(No Model.)

T. J. & J. BAYLOR.

CAR COUPLING.

No. 472,328. Patented Apr. 5, 1892.

Fig. 1

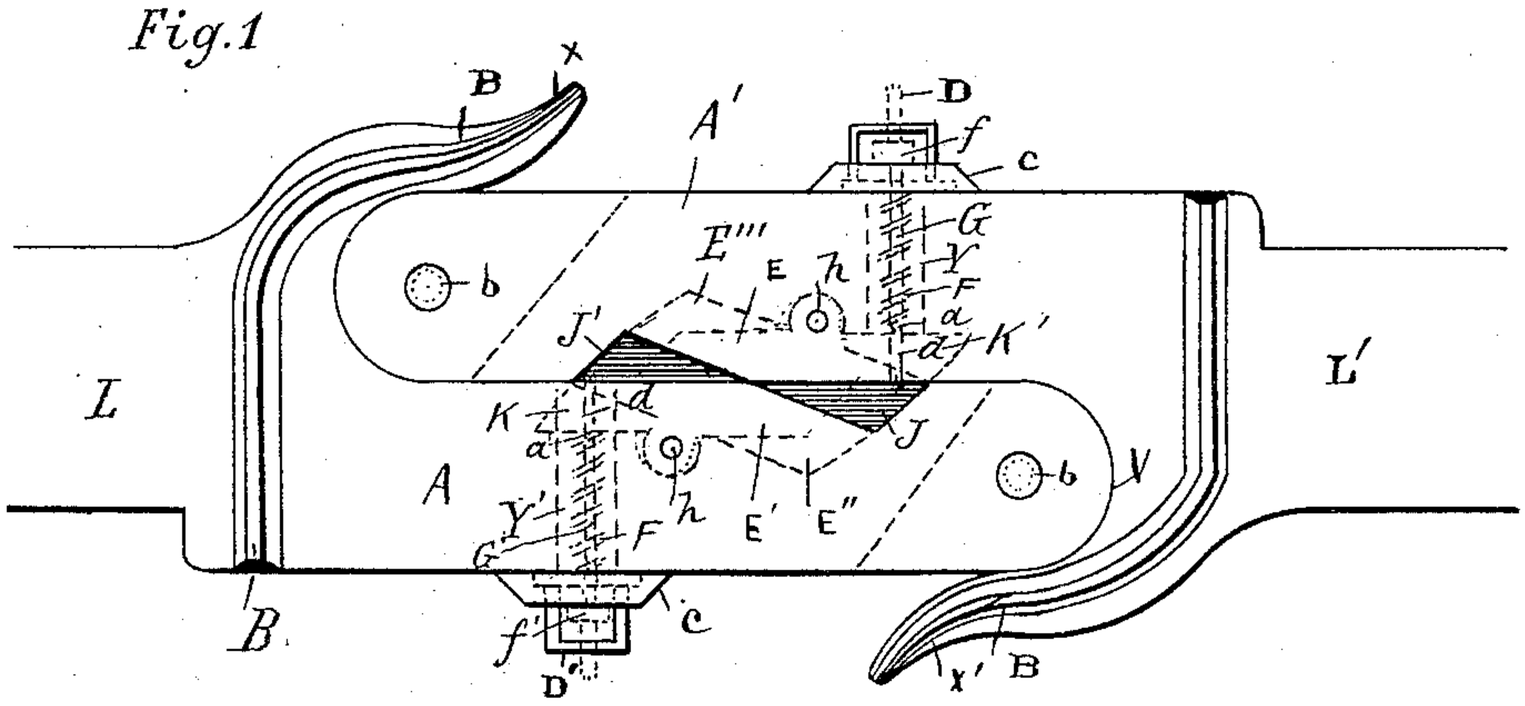


Fig. 2

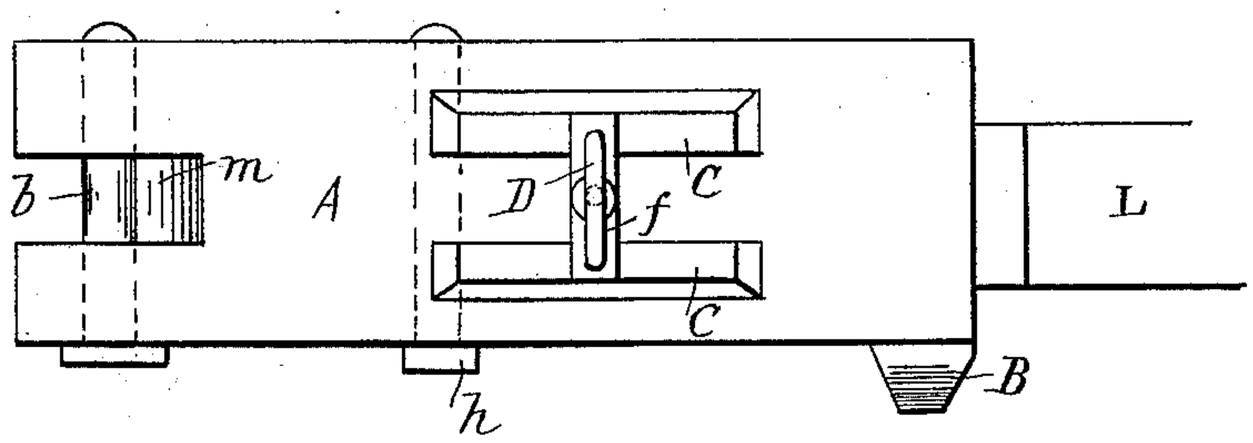


Fig. 3

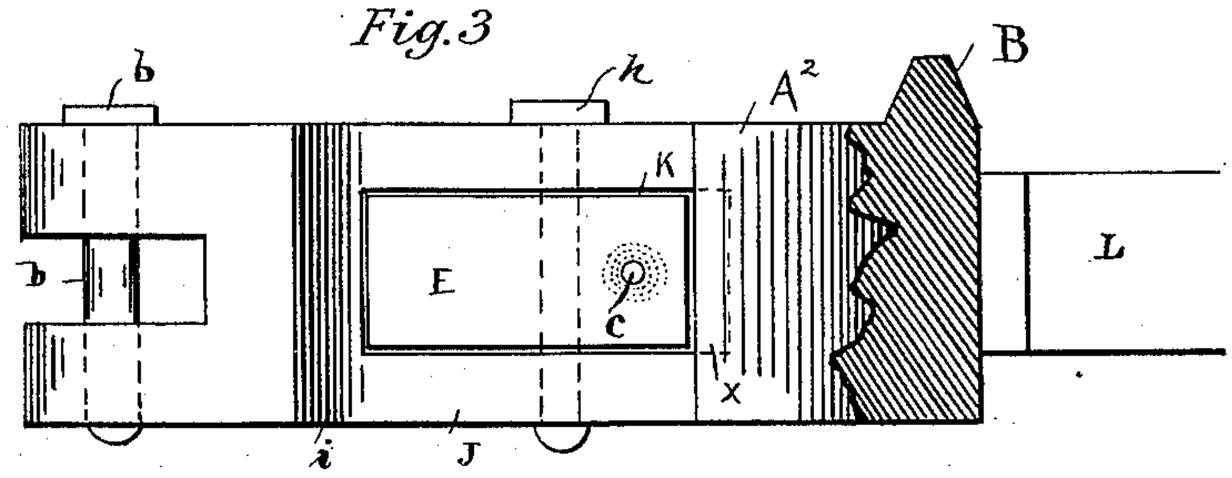


Fig. 4

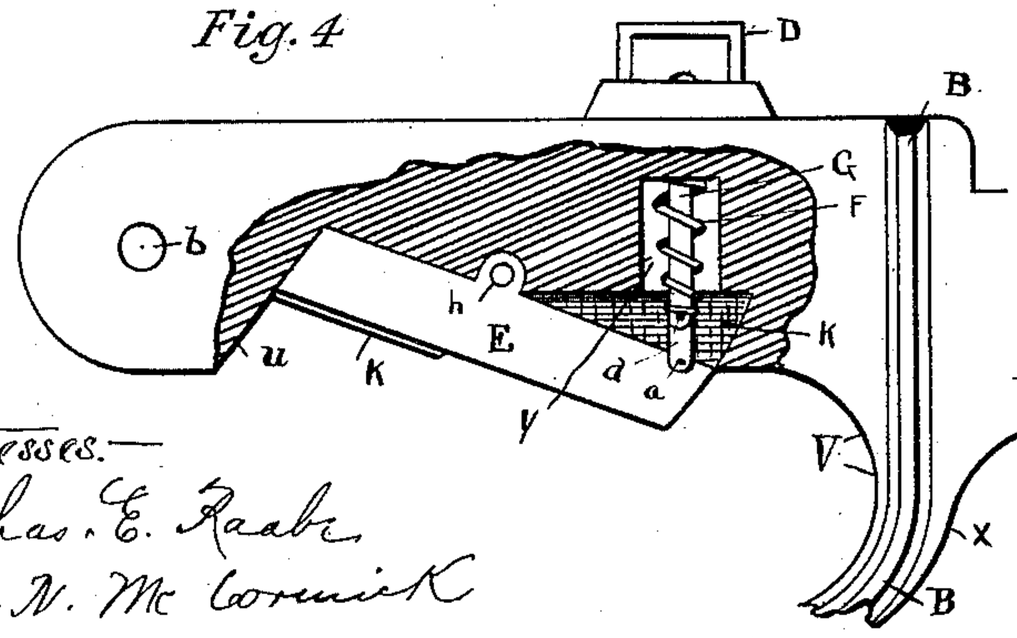
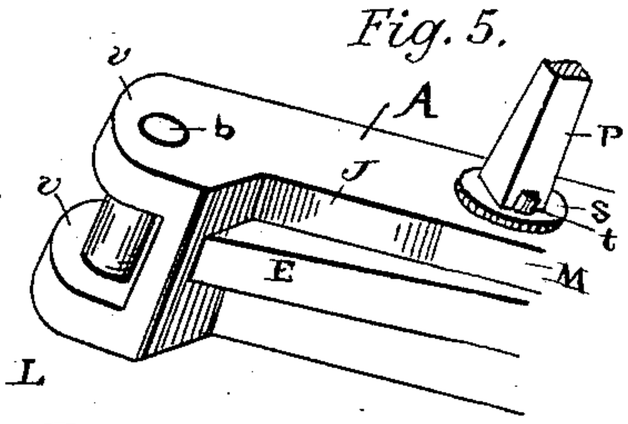


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS J. BAYLOR AND JAMES BAYLOR, OF CANTON, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 472,328, dated April 5, 1892.

Application filed October 2, 1890. Serial No. 366,911. (No model.)

To all whom it may concern:

Be it known that we, THOMAS J. BAYLOR and JAMES BAYLOR, citizens of the United States, residing at Canton, in the county of Fulton and State of Illinois, have invented certain new and useful Improvements in Car-Couplers; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to certain new and useful improvements in car-couplers by means of which a car-coupler is provided simple in construction, durable, and effective in its operation.

