(No Model.)

H. W. HOSS.

CAR COUPLING.

No. 463,513. Patented Nov. 17, 1891.

Fig: 1.

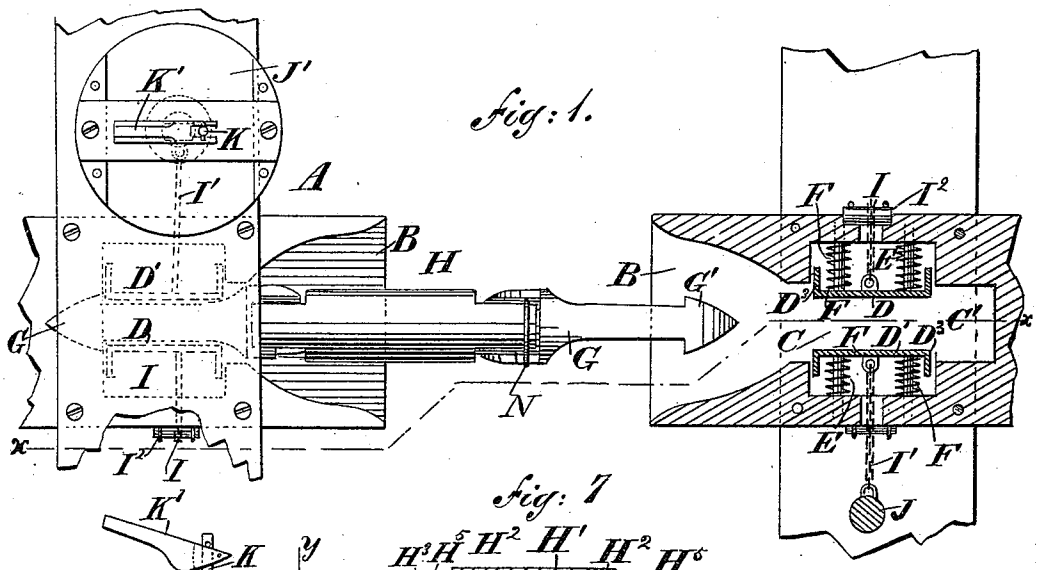


Fig: 7

Fig: 2.

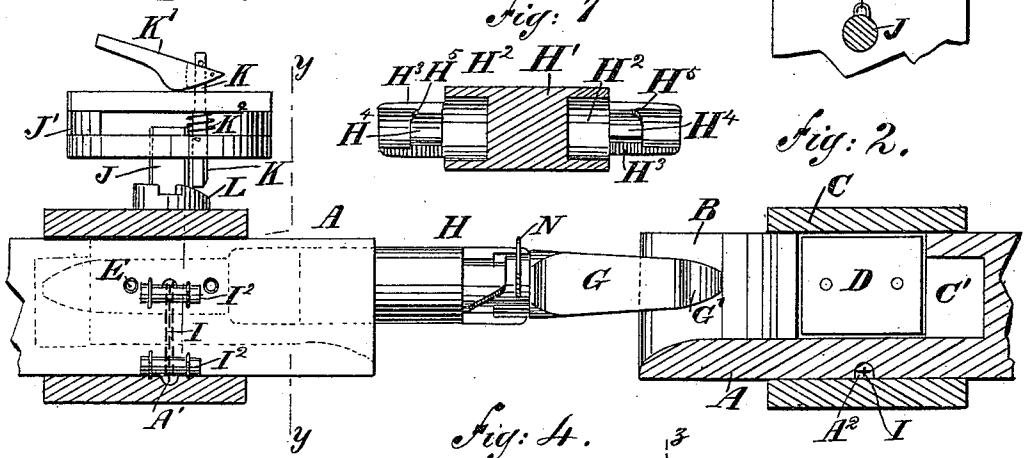


Fig: 4.

