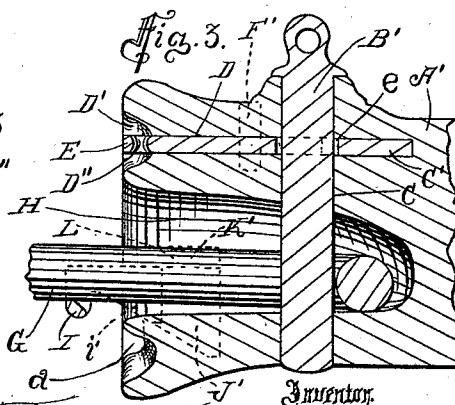
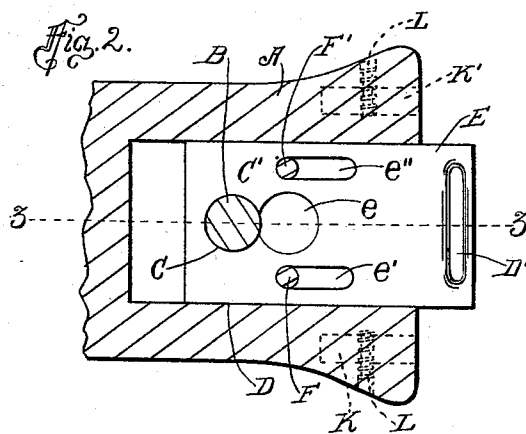
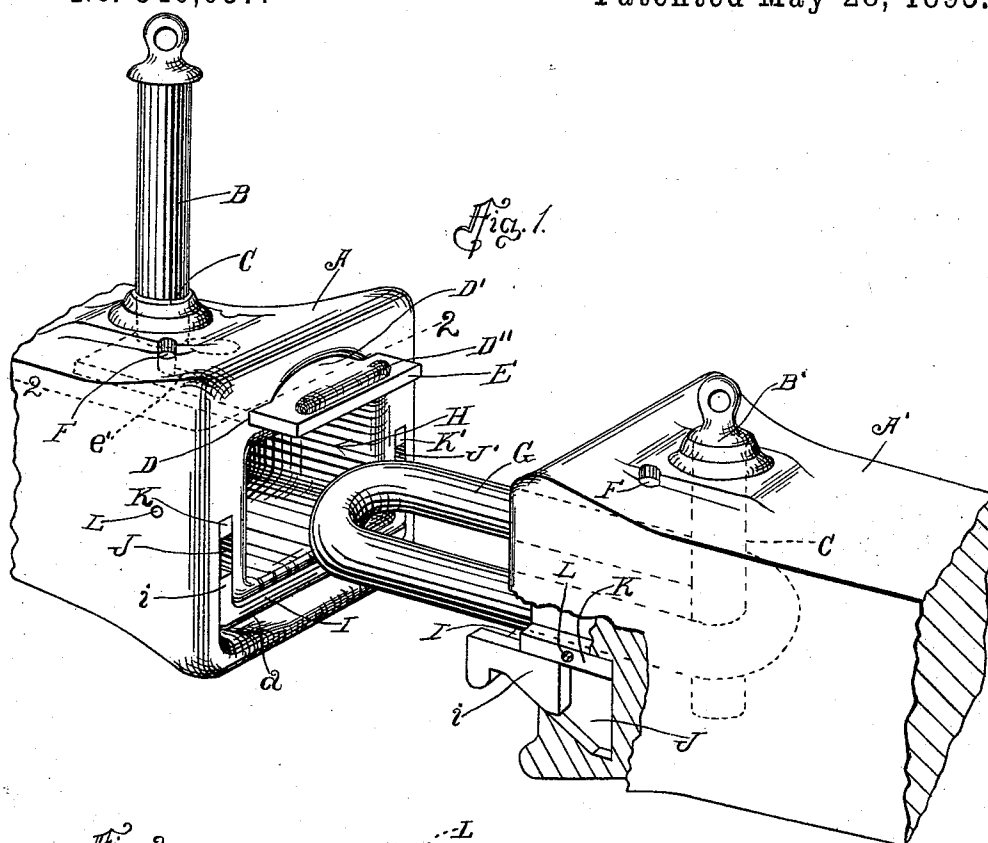


(No Model.)