More particularly our invention relates to that class of car-couplers which are designed to operate without the use of link or pin, but are so constructed that a link-and-pin coupling may be used in connection therewith.

That our invention may be more fully understood, reference is had to the accompanying drawings, in which—

Figure 1 is a plan view of our invention, showing its detailed construction. Fig. 2 is a side view of one section of the coupling from the outside. Fig. 3 is an inside view of one section of the coupling. Fig. 4 is a plan view of one of the sections of the coupling, showing the upper face broken away. Fig. 5 is a perspective view showing a section of the coupling, showing a modified construction of a certain portion of the coupling.

In Fig. 1, A A′, with the hooks X X′, together constitute the main frame-work of the coupling combined, the sections A A′ depending upon one another for successful operation, together with the hooks X X′. B B′ are raised portions at the respective bases of the sections or draw-bars A A′. L L′ are the backwardly-tending portions of the draw-bars which connect with the cars. E E′ are pivoted levers or catches, pivoted, as at *h*, and carried in recesses in the draw-bars A A′. E′ E′ represent the pivoted levers in another position. Y Y′ are circular longitudinal recesses extending backward from out of the recesses which carry the pivoted levers E E′ and in which are carried the rods G G′, which said rods are connected with the levers E E′, as shown, and continue outward through perforations at the sides of the draw-bars and is pivoted onto the pieces *f f′*, which said pieces *f f′* form the bases of the handle D. F F′ are spiral springs carried around and inclosing the body of the rods G G′. J J′ are small sections cut out from the inner edges of the draw-heads A A′ and extending down through the lower faces of the said draw-bars. C C′ are raised portions on the sides of the draw-heads. K K′ indicate the recesses in which are carried and operated the pivoted levers E E′. B B′ are bolts which depend through perforations in the draw-bars.

