(No Model.) 2 Sheets—Sheet 1.

W. L. BRADDOCK.

CAR COUPLING.

No. 384,606. Patented June 19, 1888.

Fig. 3.

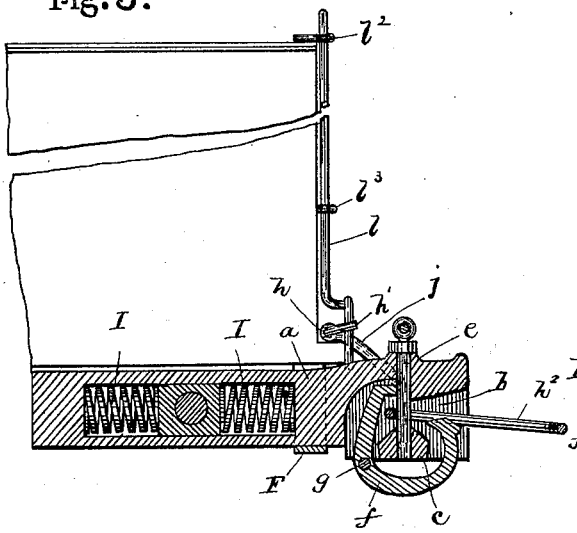


Fig. 4.

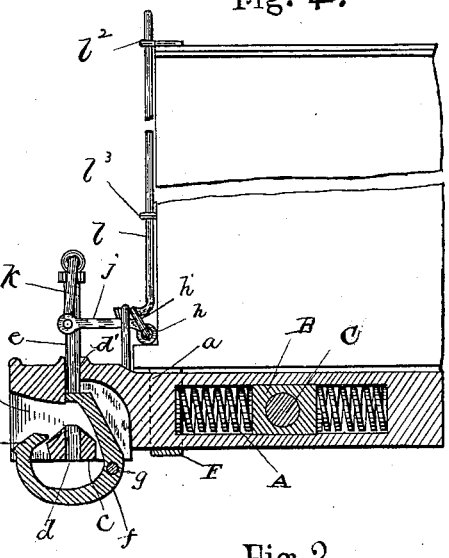


Fig. 1.

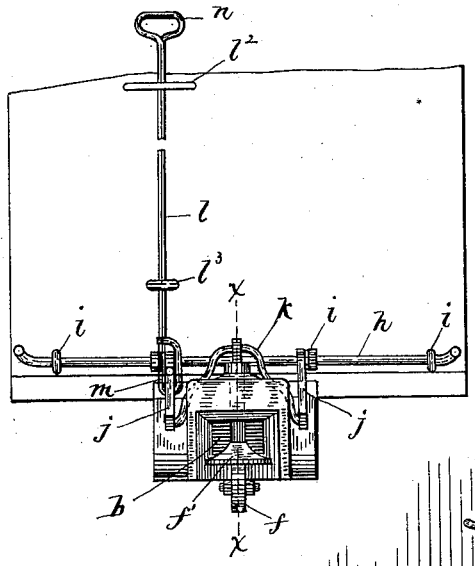


Fig. 2.

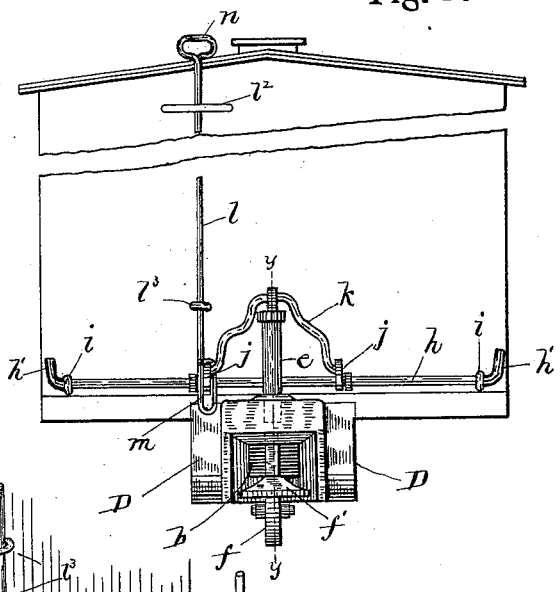
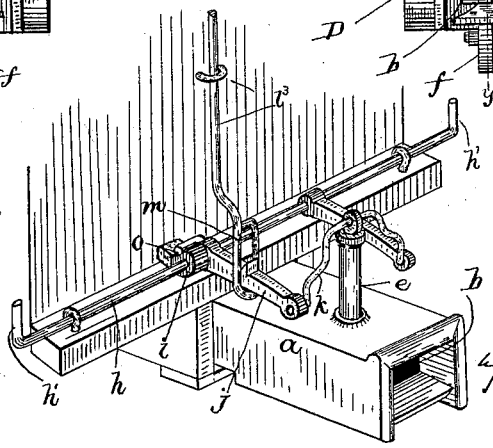


Fig. 5.



