

(No Model.)

J. H. DALY.
CAR COUPLING.

No. 545,435.

Patented Aug. 27, 1895.

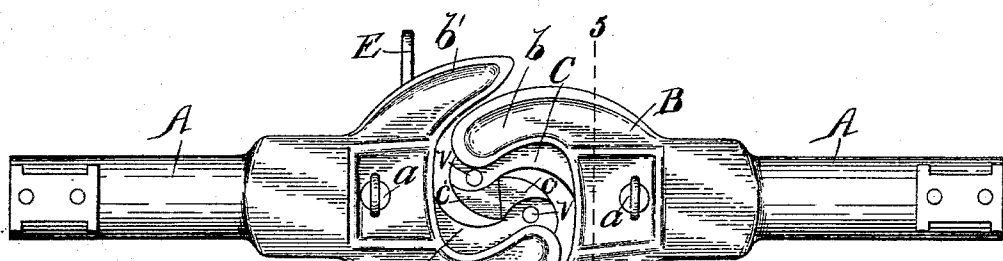


Fig. 1.

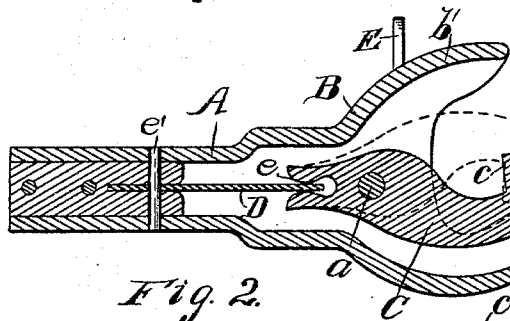


Fig. 2.

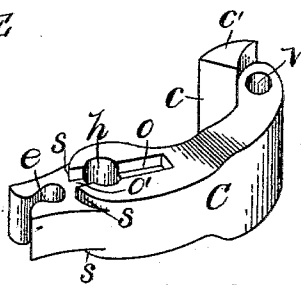


Fig. 3.

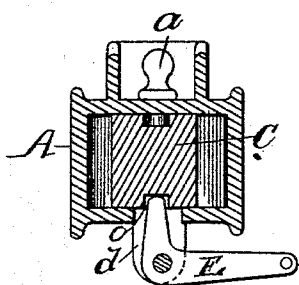


Fig. 4.

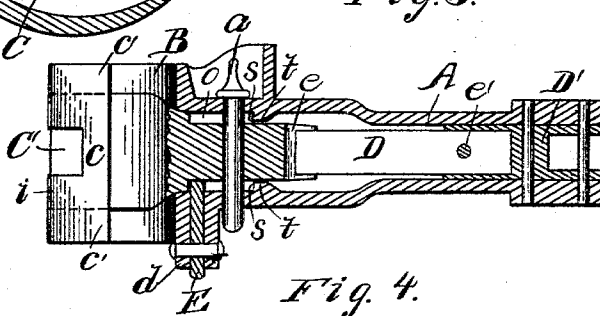


Fig. 5.

WITNESSES

J. L. Phelan.
E. W. Arnold

INVENTOR

James H. Daly
By W. B. Wheeler & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES H. DALY, OF DETROIT, MICHIGAN, ASSIGNOR OF THREE FOURTHS TO
JAMES McLAREN, CLARENCE D. BROWN, AND JAMES M. STARK, OF SAME
PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 545,435, dated August 27, 1895.

Application filed May 12, 1894. Serial No. 511,063. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. DALY, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in car-couplers; and it consists in the construction and arrangement of parts, as hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to produce a coupler of simple and durable construction, in which provision is made for automatically coupling the cars by the meeting of the draw-heads without previous setting of the jaws or hooks, and in which the arrangement is such as to enable the coupling-hook to be reversed, so that the engaging-point thereof may be made to stand in either of two opposite directions. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view showing the draw-heads coupled. Fig. 2 is a central horizontal section through the draw-bar. Fig. 3 is a perspective of the coupling-hook. Fig. 4 is a central vertical section through the draw-bar in position as at right of Fig. 1. Fig. 5 is a transverse section on line 5 5 of Fig. 1.

Referring to the letters of reference, A designates the draw-bar, which is hollow and provided with the head B, having a recessed mouth formed by the curved side extensions *b* and *b'*, which are adapted to embrace companion parts on the opposite head.