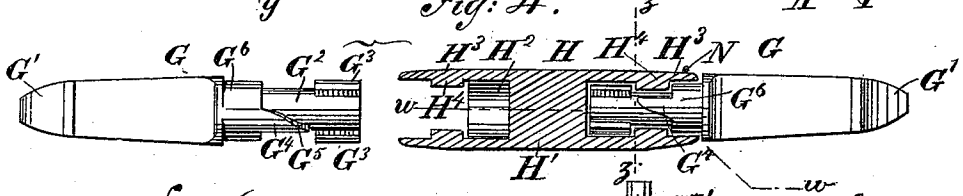


Fig: 6.

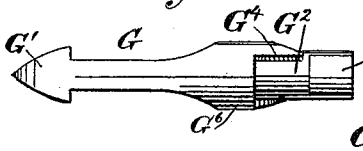


Fig: 3.

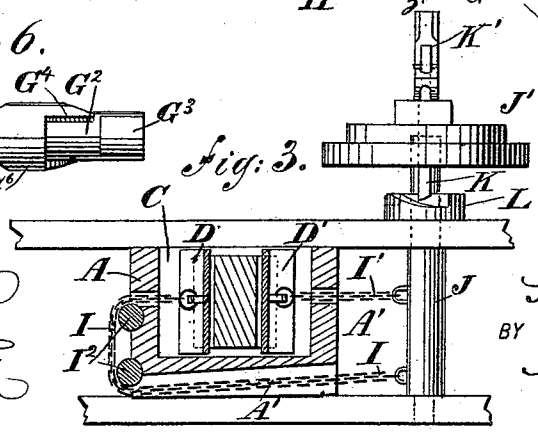
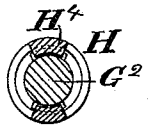


Fig: 5.



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UNITED STATES PATENT OFFICE.

HENRY W. HOSS, OF GAMMA, ASSIGNOR OF ONE-HALF TO JOHN H. INGRAM, GEORGE B. AYDELOTT, SAMUEL T. AYDELOTT, EDWARD COPE, AND JOHN W. DELVENTHAL, ALL OF TRUXTON, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 463,513, dated November 17, 1891.

Application filed March 24, 1891. Serial No. 386,188. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. HOSS, of Gamma, in the county of Montgomery and State of Missouri, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-coupler which is simple and durable in construction, very effective, and auomatic in coupling, without requiring the brakeman or other operator to step between the cars in coupling or uncoupling the same.

The invention consists of spring-pressed plates arranged longitudinally opposite each other and a coupling-link having arrow-shaped heads adapted to pass between the said plates and engaging the same at their inner ends.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement, with parts in section. Fig. 2 is a sectional side elevation of the same on the line *x x* of Fig. 1. Fig. 3 is a transverse section of the same on the line *y y* of Fig. 2. Fig. 4 is a side elevation of the coupling-link, with a part detached and parts in section. Fig. 5 is a transverse section of the same on the line *z z* of Fig. 4. Fig. 6 is a plan view of one end of the coupling-link, and Fig. 7 is a sectional plan view of the body part of the coupling-link on the line *w w* of Fig. 4.

The improved car-coupling is provided with a draw-head A, having in its front end an enlarged opening B, leading into a recess C, in which are fitted to slide transversely the plates D and D′, arranged longitudinally and opposite each other, as is plainly shown in Fig. 1. Each of the plates D and D′ is provided on its ends with outwardly-extending flanges D^3, fitting into the ends of the recess C. Each of the plates D D′ is provided with transversely-extending pins E, fitted to slide in suitable apertures in the sides of the draw-head A, and on each pin is coiled a spring F, abutting at one end against the outside of the respective plate D or D′ and at its other end against the side of the draw-head A. The springs F have the tendency to hold the plates D and D′ in an innermost position and at the same time permit the plates to slide outward when engaged by the arrow-shaped head G′, formed on the end G of the coupling-link H.