Witnesses:
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A. D. Harrison.

Inventor:
W. L. Braddock
by Wright, Brown & Quinby
Attys.

(No Model.) 2 Sheets—Sheet 2.

W. L. BRADDOCK.

CAR COUPLING.

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Fig. 8.

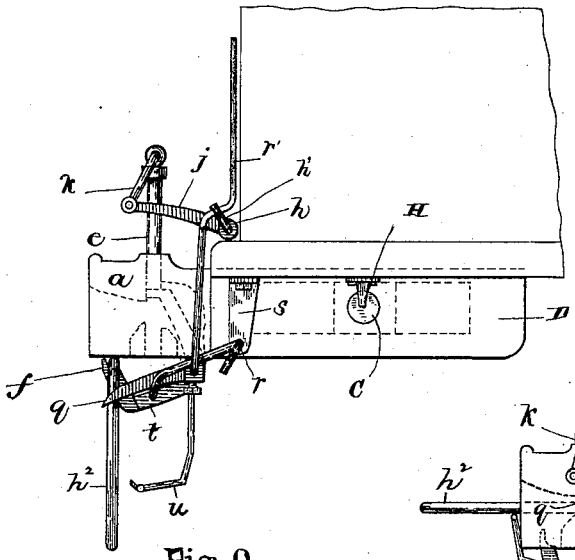

Fig. 10.

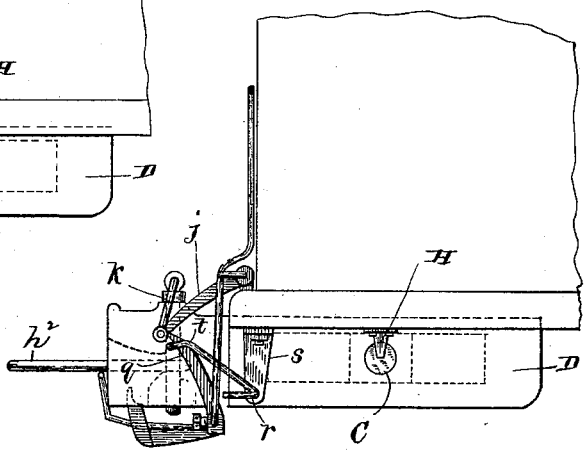

Fig. 9.

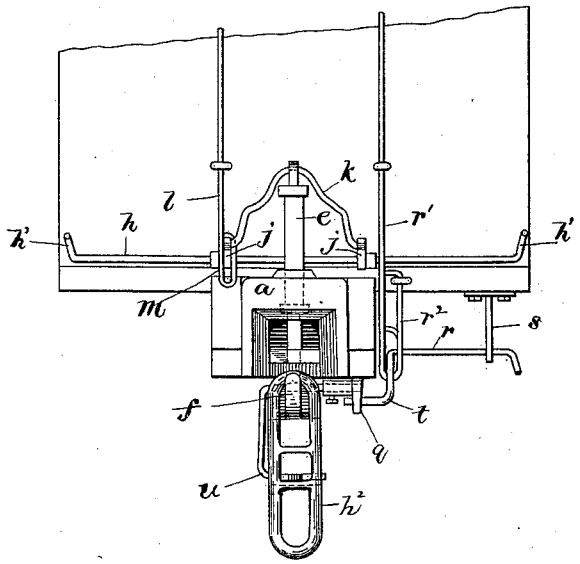

Fig. 6.

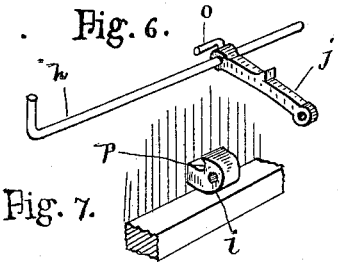

Fig. 7.

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UNITED STATES PATENT OFFICE.

WARREN L. BRADDOCK, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO T. B. SARGEANT, OF DETROIT, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 384,606, dated June 19, 1888.

Application filed November 24, 1886. Renewed March 2, 1888. Serial No. 266,008. (No model.)

