. In a car coupler, the combination with a draw head having a pin opening, a recess *j*, a groove *k*, communicating with the recess *j*, and the pin opening and having its rear wall inclined, and a countersunk seat *l*, communicating with the groove *k*, of a coupling pin having a head at its upper end adapted to rest in the seat *l*, and a slidable bolt adapted to bear against the coupling pin and having its rear end extended rearwardly, substantially as specified.

4. In a car coupler, the combination with a draw head having a pin opening and also having the enlargement E, arranged in advance of the pin opening and provided in its rear side with a recess *i*, of a weight movable in the draw head and having a recess *j*, a groove *k*, communicating with the recess *j*, and the pin opening and having its rear wall inclined upwardly and rearwardly, and a countersunk seat *l*, communicating with the groove *k*, a coupling pin having a head at its upper end adapted to rest in the seat *l*, and a slidable bolt engaging the coupling pin and having its rear end extended, substantially as specified.

5. In a car coupler, the combination with a draw head having a pin opening and a suit-

able means for supporting the coupling pin in an elevated position, the said coupling pin, and a slidable bolt carried by the draw head; the said bolt being adapted to engage the coupling pin and being also adapted to be pushed forwardly when the draw head is pushed rearwardly so as to push the pin from its seat; of the bracket H′, attached to the front of a car and having its side wall recessed to form the bottom wall *s*, the rock shaft journaled in the bracket H′, and having the crank branch *q*, and a chain connecting said crank branch and the coupling pin, substantially as specified.

6. In a car coupler, a draw bar having a projection upon its under side, in combination with a stirrup adapted to be connected to a car and having a seat in its lower bar adapted to receive the projection of the draw bar, substantially as specified.

7. In a car coupler, a draw bar having a projection upon its under side of a general obtuse angle-form in cross section, in combination with a stirrup adapted to be connected to a car and having a seat in its lower bar of a general obtuse-angle-form; the said seat being adapted to receive the projection of the draw bar, substantially as specified.

8. In a car coupler, the combination with a stirrup adapted to be connected to a car and having an angular seat in the middle of its lower bar; of a draw bar arranged in the stirrup and having a projection in the longitudinal center of its lower side, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

REUBEN L. GARLICK.

Witnesses:
E. L. STOVER,
C. X. SEWARD.