(No Model.)

R. DINSMORE.

CAR COUPLING.

No. 517,448. Patented Apr. 3, 1894.

Fig. 1.

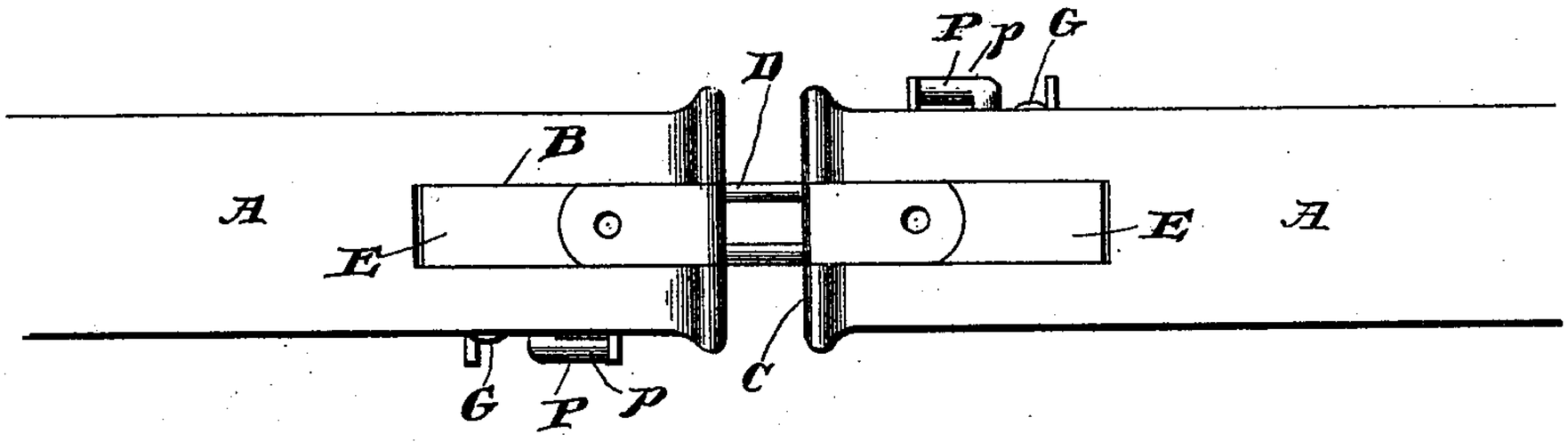


Fig. 2.