To all whom it may concern:

Be it known that I, WARREN L. BRADDOCK, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to link-and-pin couplers for railroad-cars, and has for its object, first, to provide an improved device for supporting the pin in a raised position prior to the insertion of the link and for supporting the link in a substantially horizontal position when it is engaged with only one draw-head, so that it will properly enter the other draw-head.

The invention also has for its object to provide improved means for withdrawing the coupling-pin from the link-receiving chamber of the draw-head and for holding said pin so that it cannot enter said chamber.

The invention also has for its object to provide an independent device whereby the projecting end of a link engaged with one draw-head only may be raised and thus caused to properly enter the other draw-head.

To these ends the invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of my improved coupling, the pin being in place to hold the link. Fig. 2 represents a similar view, the pin being raised. Fig. 3 represents a section on line *x x*, Fig. 1. Fig. 4 represents a section on line *y y*, Fig. 2. Figs. 5, 6, and 7 represent perspective views showing details. Figs. 8, 9, and 10 represent a modification.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the draw-bar suitably attached to the car, and having in its head the chamber *b*, which is open at the bottom of the head, save where its continuity is broken by a bridge, *c*, extending across said chamber, and containing an orifice, *d*, which receives the lower end of the coupling-pin *e* when the latter is in place to hold the link, the upper portion of the draw-head having a pin-orifice, *d'*. The upper surface of said bridge is inclined upwardly from its forward and rear edges to its center, the forward incline serving to raise the end of the entering link.

f represents a curved lever, which is pivoted at *g* to ears on the lower side of the draw-bar. One arm of said lever projects upwardly behind the bridge *c* into the chamber *b*, while the other arm projects forward and upward into said chamber in front of said bridge, the forward end of the last-named arm being provided with a laterally-extended head, *f'*, which is adapted to support the link h^2 in the position shown in Fig. 3 when the link is engaged by the coupling-pin. Said head has a beveled surface adapted to guide the entering link upwardly to the bridge *c*. The lever *f* is so formed and its weight is so disposed as that normally its rear arm will stand in position to support the coupling-pin in a raised position, as shown in Fig. 4, said arm being in position to be struck by the end of a link entering the draw-head and forced back by said link, thus releasing the pin and allowing it to drop into the link. When the pin-supporting arm is thus forced back, the lever *f* is held by the coupling-pin in such position that its forward arm is capable of supporting the link in an approximately horizontal position, as shown in Fig. 3.

h represents a horizontal rod or shaft journaled in suitable eyes or bearings, *i*, affixed to the end of the car. Said rod extends nearly or quite across the end of the car, and is bent at its ends to form handles *h' h'*, whereby it may be turned by a person standing at either side of the car.

To the rod *h* are affixed two arms or levers, *j j*, the outer ends of which are jointed to a yoke, *k*, which passes through an eye in the upper end of the coupling-pin. It will be seen, therefore, that when the rod *h* is turned so as to elevate the levers *j j* the yoke *k* and pin *e* are correspondingly elevated, the pin being thus withdrawn from the link-receiving chamber of the draw-head, so that the lever *f* can swing under and support said pin.

l represents a vertical rod adapted to slide in eyes or guides attached to the end of the car, and provided at its lower end with a loop, *m*, through which passes one of the levers *j*. The upper end of said rod has a handle, *n*,

which may be grasped by a person on the top of the car. The engagement of the rod *l* with one of the arms *j* of the rod *h* enables an upward movement of said rod *l* to raise the coupling-pin. It will be seen, therefore, that provision is made for uncoupling from either side or from the top of the car.

When it is desirable to hold the coupling-pin in an elevated position, so that it will not fall when the lever *f* is forced from under it, a stud, *o*, on the inner end of one of the levers *j* is engaged with a notch, *p*, formed in one of the bearings *i*, which support the rod *h*, said engagement being effected by moving the rod *h* endwise while its arms are in the position shown in Figs. 2, 4, and 5, the stud *o* being thus pushed into the notch *p* and held so that the levers *j j* cannot turn downwardly.

The endwise movement of the rod *h* may be effected by a person grasping either of the handles of the rod, or by a person on the top of the car grasping the rod *l*. The upper guide, l^2, of said rod *l* is elongated, so as to permit the rod to move laterally in it, while the lower guide, l^3, closely surrounds said rod and acts as a fulcrum. The rod *l* may therefore be caused to act as a lever to move the rod *h* endwise, as will be readily seen.

