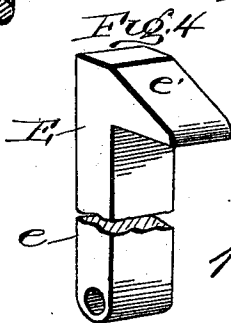
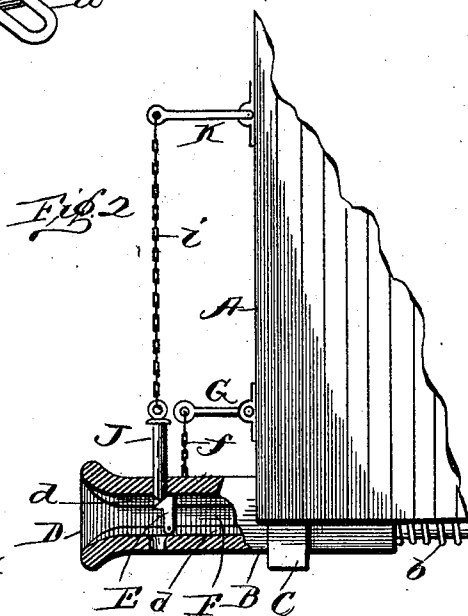
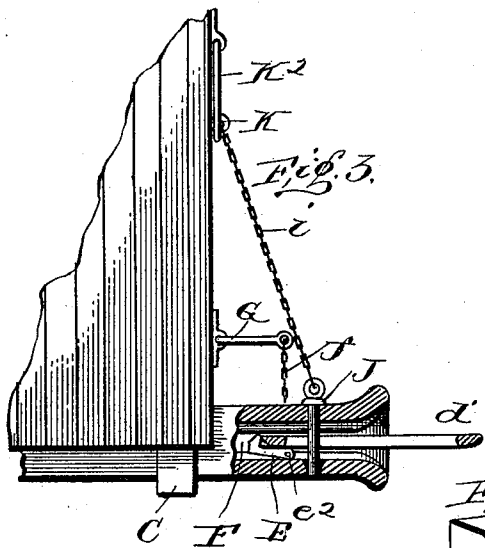
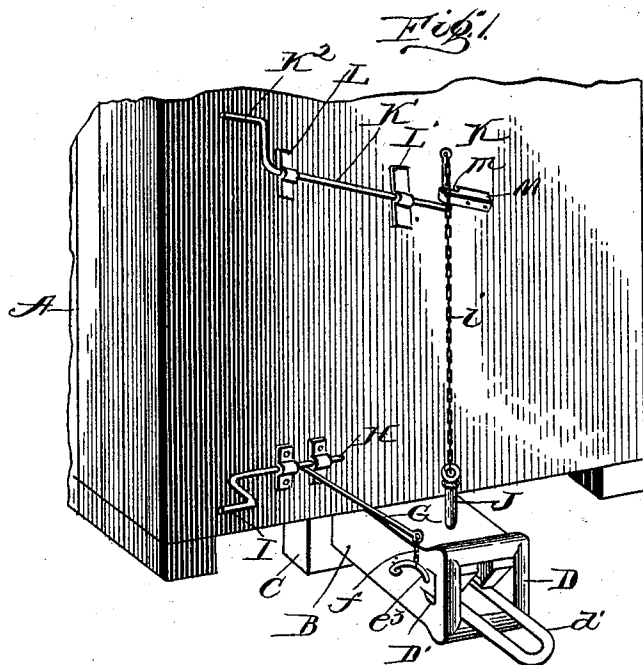


(No Model.)

W. E. SAUERMAN.
CAR COUPLING.

No. 581,308.

Patented Apr. 27, 1897.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM ERNEST SAUERMAN, OF OLDS, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 581,308, dated April 27, 1897.

Application filed August 27, 1896. Serial No. 604,064. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ERNEST SAUERMAN, a citizen of the United States, residing at Olds, in the county of Henry and State of Iowa, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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.

My invention relates to an improvement in automatic car-couplers, and particularly to that class of couplers in which the link and pin are used.

The objects of my invention are the provision of a car-coupler of very simple and inexpensive construction which will operate to eject the link from the draw-head in uncoupling and in which the lever for raising the pin out of engagement with the link will be locked automatically to hold said pin elevated. I accomplish these objects by the mechanism illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a perspective view. Fig. 2 is a vertical longitudinal section with pin and ejector elevated. Fig. 3 is a similar view showing pin engaged with link, and Fig. 4 is a detail view of the ejector.

