(No Model.)

W. O. EASTON & F. DAWSON.

CAR COUPLING.

No. 537,022. Patented Apr. 9, 1895.

Fig. 1.

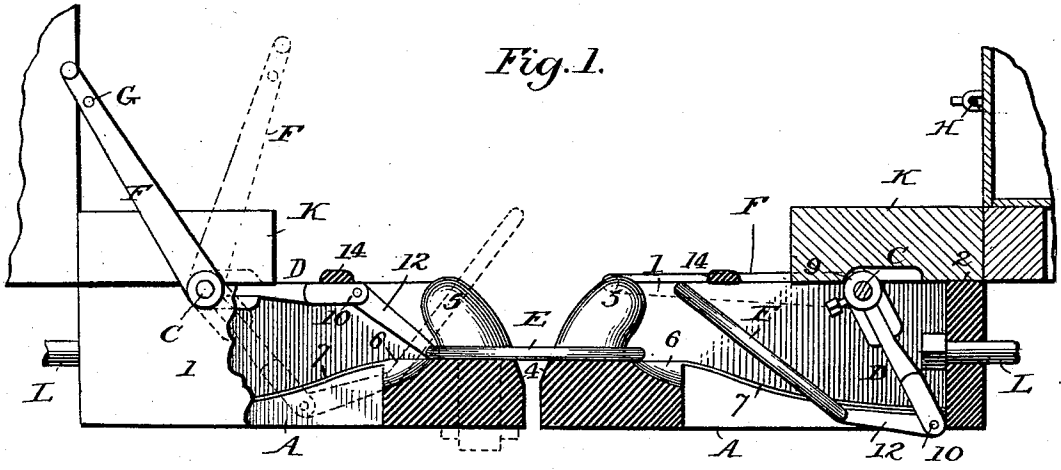


Fig. 2.

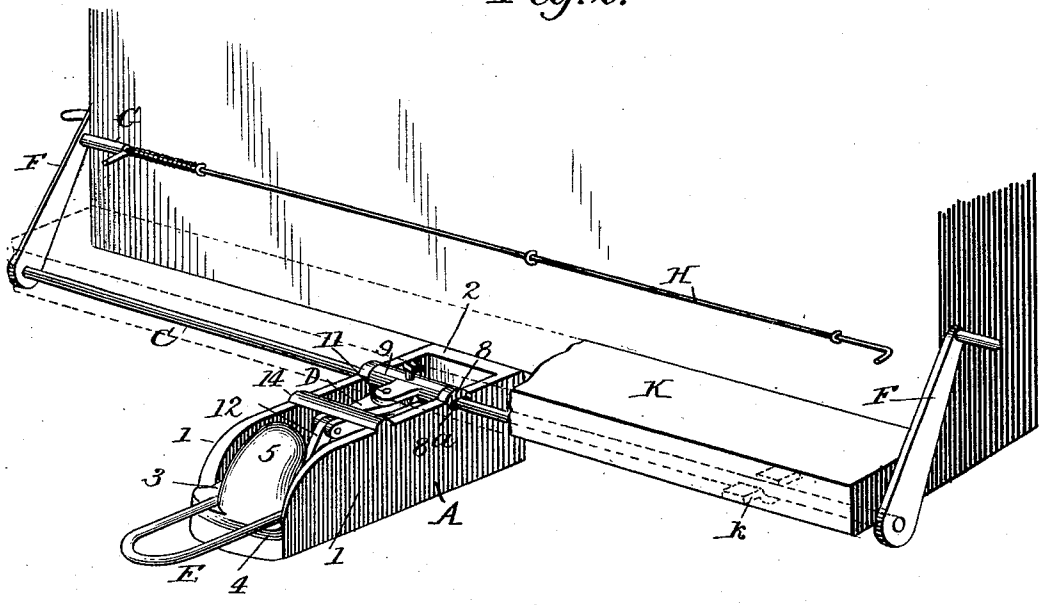
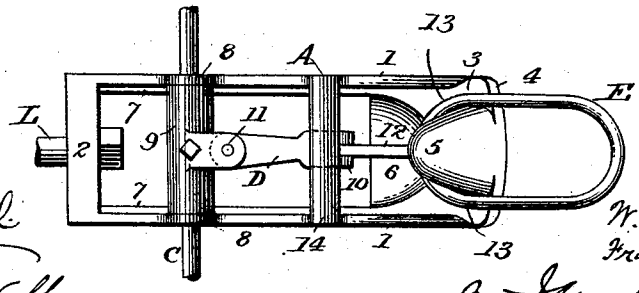


Fig. 3



Witnesses
Jno. J. Hinkel
Will E. Neff

Inventors
W. O. Easton
Frank Dawson
By J. Watson Attorney

UNITED STATES PATENT OFFICE.

WILLIAM O. EASTON AND FRANK DAWSON, OF WILLIAMSPORT, PENNSYLVANIA, ASSIGNORS OF ONE-THIRD TO MELVILLE M. GIRTON AND AMBROSE ELLIS, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 537,022, dated April 9, 1895.

Application filed February 12, 1895. Serial No. 538,109. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM O. EASTON and FRANK DAWSON, citizens of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

Our invention relates to safety car couplings.

The objects of the invention are to provide a coupling which has few and simple parts, is inexpensive to construct, and which may be coupled and uncoupled without the necessity of going between the cars. Our coupling will couple automatically with couplings of the same construction, and may be coupled to any of the other forms of car couplings in common use. It will also uncouple itself should the car turn over.

Referring to the drawings, which form part of this specification, Figure 1 is a side view of a pair of our improved couplings, partly broken away and showing the coupling mechanism in several positions. Fig. 2 is a perspective view of one of the couplings applied to a car, and Fig. 3 is a plan view.

