

(No Model.)

L. L. FREEMAN.
CAR COUPLING.

No. 531,921.

Patented Jan. 1, 1895.

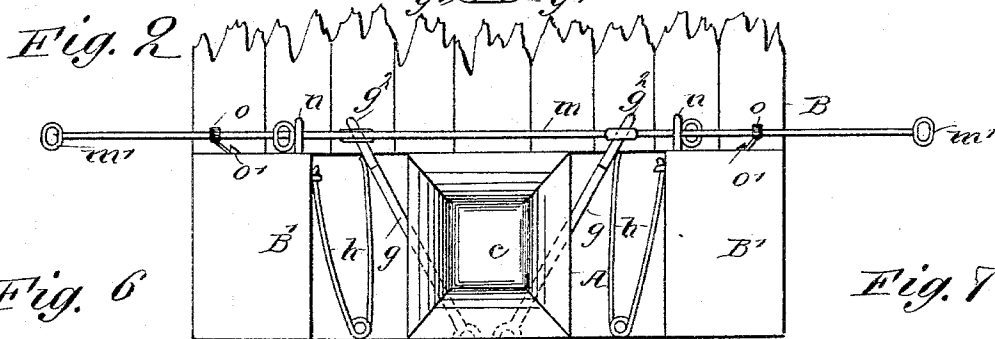
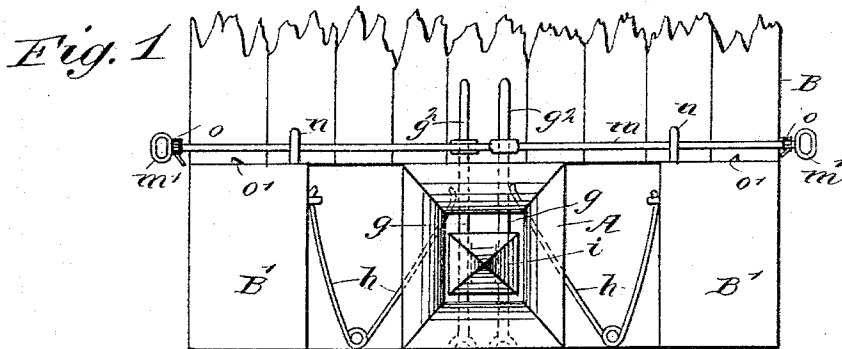