In Fig. 2, A represents a draw-bar. L is a portion of the draw-bar continuing backward and connecting finally with the car. B is a depending flange or raised portion. *h* is a pin depending through the draw-bar and purposed to act as a pivot for the lever E. (Shown in Fig. 3.) C C are raised portions on the side of the draw-bar. *f* is the base to which the handle or hand-hold D is attached and to which is also pivoted the rod G. (Shown in Fig. 1.) *m* is a transverse opening cut through the middle portion of the forward part of the draw-bar and purposed to receive a link. *v v* are ears or extensions from the main portion of the draw-bar provided with perforations through which depends the pin *b*.

In Fig. 3 is shown the inner face of the draw-bar A′ provided with the central recess *k*, in which is carried the lever E, pivoted upon the pin *h*. J J are depressions in the face of the draw-bar, which form acute angles, as at *i*. *c* is a small pin fixed to the lever E, and G is a rod attached to the said pin at the back part of the lever E. F is a spring spirally twisted around the rod G, and *y* indicates the cavity back of the lever E, in which are carried the rod G and the spring F. *v v* are ears or extensions from the main frame of the draw-bar, and *b* is a pin depending through the ears *v v*. B is a raised portion on the draw-bar, and L is an extension back from the main frame of the draw-bar.

In Fig. 4, A is the draw-bar. X is a hook extending from the main frame of the draw-bar, which forms a loop or pocket for another draw-bar, the said pocket being designated by V. B is a raised portion on the upper face of the draw-bar, and L is an extension back from the main frame of the draw-bar and

connects with the car. *k* indicates a cavity cut in the inner face of the draw-bar, in which is carried and operated the pivoted lever E, pivoted upon the pin *h* and to one of the arms of the lever E is attached the rod G by the means shown by *a d* and around which is spirally twisted the spring F, all being carried in the opening *y*, which opens into the cavity K. C is a raised portion, and D is a hand-hold which is connected by means of a frame-piece with the rod G. *b* is a pin depending through a perforation in the ear or extension *v*.

In Fig. 5, A is a draw-bar, and J J and *i i* indicate the sides of a depression or section cut out of the inner face of the main frame. E is a lever keyed upon the pin *t*, which said pin is journaled in the upper and lower faces of the draw-bar. P is the squared end of a rod or shaft fitting in a socket in the pin *t*. *b* is a pin depending through perforations in extensions from the forward part of the draw-bar.

In operation it will be seen that the draw-bars, being properly adjusted upon the cars which are desired to be coupled, they are run together, so that the inner faces contact with each other, and the said faces are held firmly together when the coupling is made by means of the forward ends of the draw-bars fitting closely in the pockets formed by the hooks X X′ and the back part of the draw-bar, thus rendering it impossible for the faces of the draw-bars to become separated until the coupling is detached. The normal position of the pivoted lever E is best shown in Fig. 4, and this is its position before the contact of surfaces in the act of coupling and after the coupling is completed. When in coupling the inner faces of the draw-bars contact, the pivoted levers are forced back into their recesses and occupy relatively the positions shown by E E′; but as the draw-bars pass forward until their forward ends are carried in the pockets in the back part of the draw-bars, the recesses in which are carried the said levers are so brought together as to form one cavity, when it will be seen that the levers will be relieved from contact with the inner faces of the draw-bars and will drop immediately into the position shown by E″ E‴, and in which said position the coupling is formed with the ends of the levers bearing against the sides of the cavities when the forward pull is made, thus making a solid bearing and relieving the pins *h h* from excessive strain. The coupling being thus completed automatically will hold firmly without the possibility of detachment until some external power is applied, and when it is desired to uncouple the cars it will be seen that by grasping the hand-hold D′ and drawing the same outward it will be seen that because of its connection with the lever E″ by the rod G′ that the said lever E″ will be drawn backward until it is in the position shown by E′, and also by E, and when so drawn backward the spring F′ is compressed and would readily spring backward when the hand-hold D′ was released. The lever being so drawn it is seen that the one arm being so drawn backward throws the other arm forward, and the forward arm being in contact with the backward end of the opposite lever in the other draw-bar is by the action of this lever forced backward into its recess until the faces of the said levers aligned with the inner faces of the draw-bars when the uncoupling process is completed and the inner faces of the draw-bars present smooth surfaces and are allowed to move freely upon each other, and when it is desired to secure the levers in the detached position or in such a position that an automatic coupling could not be made it is accomplished by simply turning the hand-hold D′ after having been drawn out into the position, as shown by D D′ in dotted lines in Fig. 1, and as shown in Fig. 2, with the base *f f′* resting upon the raised portion C.