C designates the coupling-hook, which is pivoted centrally within the draw-head by means of the pin *a* passing through said head and hook. The forward end of said hook curves laterally and lies partially within the recess of the head on one side, the engaging-point *c* extending into the mouth in line with the pivotal point of the hook, thereby plac-

ing the draft upon said hook directly in line with the center of the draw-bar. The rear end of the hook C is provided with a flaring slot *e*, having an enlarged termination. In this slot is loosely received the free forward end of the straight spring D, the rear end of which is secured by means of the pin *e'* centrally within a block D' in the draw-bar. The end of said spring does not extend to the limit of the slot *e*, whereby it is relieved from buckling by any concussion against the end of the hook, and the tension of the spring, while permitting the hook to swing in either direction, will return to its normal or central position when said hook is released. The hooks are so mounted in the opposed draw-heads that when said heads are brought together the rounded ends thereof will engage and force said hooks back into the recess of the heads until the engaging-points thereof shall have passed one another, when the springs D will force said hook together and automatically couple the cars, as shown in Fig. 1, in which the position of the parts is such as to permit of a free oscillation of the draw-heads to accommodate themselves to the position of the cars when rounding a curve and at the same time maintaining a straight pull upon the draw-bars.

To actuate the hooks C for the purpose of uncoupling them there is employed an elbow-lever E, which is pivoted between the studs *d*, depending from the under face of the draw-head through an opening in which the one end of said lever extends and engages in a slot *o* in the face of the hook forward of its point of pivot, by which arrangement the actuation of the outer end of the lever E will cause a lateral movement of the engaging end of the hook to disengage it from the hook in the opposite head and uncouple the cars.

It is desirable in couplers of this class that the coupling-hook shall be reversible to enable it to be changed, so as to couple with a draw-head in which the hook stands in the opposite direction from those commonly in use. This I accomplish by providing the opposite horizontal face of the hook with a way *o'*, leading outward from the slot *o* in line therewith, and in making the pin *a* removable, so that by removing said pin the hook

may be withdrawn from the draw-head, reversed, and replaced therein, as shown by dotted lines in Fig. 2, the way *o'* in the hook permitting its removal and replacing without removing the lever *E*, the end of which is received in said way, and which also serves to actuate said hook when reversed as well as when in its normal position.

To provide for relieving the pin *a* from the thrust caused by the meeting of the hooks in coupling, shoulders *s* are formed on opposite sides of the hook in the rear of the aperture *h* therein which receives said pin, which said shoulders abut against diametrically-extending lugs *t*, projecting from the inner opposite walls of the draw-bar, as shown more clearly in Fig. 4, and which serve to resist the thrust against said hook.

The engaging-face of the hooks is increased vertically by means of the shoulders *c'*, which extend beyond the plane of the faces of the hooks in line with the outer faces of the draw-heads, thereby insuring an engagement of the hooks even where there is an unusual variation in the height of the cars. In the outer ends of the hooks is a recess *C'*, and passing vertically through the hook and recess is an aperture *v* for the reception of a pin, whereby provision is made for coupling with the ordinary link and pin.

This coupler is made to operate from the side of the car by means of a rod crossing the end of the car and coupled in any suitable manner with the lever *E*, to enable the cars to be uncoupled without entering between them.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination of the

draw-head, the hook pivoted centrally therein upon a removable pin, said hook having a way in its opposite horizontal faces extending horizontally thereof across its point of pivot, the elbow lever pivoted in said head and engaging in the way in the under-most side of said hook in the rear of the pivot thereof, whereby said hook is made reversible in the draw-head.

2. In a car-coupler, the combination of the draw-head, the hook pivoted centrally therein, the shoulder on said hook concentric with its point of pivot lying within the draw-head, and the lug on the inner face of the draw head engaging said shoulder.

3. In a car coupler, the combination of the draw-head having a recess in one side of the mouth thereof, the hook pivoted in said mouth and adapted to swing into said recess, the point or engaging end of said hook having the vertically extending shoulders which project into line with the horizontal faces of said draw-head on each side of said recess.

4. In a car-coupler, the combination of the draw-head, the hook pivoted therein, said hook having a curved shoulder extending partially around its point of pivot concentric therewith and having a longitudinal way in its face crossing said point of pivot and opening through said shoulder, the elbow lever pivoted in the draw-head one end of which engages in said way in the hook, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. DALY.

Witnesses:

CLARENCE D. BROWN,
E. S. WHEELER.