Fig. 6

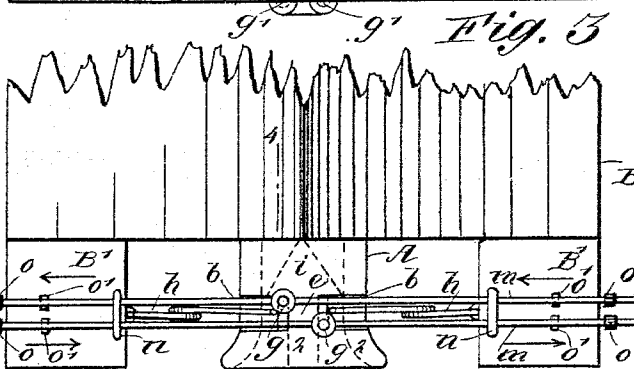


Fig. 7

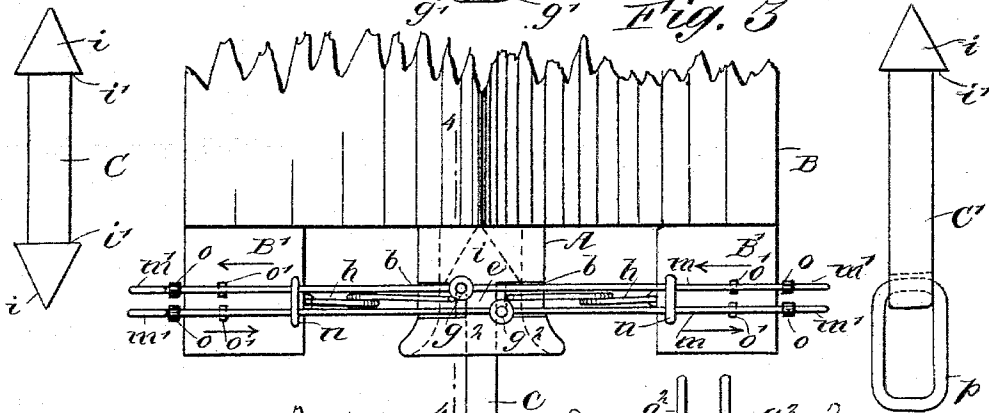


Fig. 4

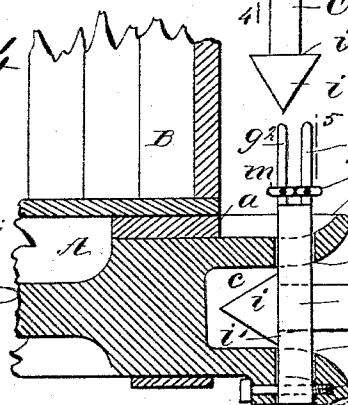
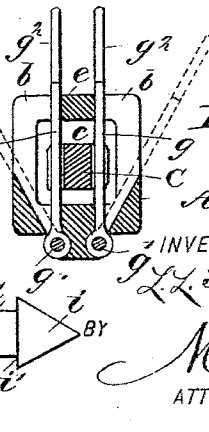


Fig. 5



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LEVI L. FREEMAN, OF BROADLANDS, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 531,921, dated January 1, 1895.

Application filed May 11, 1894. Serial No. 510,871. (No model.)

To all whom it may concern:

Be it known that I, LEVI L. FREEMAN, of Broadlands, in the county of Champaign and State of Illinois, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

My invention relates to improvements in car couplings of the automatic latching type, wherein an arrow-headed link bar is employed to connect two drawheads, the object of my invention being to produce a novel, simple and effective device of the character indicated, which will be adapted to automatically couple two cars having the improvement, and afford means for their quick detachment from either side of the coupled cars.

To this end, my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

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 views.

Figure 1 is a broken front view of the coupling in position on a car, and adjusted to connect with a similar coupling. Fig. 2 is a broken front view of the coupling in place on a car, and with parts in open adjustment. Fig. 3 is a broken plan view of a car with the improvement on it, showing the parts set to connect with a similar coupling. Fig. 4 is a broken longitudinal sectional view, on the line 4—4 in Fig. 3. Fig. 5 is a transverse sectional view, on the line 5—5 in Fig. 4. Fig. 6 is a plan view of one form of the link bar; and Fig. 7 is a plan view of a modified form of the link bar.

The drawhead A, is preferably cast into form, its forward portion being rectangular in transverse section, and rectangularly recessed as at *c* from the front end centrally and rearwardly a proper degree, the walls of the recess being outwardly flared at their front edges, adapting the drawhead to readily receive the end portion of the link bar which will be described.

The rearward extension of the drawhead A, shown in part in Fig. 4, may be reduced in diameter and be spring-pressed forwardly to cushion the drawhead in the usual manner. Such devices being common, are omitted from the drawings.

The ordinary supporting loops, such as *a*, may be utilized to loosely secure the drawhead upon the frame of the car B, so that the recessed portion of the drawhead will be projected in advance of the car end, at its transverse center between the dead wood blocks B', that are located on the end of the car near each side. The recessed drawhead is oppositely and vertically slotted through its side walls near the front edge, which slots *b* are upwardly extended from points near the lower wall of the recess or chamber *c* of the drawhead, to cut through the top wall of said chamber, and leave an intermediate web portion of the top wall remaining, as indicated at *e*, in Fig. 5.

The two latch plates *g*, are provided, which are pivoted at their lower ends at *g'* to the lower wall of the drawhead A, so as to adapt them to loosely swing in the slots *b*, the lower end walls of said slots being upwardly and outwardly sloped from points near the pivot joints *g'*, so as to permit the latch plates to diverge and lie oppositely inclined, laterally removing them from the chamber *c*, when actuated by means provided to effect such an adjustment, which will presently be explained. The width of the latch plates *g*, considerably exceeds their thickness, and their wider sides occupy parallel longitudinal planes when the plates are elevated to bear upon the web *e*, of the drawhead top wall, which adjustment of parts is effected by the V-shaped finger springs *h*, that are located and secured between the outer sides of the latch plates and the dead wood projections B', so as to have contact with and press the latch plates toward each other and thus retain them until said plates are forcibly drawn apart.

The link bar C, that is represented in connection with the drawhead A, in Figs. 3 and 4, and detached in Fig. 6, is the preferred form of said connecting device, and consists of an elongated metallic billet, preferably made rectangular in cross section, as shown in Fig. 5, each end being laterally enlarged to form a shoulder *i'*, near each end, and from these shoulders the end portions are tapered to a point, thus producing an arrow-shaped head *i* on each end of the link bar, each head having four sides, as indicated in Fig. 1.