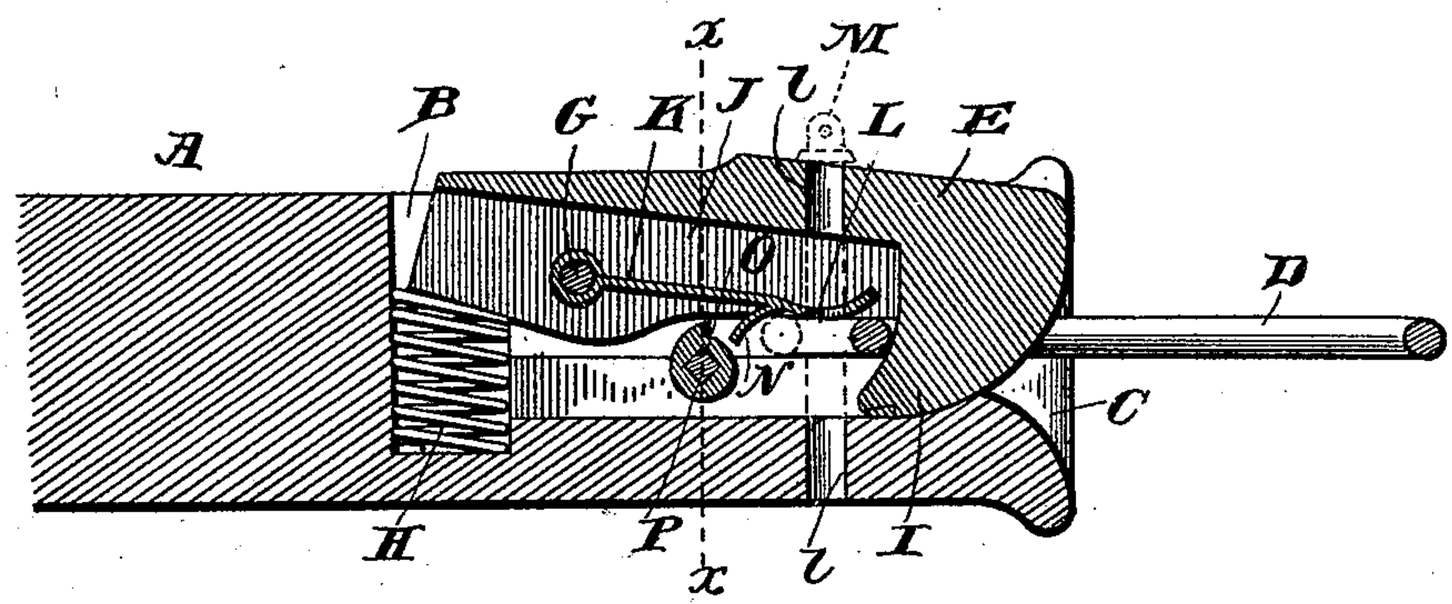


Fig. 3.

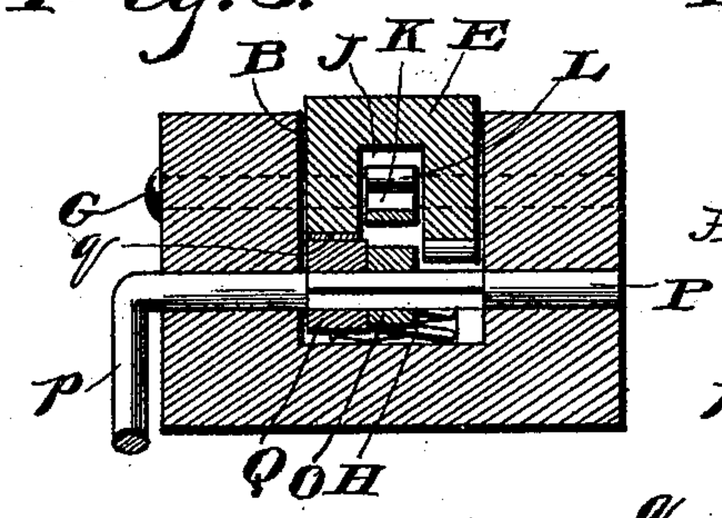


Fig. 4.

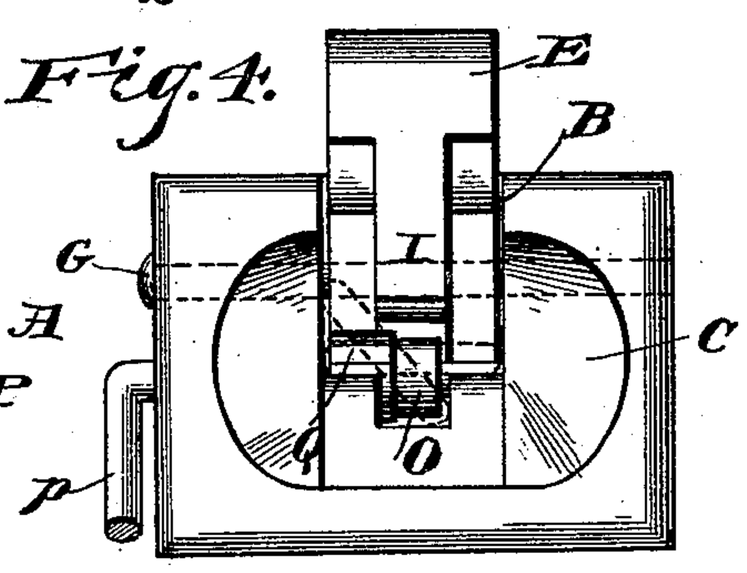


Fig. 5.

