H. C. HUNT.

Car-Coupling.

No. 166,463. Patented Aug. 10, 1875.

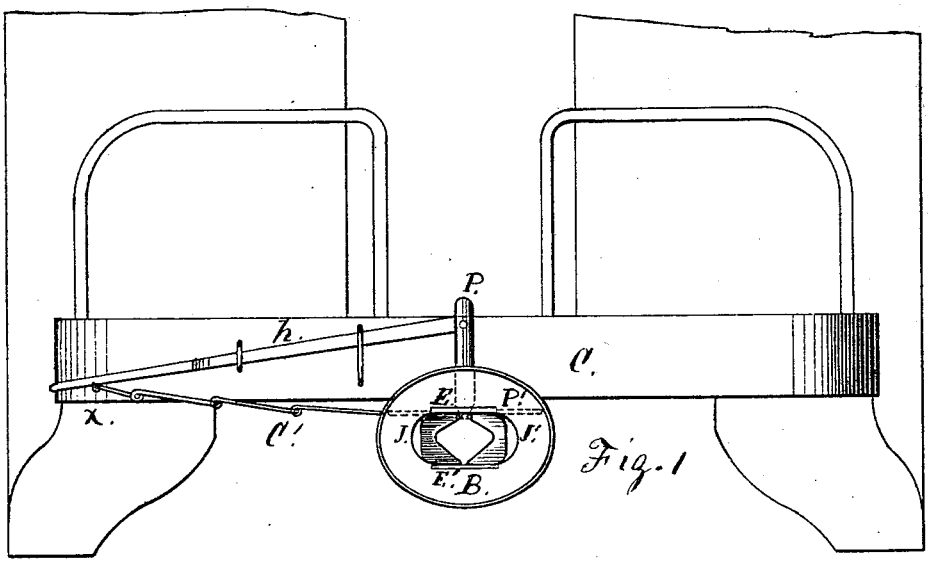

Fig. 1

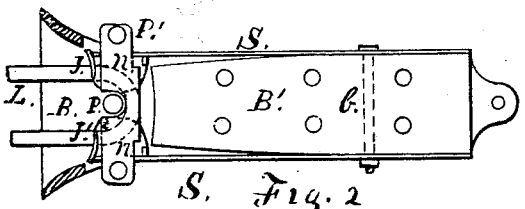

Fig. 2

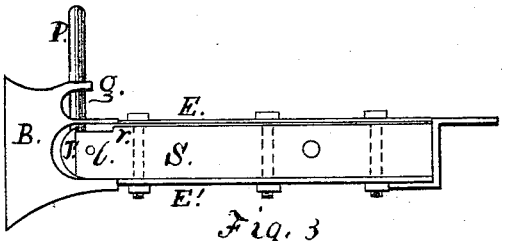

Fig. 3

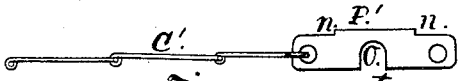

Fig. 5

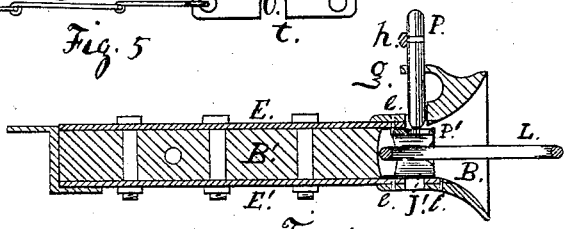

Fig. 4

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HENRY C. HUNT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **166,463**, dated August 10, 1875; application filed February 1, 1875.

To all whom it may concern:

Be it known that I, HENRY C. HUNT, of Newark, in the county of Essex and State of New Jersey, have invented certain Improvements in Car-Couplings, of which the following is a specification:

My invention relates to that class of couplings for railroad and other cars as are automatic in their operation.

The chief novelty of my invention consists in a spring-clutch and a transverse sliding plate, acting in conjunction with each other to render the ordinary link and pin self-acting.

Figure 1 is a front elevation with the link removed. Fig. 2 is a plan view with the top plate and a portion of the buffer removed. Fig. 3 is a side view; Fig. 4, a vertical longitudinal section, and Fig. 5 the sliding plate and chain by which it is actuated.

To enable those skilled in the art to which my invention relates the better to understand and construct the same, I will describe it more fully.

In Fig. 1, B is the buffer, to be made of cast or wrought iron, and is bell-shaped or flaring, the better to insure the entrance of the link when the cars in their approach to each other vary in height or otherwise. E and E′ are two iron bars, which are riveted to the buffer B, as shown at *l* in Fig. 4, and extend back to the point where they connect with the platform or body of the car C. P is a pin of wrought-iron, with a hole through its upper end, and is connected with the lever or handle *h*, which extends out to the side or other convenient point on the car, so that the pin P may be raised, and so disconnect the cars without ever going between them. The said lever *h* is connected to the platform or car by means of two staples, the shorter of which constitutes the fulcrum for the lever, and the longer a check to limit the movement of the pin to prevent raising it out of its guide *g*, Figs. 3 and 4. J and J′ are jaws of wrought or cast metal, provided with longitudinal V-shaped grooves, to receive and hold the link L in a horizontal position while the cars approach each other for the purpose of coupling, as shown in Fig. 4, the said jaws being forced together for that purpose by means of springs *s*, (shown in Fig. 2,) to which springs the said jaws are secured by rivets *r*, Fig. 3. The transverse sliding plate is indicated by dotted lines, and *c* is the chain by which it is actuated. The link L being removed, the jaws are forced together, and the point of the pin P may be seen standing on the top of the jaws *j* and *j′*, immediately over the joint between them, so that when the link enters and separates the jaws there is nothing to prevent the pin from dropping through the link, and thus the coupling is accomplished without the presence of any person.