The preferred means to manually operate the latch plates *g*, for their outward inclination, comprises two slide-rods *m*, that are of a sufficient length to extend across the end wall of the car whereon the improvement is placed. Each rod *m*, has an integral ring or eye-hole formed in it to loosely slide upon the cylindrical reduced extension limbs *g*², that are produced on the upper ends of the latch-plates *g*, the location of the ring-eyes being such as will allow the slide rods *m* to project near the sides of the car body for convenient manipulation, the rods being loosely sustained in parallel and horizontally by bracket boxes *n*, or equivalent means.

It will be seen that the space allowed between the latch plates *g*, when these are in normal position as represented in Fig. 5, will receive the body of the link bar *C*, if it is introduced, such an adjustment resulting if one head of the link bar is pushed toward and between the adjacent faces of the latch plates, the withdrawal of the head being prevented by the engagement of the shoulders *i*', thereon with the edges of the spring-pressed plates. When a link bar *C* has been locked to one drawhead *A*, its opposite end will be held projected sufficiently to enter and interlock with another coupling of a like form, the end of the link bar first inserted being slid against the rear wall of the chamber *c* and the sides of the bar frictionally engaged with the latch plates *g*, so that the bar *C* may be inclined up or down to enter another drawhead of like construction that may vary in height therefrom.

To release a link bar from one of a pair of coupled drawheads *A*, the operator grasps the handles *m*', that are formed on the ends of the slide-rods *m*, and pulls one rod while he pushes the other, which movement will spread the latch plates *g*, and remove them from engagement with the shoulders *i*', of the link bar, so that the bar can be freely withdrawn from the drawhead.

Should it be desired to retain the latch plates *g*, in outwardly inclined adjustment for a short time, as may be necessary to avoid coupling cars while they are being shifted on sidings to get them in proper locations, this can be readily effected by use of the dogs *o*, that are placed on the rods *m*, and which may be slid so as to have contact with the projections or stops *o*', that are fixed on the dead wood blocks *B*'. The spring action of the rods *m*, causes such a frictional engagement between the hub edges of the dogs and the rods as will retain the parts *o*, wherever they are located, when the stress of the springs *h* tend to draw the rods *m* inwardly, and the dogs are in contact with the stops *o*'. When not in service, the dogs *o* may be slid toward the handles *m*', and there hang pendent.

A modified form of the link bar is shown at

C', in Fig. 7, the link bar being furnished with a swinging loop *p*, at one end, in place of the arrow head, such a link bar being useful to connect a car having the improvement with an ordinary link and pin coupling, the loop being adapted to enter the drawhead of the common coupling and receive the usual pin for attachment to the same.

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

1. The combination with a recessed drawhead, of latch-plates laterally vibratile in slots in the drawhead, and oppositely movable slide rods loosely engaging the upper ends of the latch plates, substantially as described.

2. The combination with a forwardly recessed drawhead, oppositely slotted in its side walls near the front end, of spring-pressed latch plates pivoted at their lower ends on the drawhead and vibratile in the slots, and slide rods adapted to swing the latch plates outwardly, substantially as described.

3. The combination with a forwardly recessed drawhead, oppositely slotted in its side walls near the front end, and latch plates pivoted at their lower ends on the drawhead and vibratile in the slots, and having reduced upper ends, of springs adapted to press the latch plates inwardly, and slide rods loosely engaging the reduced upper ends of the latch plates and adapted by opposite movement to spread said latch plates, substantially as described.

4. The combination with a forwardly recessed drawhead, oppositely slotted in its side walls near the front end, and spring-pressed latch plates pivoted at their lower ends on the drawhead and lying in said slots, of a link bar adapted to separate the latch plates and to interlock with their rear edges, and four longitudinally movable slide rods that extend to the sides of the car to swing the latch plates and release the link bar, substantially as described.

5. The combination with a drawhead supported on a car, said drawhead being forwardly recessed, flared at its front end, and oppositely slotted in its side walls near said end, of flat latch plates pivoted at their lower ends on the drawhead, and vibratile in the slots in the drawhead, and having reduced cylindrical upper ends, horizontal slide rods loosely engaging the reduced upper ends of the latch plates, and locking dogs slidable on the rods and adapted to interlock with projections on the car when the slide rods are adjusted to spread the latch plates, substantially as described.

LEVI L. FREEMAN.

Witnesses:

W. P. KEYS,
E. L. HARDMAN.