The recesses J J′ are only useful when it occurs that the cars desired to be coupled have their draw-bars of unequal height from the ground, and in such case it will be seen that the levers will engage the opposite draw-bars in the recesses J J′ and render the coupling as secure as in the case where they are of equal height, the only disadvantage being that one lever will not operate the other and thus uncouple the cars by the application of power at one side only, but power must be applied at either side. The levers and the openings J J′ in the faces of the draw-bars are so adjusted to align that they move up and down upon their opposite surfaces freely and without danger of becoming detached.

The transverse recesses and the pin *b*, as shown in Figs. 2 and 3, are useful when it is desired or it is necessary to couple with a car having a link and pin, and the manner of so coupling is obvious and unnecessary to explain in detail further than to say that the link is carried in the transverse opening *m* (shown in Fig. 2) with the pin *b* depending through it.

It will be seen from the drawings and description given above that the detachment must be made by a person standing on the ground; but by slightly varying the construction or, rather, by simply adding a depending rod or shaft extending to the top of the car and providing the same at its lower portion with a squared end, as shown in Fig. 5, which fits in a socket in the pin *t*, to which the lever E is keyed, the same may be operated from the top of the car, if desired. It will also be seen that by means of suitable lever connection with the handle D or the pin G the detachment of the coupling can be made and the whole device operated from the sides of the car, thus rendering it unnecessary for a person to go between the cars.

In the operation of the levers E′ E″, &c., it will be seen that even if the cars may be of

different heights one lever will operate the other as long as any portion of their surfaces contact with each other.

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

1. The combination of two draw-heads, each comprising two jaws, each of which has in its inner side a cavity or recess, one end of which forms a shoulder elliptical in shape, and a dog secured in each of the said recesses or cavities in said jaws with one end of the respective dogs elliptical in form and adapted to engage with the shoulders having the corresponding elliptical form upon the corresponding jaws of the opposite draw-heads when the two draw-heads are coupled, with the rod G, attached to the dog and carried backward through the longitudinal opening Y, and a suitable perforation through the outer face of the draw-bar, the hand-hold D, pivoted at its base to the rod G, the spring F, with the draw-bars provided with the hooks B to form the pocket V and having the ears *v* with the transverse opening *m*, and the pin *b*, depending through the perforations and with the raised portion C, all substantially as described and set forth.

2. The combination of two draw-heads, each comprising two jaws, each of which has in its inner side a cavity or recess, one end of which forms a shoulder elliptical in shape, and a dog secured in each of the said recesses or cavities in said jaws, with one end of the respective dogs elliptical in form and adapted to engage with the shoulders having the corresponding elliptical form upon the corresponding jaws of the opposite draw-heads when the two draw-heads are coupled, with the rod G, attached to the dog and carried backward through the longitudinal opening Y, and a suitable perforation through the outer face of the draw-bars and suitable operating means, all substantially as described and set forth.

3. In a car-coupling, the draw-bar A, provided with the hook B to form the pocket V and having the ears *v* with the transverse opening *m* and the pin *b*, depending through perforations in the said ears, and being further provided with the recess *k*, the lever E, pivoted as at *h*, carried in the opening K, the rod G, attached to the lever E and carried backward through the circular longitudinal opening Y, and a suitable perforation through the outer face of the draw-bar, the hand-hold D, pivoted at its base to the rod G, the spiral spring F, the raised portion C, all in combination, as described and set forth.

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

THOMAS J. BAYLOR.
JAMES BAYLOR.

Witnesses:
CHAS. H. BAYLOR,
R. N. MCCORMICK.