The arrow-shaped head G′ of the coupling-link H in passing through the opening B finally engages the plates D and D′, presses the same apart, and then with the back of the said head G′ engages the inner ends of the said plates D and D′, the head extending into a recess C′, formed on the inner end of the recess C. As soon as the head G′ has passed into this innermost position the springs F force the plates D and D′ inward to engage the back of the head, as is plainly shown in dotted lines to the left in Fig. 1 and in Fig. 3.

In order to disengage the head G from the plates D and D′ in uncoupling the cars, the said plates are moved outward simultaneously by the following device: The plates D and D′ are connected at or near their middle, on the outside, with chains I and I′, respectively, both adapted to wind on a shaft J, mounted to turn in suitable bearings on one side of the draw-head A, the said shaft extending vertically. The chain I′ passes directly to the said shaft J, while the chain I first extends outward and downward and passes over two rollers J′, journaled on the said draw-head A, and then the said chain passes through a groove A′ in the under side of the draw-head A, to then pass onto the shaft J. (See Fig. 3.)

On the upper end of the shaft J is secured a wheel J′ for conveniently turning the said shaft J to wind up or unwind the chains I and I′. In order to lock the shaft J in place, a pin K is provided, fitted to slide vertically in the wheel J′, and engaged at its upper end by a cam-lever K′ for raising the said pin K whenever desired, and for the purpose hereinafter more fully described. A spring K^2 presses on the pin K, so as to force the latter into a lowermost position, the lower end of the said pin

being adapted to engage one of a series of notches in a wheel L, secured on the top of the draw-head A, concentric with the shaft J. When the operator turns the wheel J′ in one direction, the shaft J winds up the chains I and I′, so that the plates D and D′ move outward to release the head G′ of the coupling-link.

For switching or other purposes it is sometimes required to lock the shaft J in place when the plates D and D′ are in an outermost position. By this case the pin K is let down into one of the notches of the wheel L when the chains are wound up.

In order to release the shaft J, the operator presses on the cam-lever K′, so as to disengage the pin K from the respective notch in the wheel L to permit a return movement of the shaft J. The springs F then press the plates D and D′ inward, at the same time unwinding the chains I and I′ from the shaft J.

The coupling-link H, previously mentioned, is made of three parts, of which the middle part is the body part H′, which supports the ends G, having the arrow-shaped heads G′. The body part H′ is formed at each end with a circular recess H^2 and with two oppositely-arranged and longitudinally-extending arms H^3, having on their inner faces lugs H^4, as is plainly illustrated in Figs. 4, 5, and 7. One side of each lug H^4 is slightly beveled, as at H^5. (See Fig. 7.) Each end G is provided on its shank G^2 with two lugs G^3, arranged opposite each other and adapted to pass into the circular recess H^2 in the body part H. On this shank G^2 are also formed two V-shaped lugs G^4, one side of each of which is in line with one edge of the respective lug G^3, while the other side G^5 is beveled, as is plainly shown in Figs. 4 and 6. The beveled lugs G^4 are arranged in the rear of the lug G^3, and project from a circular lug G^6, adapted to pass under the outer ends of the arms H^3 next to the lugs H^4.

In fastening one of the ends G to the body part H′ the two parts are held in such a position that the lugs G^3 can pass into the circular recess H^2 between the arms H^3. In moving the shank G^2 onto the end of the body part H′, as described, the beveled side G^5 of the lug G^4 engages the beveled side H^5 of the lug H^4, so that the end G is turned and its lugs G^3 pass to the rear of the lugs H^4 in the circular recess H^2. A further pressing on the two parts brings the end G into a position at right angles to the position it held on entering the end of the body part H′. The straight ends of the lugs G^3 then abut against the corresponding edges of the lugs H^4. A spring N is secured at one end to the annular lug G^6 and is adapted to pass over one of the arms H^3, so as to prevent an accidental uncoupling of the respective end from the body part H′ when switching the cars on the track.