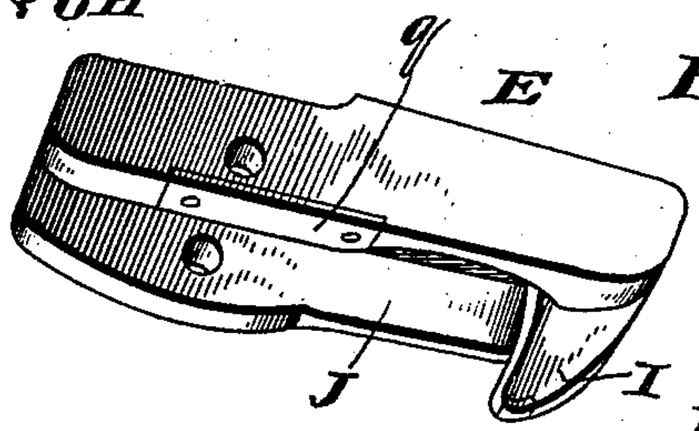
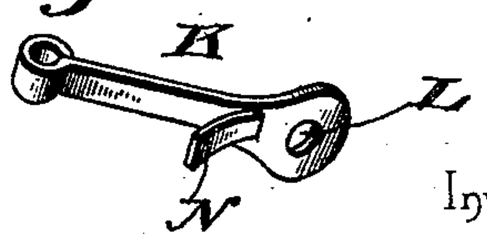


Fig. 6.



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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 517,448, dated April 3, 1894.

Application filed November 10, 1893. Serial No. 490,570. (No model.)

To all whom it may concern:

Be it known that I, ROBERT DINSMORE, a citizen of the United States, residing at Weston, in the county of Lewis and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to automatic car couplings; and it has for its object to provide an improved car coupling which will not only insure the positive automatic coupling of the cars together, but at the same time will insure the positive disengagement of the coupling devices when the cars are to be uncoupled.

To this end the main and primary object of the present invention is to effect certain improvements in hook and link car couplers whereby the same will readily adjust themselves to different heights of cars, will automatically couple in any position and will also automatically uncouple in case of a car upsetting or other similar accident.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the drawings:—Figure 1 is a top plan view of the car coupling constructed in accordance with this invention. Fig. 2 is an enlarged central vertical longitudinal sectional view thereof. Fig. 3 is a transverse sectional view on the line *x*—*x* of Fig. 2. Fig. 4 is a front end view showing the position the link may assume in uncoupling itself when a car is upsetting. Fig. 5 is a detail in perspective of the hook latch. Fig. 6 is a similar view of the link adjusting arm.

Referring to the accompanying drawings, A represents the drawhead constructed in any suitable manner and adapted to be attached to a car in the ordinary manner, and said draw-head A, is provided with a top opening B, leading out to the flared mouth C, which serves to guide an ordinary coupling link D, into the draw-head when the cars are being coupled together.

Mounted within the top opening B, of the draw-head A, is the pivoted hook latch E. The pivoted hook latch E, is pivoted within the draw-head A, near its inner end on the pivot pin or bolt G, and has arranged under its inner end at one side of its pivot the spiral spring H, the tension of which serves to normally hold the coupling end of the latch inside of the draw-head, and the outer coupling end of said latch is provided with a beveled coupling hook I, which is of a width narrower than the body of the latch so as to leave a space therebetween and the sides of the draw-head to accommodate the side of the link D, and to permit the same to readily turn up edgewise to lift the latch and uncouple itself in case of a car upsetting as clearly shown in Fig. 4 of the drawings.

The pivoted hook latch E, is provided with a longitudinal recess J, in its under side and accommodates therein the pivoted link adjusting arm K, having a pivot eye at one end to receive the pivot pin or bolt G, and is provided at its outer end with a pin-eye L, which is adapted to align with corresponding openings *l*, in the hook latch and the bottom of the draw-head whereby an ordinary coupling pin M, may be used if desired or found necessary. The said link adjusting arm K, is further provided at a point near the unpivoted end thereof with the inwardly disposed and depending lug N, which is adapted to be engaged by the point of the hook cam O, mounted on the rock shaft P.