T. F. HUDSON.
CAR COUPLING.

No. 540,057.

Patented May 28, 1895.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS F. HUDSON, OF PASADENA, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO JAMES H. DOVEY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 540,057, dated May 28, 1895.

Application filed June 8, 1894. Serial No. 513,866. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. HUDSON, a subject of the Queen of Great Britain, residing at Pasadena, in the county of Los Angeles and State of California, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates particularly to those couplers having pin and link supports arranged to project beyond the face of the drawhead to support the pin or link, and to be chambered in the drawhead when the coupling is effected. With all such devices heretofore known to me, the pin supports have been so arranged as to easily become clogged by the entrance of dirt and cinders into the guideways in which the support slides; or such guideways have also been so arranged as to allow the entrance of snow and rain or sleet, which would prevent the operation of the device in cold weather; also in such devices the link support has been arranged to slide in inclined guideways in order to cause the support to ride upward as it is withdrawn from the drawhead so as to thus be brought into proper position for supporting the link. By this arrangement the support is caused to move at an angle with the line of movement of the drawhead when brought together in the act of coupling and the supports are liable to become bound and cramped in the guideways, so that they may become broken or rendered inoperative.

The object of my invention is to produce a coupler of this class which will have its pin support guideway arranged in such a manner as to afford no lodgment for dirt, cinders, snow or ice therein, and will have its pin support devoid of any upward projection to catch such matter as would hinder the free operation of the support.

A further object of my invention is to produce a coupler of this class which will have its link support so arranged as to ride upward as it is withdrawn from the drawhead, but will be free to move back into the drawhead in line with the line of motion of the drawhead.

The accompanying drawings illustrate my invention.

Figure 1 is a fragmental perspective view showing two draw-heads in the act of coupling. In one draw-head (the one at the right hand) the link is supported in its coupling position and in the other draw-head the pin is supported in its coupling position. Fig. 2 is a sectional plan view on line indicated by 2 2, Fig. 1. Fig. 3 is a longitudinal sectional view on line indicated by 3 3, Fig. 2.

In the drawings A and A' respectively represent two drawheads which are in the act of coupling, and B and B' represent the pins thereof. Since these drawheads are identical in construction, a description of one will suffice for a description of both. Each draw head is provided with a vertical pin hole C, and with a horizontally arranged slot D, intercepting the pin hole above the throat of the draw head. A pin supporting slide E is arranged to reciprocate in such slot, and is provided with an opening *e* adapted to register with the vertical pin hole C when the slide is in its normal position as shown in Fig. 3, and has its body C' adapted to intercept the pin hole when the slide is withdrawn from its normal position as shown in Fig. 2, and also in the draw head A. Shown at the left of Fig. 1 *e' e''* are guide slots provided in the slide E, and F and F' are pins arranged in the draw head and passing through the slots in the slide in order to prevent the slide from being withdrawn too far. The drawhead is cut away to form a hand receiving recess D' at the mouth of the slot D, and a suitable hand hole D'' is provided in the end of the slide whereby the brakeman is enabled to readily grasp the slide to withdraw it from the drawhead, to cause the body thereof to intercept the pin hole and thus support the pin in the position shown in the draw head A in Fig. 1.

It will be observed that the slot D is open only toward the front of the draw head and that the slide E is perfectly plain and smooth upon its upper surface, and is chambered entirely within the slot so that if by any means any dirt should fall upon the slide while it is withdrawn from the slot, the act of pushing the slide back into the slot removes the dirt from the slide and it falls to the ground without

being carried into the slot. By cutting away the draw head to form the hand receiving recess D' I am enabled to entirely avoid any projection upon the slide and still to conveniently grasp the slide to withdraw it from the draw head.

