

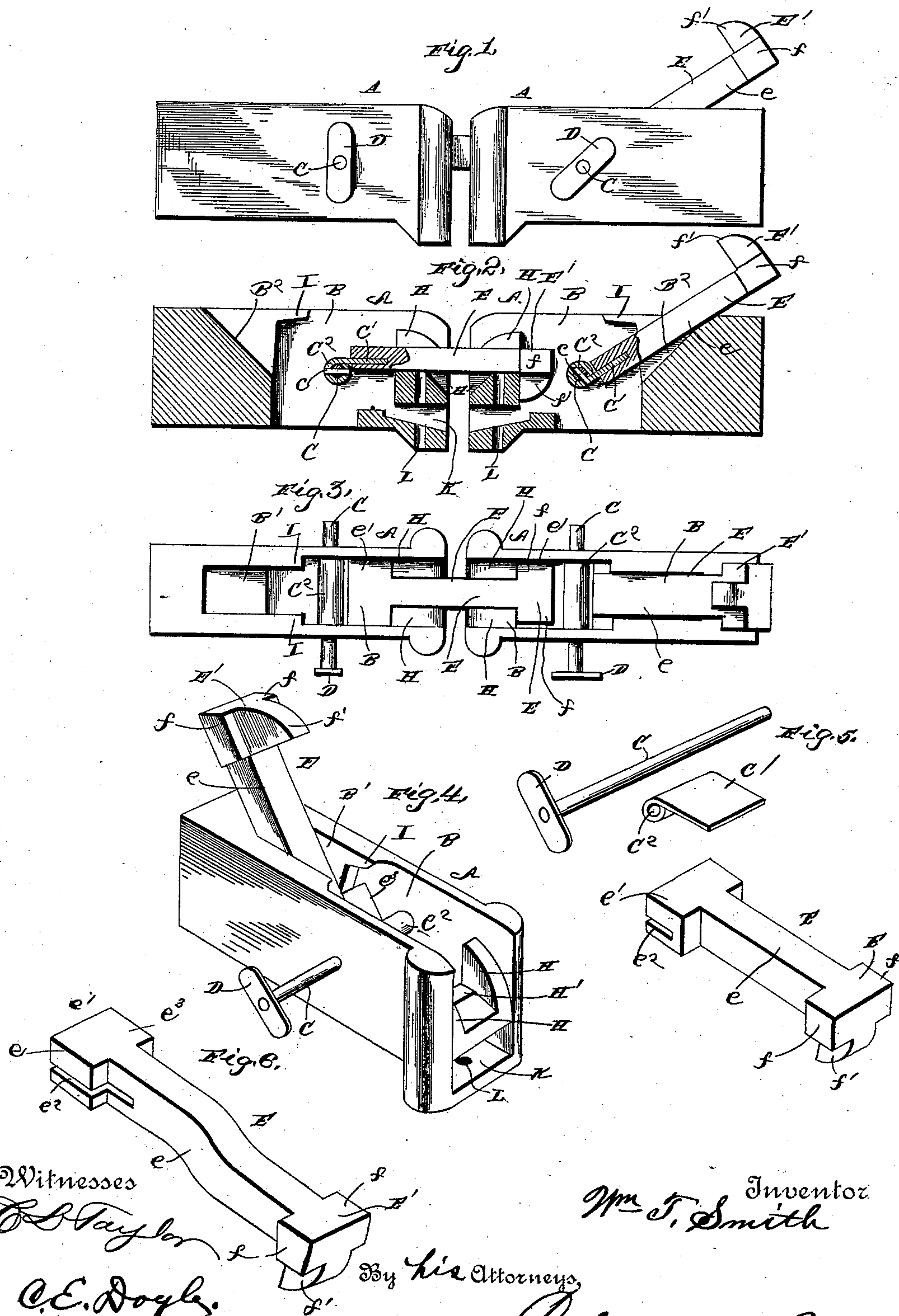
(No Model.)

W. T. SMITH.

CAR COUPLING.

No. 364,683.

Patented June 14, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM TECUMSEH SMITH, OF BELLEFONTAINE, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 364,683, dated June 14, 1887.

Application filed April 18, 1887. Serial No. 235,249. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TECUMSEH SMITH, a citizen of the United States, residing at Bellefontaine, in the county of Logan and State of Ohio, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to improvements in car-couplings; and it consists in a certain novel construction and arrangement of parts for service, fully set forth hereinafter, and specifically pointed out in the claims.

The object of the invention is to provide a coupling which will not use the link and pin, as the same are very liable to get lost, (being loose,) and therefore are expensive when great numbers are used.

A further object is to provide a coupling which is simpler in construction and operation than those heretofore invented, and in which the coupling is certain. I attain these objects in the device illustrated in the accompanying drawings, in which—

Figure 1 is a side view of two couplers connected. Fig. 2 is a longitudinal section of the same. Fig. 3 is a plan view thereof. Fig. 4 is a perspective view of one of the couplers with the link thrown back. Fig. 5 is a detail view of the link, operating-rod, and plate detached. Fig. 6 is a detail view of a modified form of link.

Referring by letter to the drawings, A designates the draw-head, having the recess B therein, the rear end of the said recess being reduced, as at B', and inclined rearwardly, as seen at B², for a purpose hereinafter explained.

C represents a transverse rod journaled in the sides of the said draw-head, having a lever or cross-head, D, on the outer end, and C' is a plate having a barrel, C², on one edge, through which passes the said rod C, and c is a pin to pass through aligned openings in the said rod and barrel to secure the plate rigidly to the said rod within the recess B.