The rock shaft P, is journaled transversely in the draw-head under the hook latch, and is provided with an outer lever end *p*, which may be connected to any suitable hand operated devices on the top or sides of the car to provide for the uncoupling thereof. Mounted on said rock shaft within the draw-head at one side of the hook cam O, is a second lifting cam Q, which is adapted to work in contact with the metallic wear plate *q*, secured to the under side of the hook latch F, to provide for the lifting thereof when uncoupling the cars. Normally, the hook latch is held inside of the top opening of the draw-head, by reason of the tension of the spring H, so that when the link G, enters the flared mouth C, of the head, it rides under the beveled coupling hook I, and comes into engagement with the shoulder of said hook so as to

be securely coupled thereto. By reason of the disposition of the hook, it will be apparent that the link may assume various angles according to the different heights of cars and still not become uncoupled, but in case the link should be turned by the upsetting of the car it will lift the free end of the hook latch and disengage itself as already described. In uncoupling, the rock shaft is turned so that the free end of the hook latch is lifted out of the draw-head above the bottom thereof, and at the same time the hook cam O, brings down the free end of the link adjusting arm K, which throws the link out of engagement with the hook I, and thereby positively uncouples the cars. Should the hook latch be in a raised position, the same will still couple when a link is shoved into the drawhead as will be readily understood, and in case a pin is employed, it will also be apparent that by lifting the hook latch, the arm K may be used as a pin support, to hold the pin until after the link has passed into the drawhead and caused the hook latch to assume a locking position.

Many advantages will be apparent to those skilled in the art as arising from the construction described, but at this point it may be further noted that the link adjusting arm K, subserves another function in connection with the coupling link D, and that is, assuming one end of the link to be coupled in one draw-head, it will be apparent that by turning the rock-shaft so as to bring the point of the cam O, in engagement with the lug of the arm K, the said arm will be brought against the coupled end of the link and thereby depress the same, which will cause the outer uncoupled end of the link to be adjusted to any height desired and thereby dispense with the necessity of having to touch the link with the hand at all.

While I have illustrated a spring H, for holding the hook-latch in a coupled position, it will be readily understood that in manufacturing the coupling the hook-latch E, will be sufficiently heavy so that the hook end thereof will normally assume a locking position, and thereby dispense with the necessity of any spring, and I will also have it understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a car coupling, the combination with the drawhead; of a hook latch pivoted within the drawhead, a link adjusting arm pivoted to the under side of the hook latch, the link, and means for simultaneously lifting the free end of the hook latch and lowering the free end of the link adjusting arm, substantially as set forth.

2. In a car coupling, the drawhead having a top recess leading into an end mouth, a hook latch pivotally mounted at one end within said top opening and having a narrowed coupling hook at its other end, a pivoted link adjusting arm pivoted at one end to the bottom of the hook latch and having a pin opening in its other end adapted to align with similar openings in the drawhead and hook latch, a rock shaft mounted in the drawhead, and separate cams mounted on said rock shaft and adapted to simultaneously lift the free end of the hook latch and lower the free end of the link adjusting arm, substantially as set forth.

3. In a car coupling the combination of a drawhead having a top recess at one end, a hook latch pivotally mounted near one end within said top opening and having a longitudinal recess in its under side and a metallic wear plate, a link adjusting arm seated in the recess of the hook latch and pivoted at one end on the pivot of such latch, said link adjusting arm being provided near its free end with an inwardly disposed and depending lug, a rock shaft mounted in the drawhead under the hook latch, a lifting cam mounted on said rock shaft and adapted to bear under the hook latch against its wear plate, and a hook cam mounted on the rock shaft alongside of the lifting cam and adapt- to engage the lug of said link adjusting arm, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT DINSMORE.

Witnesses:
J. W. MACEY,
J. L. D. QUEEN.