In order to provide suitable means for holding the link G in position so that it will enter the throat H of the opposing draw head when it is desired to couple the cars together, I provide a suitable link support, which consists of a body I which is provided at each end with a tongue *i*, *i'*, which tongues are arranged to reciprocate in suitable guide ways J and J' which are provided in the draw head, one upon each side of and below the throat thereof. These guide ways are inclined downward from the face of the draw head as shown by breaking away a portion of the draw head A', in Fig. 1, and the tongues *i* and *i'* are wedge shape, their inner ends being the largest, and their lower faces are inclined upward from the rear toward the front, so that when the tongues are reciprocated to partially withdraw them from the slots, the inclined lower faces of the tongues riding upon the inclined faces of the lower walls of the guide ways will cause the body I of the link support to rise as the tongues are withdrawn, thus bringing such support across the throat of the draw head and in front thereof, and causing it to engage with the link to hold it elevated so that it will properly enter the throat H of the opposing draw head. In order to prevent the tongues from being entirely withdrawn from the slots, a choke block K is arranged to be inserted into the guide way J after the wedge shaped tongue *i* is inserted thereinto, in order that when the tongue is partially withdrawn, the top face of such tongue will engage the block and cause the tongue to bind between such block and the lower wall of the guide way, thus to prevent the tongue from being withdrawn entirely from the slot.

L represents screws arranged to engage the blocks to retain them in the guide ways.

The front of the draw head is provided with a recess *a* in which the body of the link support I is chambered when the coupling is effected, thereby preventing the impact of the two draw heads from breaking the support.

It will be observed that by having the lower walls only of the guide ways J J' inclined and by having the top of the wall straight, that therefore when the tongues *i i'* are forced into the slots by the impact of the draw head, they are free to move toward the rear in a horizontal plane and are therefore not liable to become cramped or bound in the slots so as to bend or break them as is the case where the slots are simply holes bored into the draw head at an angle with the horizon and the tongues fit closely therein. By this construction when the draw heads are brought together the draw heads move in a plane parallel with the horizon, while the tongues of the link sup-

port move in a plane at an angle with the horizon and consequently there is much friction and liability of the tongues being bound in the slots. Furthermore, by the use of the choke blocks K K' I am enabled to retain the tongues in position in the slot, and to readily remove them therefrom in case the pin support should become broken or in any wise inoperative.

In practice, when it is desired to uncouple the cars, the brakeman goes between the cars and uncouples them in the customary manner. When it is desired to couple the cars, the brakeman goes to the car which is provided with the link G and raising the link with one hand, grasps the body I of the link support with the other hand, and draws it outward. The recess *a* is enlarged at the center of the draw head in order to allow the brakeman to conveniently grasp the body I. In drawing the support outward, the inclination of the guide ways and of the lower face of the tongues *i* and *i'* causes the body I to rise as it is drawn from the face of the draw head, and brings such body upward beneath the link G so that the link is thereby supported at a distance from the face of the draw head. The brakeman then goes to the car having the draw head A, and with one hand raises the pin B upward until it is raised above the slide E. Then with his other hand he grasps the slide E and draws it outward until the body of the slide intercepts the pin hole C and the pin is supported by the slide. Then the cars are brought together, the link support I holding the link G elevated so that it will enter the throat H of the draw head A, and the pin support E holding the pin B elevated above such throat, and as the draw heads are forced together, the slide E is forced inward by engaging with the face of the draw head A', thus bringing the opening *e* into line to register with the pin hole C, and the pin B drops through the pin hole and through the link, thus coupling the cars together. At the same instant, the link support I engages with the face of the draw head A and is forced into the recess *a*, thus releasing the link G. The link support chambers in the recess *a* so it is not injured by the impact of the draw heads. By means of this arrangement the brakeman is only required to go between the cars while they are standing still, and the act of coupling is entirely automatic.

My invention may be readily applied with the ordinary draw heads, and when the cars are coupled together, the couplers will be indistinguishable from the ordinary couplers, and in practical use will possess all the advantages of the ordinary link and pin coupling, which makes such couplings favorites with engineers or those handling heavy trains which require slack in order to start them.

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

In a car coupling, the combination of the draw head provided with the slot having its lower wall inclined downward from the face of the draw head; the link support provided with the tongue arranged to reciprocate in the slot and having its lower edge sloping upward from the inner end of the tongue outward, the body of the support being arranged to project from the face of the draw head and to engage and support the link when the tongue is partially withdrawn from the slot, and the choke block removably inserted in the slot to retain the tongue in position therein.

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Witnesses:

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