E designates the coupling-link, comprising the shaft or shank e, the enlarged rear end, e', having a slot, e², therein to receive the plate C', and the head E', having the lateral ears ff and the downwardly-extending detent f', the front side of the said head being beveled or rounded, as shown. When the link is in a

horizontal position, the shaft thereof is received between the jaws H H in the front end of the draw-head, and thus held in position, the front side of the said jaws being beveled or rounded, as also is the supporting ledge or rest H', between the jaws, which ledge is designed as a rest for the shank of the link, to hold it in a horizontal position. The reverse sides of the said jaws and the rest or ledge are abrupt, for a purpose to be explained. It will now be seen that as the link is pivoted between the walls of the draw-head at the rear end and projected horizontally forward, when the front rounded head thereof comes in contact with the front rounded sides of the ledge H' and the jaws H of an opposing draw-head the said link will rise at the forward end, and after passing over the said jaws will drop, the detent f' engaging behind the ledge H' and the ears ff engaging behind the jaws H H. As the front end or head of the link is very heavy, it will be seen that the said engagement will be very quickly and surely made, and when made there is no chance of slipping, the lever or cross-head D being the means whereby the rod is rotated to raise the link out of engagement. It will be seen that when engaged in the coupling position the plate C is horizontal, and as the rear end of the link is not fastened thereto, when a strain is brought upon the link the shoulders e³ at the front end of the enlarged portion e' bear against the rear sides of the jaws H and receive all the strain, and when cars are passing a curve the links accommodate themselves thereto, as they have sufficient lateral play to be drawn slightly out of the direct line.

It will be evident that although both draw-heads are provided with links, only one is used to form a coupling, and when a coupling is about to be made one of the same is thrown back with the shank thereof in the reduced portion B' and resting on the inclined side B², as shown in dotted lines in Fig. 2 and in full lines in Figs. 1 and 4.

To prevent the link from being displaced when in the elevated position, I provide the overhanging webs II, to extend over the shoulders e³ of the link and prevent its withdrawal or displacement until the same is raised to a vertical position or inclined slightly forward.

I also provide means in the draw-head, illustrated in the drawings, to form a connection with a link-and-pin coupler.

K is a flared mouth in the front end of the draw-head under the jaws H, and L is a vertical opening made in the ledge H' and extending down through the said mouth to receive a coupling-pin.

The manner of operating the coupler, as herein described, is very simple and reliable. The rounded front end of the coupling-link must pass up on the rounded surface of the jaws H, and should it happen by neglect or otherwise that when a coupling is about to be made both of the links are extended, no evil consequences will follow, as the moment the rounded ends of the opposing links touch each other the said ends will rise, and one of the links is almost certain, when they reach their highest point, to slip or be thrown back out of the way and allow the other link to form the coupling.

Fig. 6 shows a link adapted to be used when the opposing coupling is lower, the shoulder or offset e' being designed to lower the head some distance. It will be seen, however, that this is not necessary except in extreme cases, as the links, as shown in connection with the drawings, are adapted to couple even should one of the opposing draw-heads be considerably higher or lower than the other.

The construction of the coupler is very simple, and it is made detachable to enable it to be easily made and put together. As is evident, the head is cast in a single block, the uncoupling-rod is passed through the bearings in the sides of the head and also through the barrel or sleeve C^2 of the plate C' , and the pin c is passed through the aligned perforations in the said rod and sleeve to secure them together. It is now only necessary to place the slot in the rear end of the pin on the plate C' , and the coupler is complete.

The coupler may be adapted to operate from the top of the car by simply securing the lower end of a rod pivotally to the end of the lever or an arm of the cross-head, and carrying the said rod to the top of the car within reach of the train-hands.

Having now described the construction, op-

eration, and advantages of my invention, what I claim and desire to secure by Letters Patent of the United States, is—

1. In a car-coupling, the combination of the draw-head A, having the ledge H' and the jaws H H in the front end thereof and beveled or rounded on the front side, and the pivoted link E, having a head, E', lateral ears $f f$, the detent f' , the said head being beveled or rounded on the front side, and the handle D on the side to operate said link, all constructed and arranged substantially as and for the purpose herein set forth.

2. In a car-coupling, the combination of the draw-head A, having the jaws H H and the rest H' in the front end, the rod C, plate C' , rigid with the said rod, lever or cross-head D on the outer end of the said rod, the link E, having an enlarged rear end, and the slot e^2 , to receive the said plate C' , substantially as and for the purpose set forth.

3. In a car-coupling, the combination of the draw-head A, having the recess B, reduced portion B', and the incline B², webs I, and detachable link E, having the shank e and rear enlarged portion, e' , provided with shoulders e^2 , substantially as and for the purpose set forth.

4. In a car-coupling, the combination of the head A, uncoupling-rod C, journaled therein, plate C' , having the sleeve or barrel C^2 , to receive the rod C, pin c , to pass through aligned openings in the said sleeve and rod, and the link E, having a slot in the rear end to receive the said plate, substantially as and for the purpose set forth.

5. In a car-coupling, the combination of the head A, having the beveled jaws H H in the front end, the overhanging webs I, and the pivoted link E, adapted to be detached from the coupler, and having an enlarged rear end, e' , and the head E', substantially as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in the presence of two witnesses.

WILLIAM TECUMSEH SMITH.

Witnesses:

WALTER P. DAY,
J. C. HAMILTON.