In Figs. 8, 9, and 10 I have shown a modification in which the forward arm of the lever *f* is notched or hooked, so that a link may be hung upon it, as shown in Figs. 8 and 9. An arm, *q*, is pivoted to an ear or support on the under side of the draw-head, said arm being at one side of the draw-head, so that it can swing freely up and down. A rod, *r*, is journaled in a bracket, *s*, attached to the under side of the car, and is provided with an arm or crank, *t*, which bears against the under side of the arm *q*.

u represents an arm which is rigidly attached to the arm *q*, and is formed to bear against the link and raise the same to a horizontal position, as shown in Fig. 10, when the rod *r* is turned by a person standing at the side of the car grasping the handle on the outer end of said rod, or by a person on the roof of the car grasping a vertical rod, *r'*, which has a loop, r^2, at its lower end receiving the arm *t*. An attendant at the side or on the top of the car can therefore raise the outer end of the link and hold it in position to enter the draw-head of another car without exposing himself to danger by going between the cars. The arm *q* is formed so that when it is raised, as shown in Fig. 10, its swinging end will engage with one of the levers *j*, and will be held by said lever in the position shown in Fig. 10 until the draw-head is struck and forced back by an opposing draw-head. The slight yielding motion of the draw-head thus caused disengages the arm *q* from the lever *j* and allows said arm and the arm *u* to drop.

The draw-bar has a longitudinal slot, A, which contains a sliding box, B, through which passes a cylindrical axle or trunnion, C, which is journaled in timbers or blocks D D, secured to the car at either side of the draw-bar. The box B is capable of turning on said axle, so that the draw-bar may be slightly inclined to raise or lower its outer end or head. Said head is supported by a strap, F, attached to the car and extending across the under side of the draw-bar. The strap may be made vertically adjustable to hold the draw-head at any height within the range of its adjustability. To prevent the axle C from being moved endwise, I provide stops H, attached to the outer sides of the beams D D and bearing on the ends of the axle. Said stops are pivotally attached, so that they can be swung away from the ends of the axle to permit the removal of the latter. The axle C is movable lengthwise in the block B, so that when said stops H are removed the axle may be withdrawn from the block B and from the timbers D D, thus disconnecting the draw-bar from said timbers.

I I represent springs, which are interposed between the block B and the ends of the slot A in the draw-bar and give the draw-bar the usual endwise yielding movement.

I claim—

1. The draw-bar having the chamber *b*, and the pin-receiving orifices *d d'*, communicating with said chamber, combined with the curved lever *f*, pivoted to the lower portion of the draw-bar, and having an arm extending upwardly from the pivot and adapted to support the coupling-pin, and another arm extending forward from the first and adapted to support the link, as set forth.

2. The combination of the draw-bar, the pivoted lever *f*, formed as described, the coupling-pin *e*, the yoke *k*, engaged with said pin, and the rod *h*, having arms *j j*, engaged with the ends of said yoke, as set forth.

3. The combination of the draw-bar, the pivoted lever *f*, the yoke *k*, the longitudinally-movable rod *h*, having the arms *j j*, engaged with the yoke, and the stud *o*, and the fixed bearing *i*, having a notch or groove, *p*, adapted to receive said stud and hold the rod with the pin in a raised position, as set forth.

4. The combination of the draw-bar, the pivoted lever *f*, the pin *e*, the yoke *k*, engaged with the pin, the rod *h*, having the arms *j j*, engaged with the yoke, and the vertical rod *l*, having the loop *m*, engaged with one of the arms *j*, as set forth.

5. The combination of the draw-bar, the pivoted lever, the pin and the operating devices therefor, the arm *q*, pivoted below the draw-bar and having the link-supporting arm *u*, and the rod *r*, having the crank *t*, adapted to operate the arms *q u*, as set forth.

6. The combination of the draw-bar having the lever *f*, the pin *e*, the longitudinally-movable rod *h*, connected, as described, to said pin and provided with the stud *o*, the bearing having a groove to receive said stud and lock the pin in a raised position, and the vertical sliding rod *l*, having a fulcrum upon which it may

be turned to move the rod *h* endwise, as set forth.

7. The combination of the draw-bar having the slot, the sliding bearing-block therein, the beams or supports, and the cylindrical axle journaled and movable lengthwise in said beams and block, and the strap supporting the forward end of the draw-bar, as set forth.

8. The combination of the draw-bar having the slot, the sliding bearing-block therein, the beams or supports, the cylindrical axle journaled and movable lengthwise in said beams and block, the strap supporting the forward end of the draw-bar, and the removable stops bearing against the ends of the axle, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 15th day of November, 1886.

WARREN L. BRADDOCK.

Witnesses:
C. F. BROWN,
A. D. HARRISON.