It will be seen that when the ends G are attached to the body part H′, as described, and one end G of the link is held in one of the draw-heads A, as is plainly shown in Fig. 1, then the other end G projects and is ready to enter the opposite draw-head to engage the plates D and D′ therein, so as to couple the two cars together, as above described. Now, in case one of the cars which are coupled together by this coupling passes off the track and turns over, then the respective end of the link is turned, whereby the said end is turned in the body part H′ and the two parts are disconnected from each other, so that the two cars are not only uncoupled but entirely disconnected, one part of the link being in one car and the other in the other car remaining on the track.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a car-coupling, the combination, with spring-pressed plates arranged longitudinally in the draw-head and opposite each other, of a coupling-link having arrow-shaped heads adapted to pass between the said plates and engage the same at the inner ends, substantially as shown and described.

2. In a car-coupling, the combination, with a draw-head, of spring-pressed plates mounted to slide therein and arranged longitudinally and opposite each other, and a coupling-link having an arrow-shaped head on each end and adapted to pass between the said plates to press the same apart and finally engage with the back of the head the inner ends of the said plates, which latter are pressed toward each other by their springs, substantially as shown and described.

3. In a car-coupling, the combination, with a draw-head, of spring-pressed plates mounted to slide therein and arranged longitudinally and opposite each other, a coupling-link having an arrow-shaped head on each end adapted to pass between the said plates to press the same apart and finally engage with the back of the head the inner ends of the said plates, which latter are pressed toward each other by their springs, and means, substantially as described, for moving the said spring-pressed plates outward simultaneously, as set forth.

4. In a car-coupling, the combination, with a draw-head, of spring-pressed plates mounted to slide therein and arranged longitudinally and opposite each other, a coupling-link having an arrow-shaped head on each end adapted to pass between the said plates to press the same apart and finally engage with the back of the head the inner ends of the said plates, which latter are pressed toward each other by their springs, means, substantially as described, for moving the said spring-pressed plates outward simultaneously, and a locking device for holding the said plates in an outermost position for the free passage of the link, as set forth.

5. In a car-coupling, the combination, with a draw-head, of spring-pressed plates mounted

to slide therein and arranged longitudinally and opposite each other, a coupling-link having an arrow-shaped head on each end adapted to pass between the said plates to press the same apart and finally engage with the back of the head the inner ends of the said plates, which latter are pressed toward each other by their springs, chains connected with the said spring-pressed plates, and a shaft mounted to turn and on which are adapted to wind the said chains, substantially as shown and described.

6. In a car-coupling, the combination, with a draw-head, of spring-pressed plates mounted to slide therein and arranged longitudinally and opposite each other, a coupling-link having an arrow-shaped head on each end adapted to pass between the said plates to press the same apart to finally engage with the back of the head the inner ends of the said plates, which latter are pressed toward each other by their springs, chains connected with the said spring-pressed plates, a shaft mounted to turn and on which the said chains are adapted to wind, and a locking device, substantially as described, for holding the said shaft in a locked position, as set forth.

7. In a car-coupling, a link comprising a body part and two ends mounted detachably in the said body part and each having arrow-shaped heads, substantially as shown and described.

8. In a car-coupling, the combination, with two spring-pressed plates arranged in each draw-head and located opposite each other, of a coupling-link comprising a body part and two detachable ends, each having an arrow-shaped head adapted to pass between the said plates and to engage the same at their inner ends, substantially as shown and described.

9. In a car-coupling, the combination, with two spring-pressed plates arranged in each draw-head and located opposite each other, of a coupling-link comprising a body part and two detachable ends, each having an arrow-shaped head adapted to pass between the said plates and to engage the same at their inner ends, the said body part being provided with an annular recess on each end having oppositely-arranged arms and lugs formed thereon, the shanks of the said ends being formed with lugs adapted to pass into the said recesses and to engage the lugs on the body-piece, substantially as shown and described.

HENRY W. HOSS.

Witnesses:
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W. T. AYDELOTT.