The draw-head of our coupling is attached to a car in the usual manner and is composed of a hollow rectangular body A having parallel side walls 1—1, a rear end piece 2 and a solid front block 3. The block 3 extends slightly beyond the side walls and has an inclined face 4. On the top of the block 3 is an inwardly inclined horn or hook 5 tapering slightly on the front and sides, the front of the horn forming a continuation of the inclined surface 4 of the block. This horn may be cast integral with the draw-head or may be removably secured to the same by a shank and key, as shown in dotted lines, or in any other suitable manner. The side walls 1—1 are formed with rearwardly and downwardly inclined beveled guides 7 on their inner surfaces extending from the top of the front block 3 to the end piece 2. These guides are formed by thickening the lower part of the side walls. The guides may be made straight, but for perfect working we prefer to curve them slightly as shown in the drawings, their outer ends merging into the rounded-out portion 6 of the block 3. On the upper part of the side walls are lugs 8—8, and slots 8^a to receive the rock-shaft C. The rock-shaft C, as shown, is under the platform K of the car and is preferably supported from the platform by bearings *k*. Upon the shaft is mounted the sleeve 9 of a T-shaped arm D, the sleeve being securely fastened to the shaft by set screws. The draw-heads are connected to the cars by bolts L in the usual manner.

The arm D we prefer to form in two parts, 9 and 10, connected by a pivot 11, so that the part 10 may have some side play to permit the link to accommodate itself to short curves. The sleeve 9 extends between the lugs or bearings 8 and prevents end motion of the shaft C. The link E is formed, as shown in the drawings, with a tail piece 12 projecting at an angle to the plane of the link and the outer end 10 of the arm is pivotally connected to this tail piece. Across the draw-head in front of the perforated lugs 8 is located a stop-piece 14 to limit the upward movement of the arm D.

The rock-shaft C extends slightly beyond the side of the car and is provided with lever arms F for turning it to operate the link; and on the end of the car at one side is a spring bolt G for locking the lever when the cars are coupled. A rod H connected to the bolt extends to the opposite side of the car to permit the bolt to be withdrawn from that side.

The operation of the coupling is as follows: When the coupling is not in use, the lever F is thrown forward into a horizontal position and the link is drawn back into the position shown on the right hand side in Fig. 1. When it is desired to couple the cars, the lever is moved backward, the shaft is rocked, and the lower end of the arm D is thrown forward forcing the link E outward and upward on the guides 7, as shown in dotted lines, the link riding on its inner rounded corners 13 until it reaches the rounded-out portion 6, of the block 3, when the forward end of the link will drop over the horn of the opposing draw-head, the arm D continuing upward until it meets the stop bar 14. In this position the rear end of the

link will lie under and against the horn and the link will be extended horizontally. It will be seen that when the cars are thus coupled the pulling strain will come entirely on the link, and that the rest of the link operating mechanism will be free from strain. When the lever F is thrown backward to couple the cars the bolt G is pushed aside by the lever and then springs forward again locking the lever and effectually preventing uncoupling by jars or shocks. In order to uncouple it is only necessary to withdraw the bolt G and throw the lever F forward when the operations are reversed, the link being first lifted over the horn of the opposite draw-head by the downward movement of the arm and then drawn downward and backward between the side walls and out of the way. The lever may be unlocked from the opposite side of the car by pulling on the rod H.

If it is desired to couple automatically, the link on one of the cars is thrown backward and the lever locked. When the cars are brought together, the forward end of the link will strike the inclined surface 4 of the opposing draw-head and glide over the horn, thus effecting the coupling. The slots 8^a in the draw-head permit the link to yield in automatic coupling and they also permit the draw-heads to cushion on the usual buffer springs (not shown).

Should one car be accidentally upset, its link will be tilted sidewise and released from the tapering horn on the opposite draw-head, and prevent upsetting the other car.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a car coupling, the combination with the draw-head having downwardly and rearwardly inclined guides, of a link adapted to travel on said guides and an arm journaled above the guides and connected with the rear end of the link, substantially as described.

2. In a car coupling, the combination with the draw-head having side walls and guides on the inner sides of said walls, of a rockshaft journaled in the walls above the guides, an arm secured to the rockshaft, and a link pivotally connected with the arm, said link having its inner end adapted to travel on the guides, substantially as described.

3. In a car-coupling, the combination with the draw-head having downwardly and rearwardly inclined link guides, a link and an arm adapted to move said link, of a stop piece arranged to limit the movement of the arm when the link is thrown into position for coupling, substantially as described.

4. In a car coupling, the draw-head having a horn and link guides, in combination with the rock shaft, the arm on the shaft, and the link connected to the arm and adapted to ride or travel on the guides, whereby, when the shaft is rocked in one direction the forward end of the link will be projected outwardly and upwardly, and then downwardly to engage the horn or hook of the opposing draw-head and when the shaft is rocked in the opposite direction the movements of the link will be reversed to disengage the opposing horn or hook, substantially as described.

5. The combination with the draw-head having a horn and link guides, the link arranged to travel on the guides and provided with a tail piece projecting rearwardly, of the rockshaft journaled in the upper part of said draw-head, and the arm upon the rock shaft and connected with the tail piece of the link, whereby when the shaft is rocked the link will be operated to couple or uncouple, substantially as described.

6. In a car coupling, the combination with the draw-head having a horn and incline guides, of a transverse shaft journaled in the draw-head and extending to the sides of the car, an arm on the shaft, a link connected to the arm and adapted to travel on the guides, operating levers upon the ends of the shaft and means for locking the shaft when the link is in position for coupling, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM O. EASTON.
FRANK DAWSON.

Witnesses:
SOLOMON MEYER,
R. F. ALLEN.