In Fig. 2, B is the buffer, with a portion of it, together with the top plate E, removed, exposing to view the sliding plate P′, and its connection with the jaws *j* and *j′*. In the top of the said jaws there is a recess deep enough to allow the plate P′ to have a free movement. The recess in the top of the jaws being deeper than the plate P′ is thick, it is impossible to bind it. In the top edge of the spring *s* there is also a recess or notch corresponding to the one in the top of the jaws, though not as wide, so that the plate P′ (in order to allow the ends to project beyond the springs and buffer on either side) is reduced in width, leaving a shoulder, *n*, at either end, the two shoulders *n* being just far enough apart to allow the jaws *j* and *j′* to come together when the springs *s* come in contact with the said shoulders *n*. In the front edge of the plate P′ there is an opening (as shown at *o*, Fig. 5) large enough to allow the pin P to pass through the said plate, and at either end of the plate, and outside of the springs, there is a hole for the purpose of attaching the chain *c′*, the opposite end of which is attached to the car or platform, as shown at *x*, Fig. 1.

The tendency of the chain is to draw the plate P′ out of the coupling; but when the link L is in place, and the pin P is dropped, as at Fig. 2, the point *t* is held in contact with the pin P, and is thus prevented from going any farther by the interposition of the said pin; but when the pin P is raised to its utmost limit by the hand upon the lever *h*, the sliding plate P′ is then drawn underneath the pin, as shown in Fig. 4, until the shoulder *n* comes in contact with the spring *s*, and thus sustains the pin, and prevents it from dropping back into the link again, so long as the

cars remain standing together, as is shown in Fig. 4; but as soon as the cars separate and remove the link, the jaws *j* and *j'* close together, and carry with them the plate P' until the point *t* is carried beyond the pin, and the pin drops by its own weight. But before the plate P' is carried far enough to drop the pin P the jaws *j* and *j'* have approached each other so near as to prevent the pin from dropping between them, and thus the pin is sustained by the jaws *j* and *j'* immediately over the joint between them, while the cars are separated, as in Fig. 1; and so it will be seen that when the cars separate the coupling adjusts itself ready for the approach of another car.

B' represents the block of wood to which the plates or bars E and E' are bolted, top and bottom, as in Fig. 4, the said block reaching forward far enough to form a check or abutment for the link L, and thus prevent the link from entering either draw-head so far as not to reach the pin in the opposite or approaching one. The springs *s* are also bolted to the block B', as shown at *b*, Fig. 2. The springs *s* are simply flat plates of steel of sufficient strength to sustain the link L in a horizontal position when left free to their own action, the clutch grasping the link between its jaws and holding it out very much as a man would grasp it in his two hands and hold it at arm's length.

In Fig. 3, B is the buffer, with a raised projection, *g*, which serves as a guide for the pin P, to retain it in a perpendicular position, and may be of any particular form that will accomplish the purpose. P is the pin. E and E' are edge views of the top and bottom plates; *s*, the spring, showing at *r* the recess or notch through which the plate P' protrudes. *l* is the rivet by which the jaw *j* is secured to the spring *s*, and the bolts which secure the plates E and E' to the wood B' are indicated by dotted lines.

In Fig. 4, B is the buffer, with the pin-guide *g*, plates E and E', block B', link L, jaw *j'*, cross-section of the lever *h*, spring *s*, rivets *l*, and plate P. It will be seen that the link L is clear in against the block B, but the pin is raised and stands upon the plate P', supposing the other end of the link to be coupled to another car. This one is now uncoupled and ready for the cars to separate, the operator having raised the pin by bearing on the lever *h*, and thus it will remain until the link is removed by separation of the cars, when it will assume the position shown in Fig. 1, and is then ready for coupling.

In Fig. 5, the plate P' is shown in its connection with the chain *c'*, and giving a clearer view of its shape, each end being provided with a hole, so that it may be operated from either side of the car that may prove most convenient, but can only have one chain at a time. *o* is the opening for the pin.

The advantages of my invention are obvious, and the object, first of all, is to save life, as in its use no one ever has to go between the cars for any purpose, it being self-adjusting—a point which I believe has not hitherto been attained in the absence of the operator.

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

1. In a coupling for cars, the spring-clutch composed of the jaws *j* and *j'* and springs *s s*, in combination with the transverse sliding plate P', so as to be self-adjusting by the action of the springs *s s* when the link is removed, substantially as shown and described.

2. The transverse sliding plate P', in combination with the chain *c'*, (or its equivalent,) and the spring-clutch composed of the springs *s* and the jaws *j* and *j'*, substantially as and for the purposes shown and described.

HENRY C. HUNT.

Witnesses:

HENRY J. PIERSON,

HORACE HARRIS.