In the drawings, A indicates one end of a car; B, the draw-bar of the ordinary pattern sliding between the parallel bars C. On the end of the draw-bar is sleeved a spring *b* to act as cushion for the same. The draw-head D is formed with a bell-shaped mouth and is provided with longitudinal grooves *d d* at its opposite sides, in which the link *d'* plays.

An ejector E, comprising an arm *e*, having a head *e'*, is fixed upon a shaft *e²*, passing transversely through the draw-head. Said shaft, terminating in a curved outer end *e³*, is located within a central vertical longitudinal chamber F, formed partly by oppositely-located grooves in the top and bottom of the draw-head. Attached to the center of the curved end of the shaft is a short chain *f*, connected at the other end to a lever G, the upper end of which is fixed upon a horizontal shaft H, having a crank-handle I at its end, whereby it may be operated to elevate the

ejector from a horizontal to an approximately vertical position.

The usual vertical perforations for the passage of the pin J are provided, the lower one, however, having a bell-shaped mouth to insure the entrance of the pin therein when the same descends in other than a true horizontal line. Attached to the head of the pin is a short chain *j*, its other end connected to a lever K at the end of a transverse rod K', whose other end terminates in a crank-arm K². This rod is loosely journaled in bearings L L', affixed to the end of the car, through which bearings it may slide longitudinally, the bearing L' being slightly below the plane of the bearing L, so as to provide an incline.

A lock M, preferably consisting of a block having a lip *m*, is secured to the end of the car in close proximity to the bearing L'.

When it is desired to couple the cars, the lever G is thrown forward, which brings the curved end *e³* of the shaft *e²* in contact with the inner side of the shoulder D' of the draw-head D. The ejector E is thereby caused to assume a vertical position, with its head *e'* immediately under the perforation in the upper part of the draw-head, through which the pin passes. The lever K is withdrawn from beneath the lip *m* of the lock M, and the pin J is thereby lowered and rests upon and is supported by the head of the ejector. The link is inserted into the draw-head by hand until it strikes the ejector and throws the latter down into horizontal position, thereby disengaging the head of said ejector from the pin and permitting the latter to fall by gravity into position to lock the link.

The parts of the companion coupler are operated as above described to support the pin entirely by the ejector. Now it will be obvious that when the cars are brought together the locking of the link within the companion draw-head will be accomplished automatically, thereby obviating the necessity of entrance between the cars in order to couple them. Preferably the ends of the link are rounded and its under side beveled to insure its proper entrance within the draw-head when it approaches the same at an angle.

To uncouple, the pin is withdrawn by raising the lever K, which, by reason of the angle at which it rests in its bearings, will slide

into engagement with the lock M, thus holding the pin secure and preventing it from falling into engagement with the link. After withdrawing the pin, if it is desired to eject the link, it is only necessary to throw the lever G forward, when the ejector will be raised into a vertical position, striking the link with such force as to eject it from the draw-head.

It is apparent from the description that by the use of my coupler the necessity for going between the cars to couple or uncouple the same is avoided and that by a very slight change in the mechanism the operation may be performed from the top of the car as well as from the side of the same.

I am aware that many minor changes in the construction and arrangement of the several parts can be made without departing from the principle of my invention.

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

1. In a car-coupler, the combination, with the draw-head, an arm therein, and means for causing said arm to assume a vertical position, of a pin, a lever connected with said pin at one end, a rod extending from the other end of said lever, bearings arranged at an

inclination with each other within which said rod is loosely journaled, and a lock adjacent to said lever, substantially as described and for the purpose specified.

2. In a car-coupler, the combination, with the draw-head, of an arm journaled therein, a pin arranged to be supported by said arm when the latter is vertical, and the lever connected to the upper end of said pin for raising the same, and the lock engaging said lever and holding said pin elevated, substantially as described and for the purpose specified.

3. In a car-coupler, the combination, with the draw-head, of the pin for locking the link therein, a lever connected with said pin at one end, a rod extending from the other end of said lever, bearings arranged at an inclination with each other within which said rod is loosely journaled, and a lock adjacent to said lever substantially as described and for the purpose specified.

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

WILLIAM ERNEST SAUERMAN.

Witnesses:

NELS PETERSEN,
SAMUEL TAYLOR.