A. W. CAIN.

Car-Coupling.

No. 219,216. Patented Sept. 2, 1879.

Fig. 1

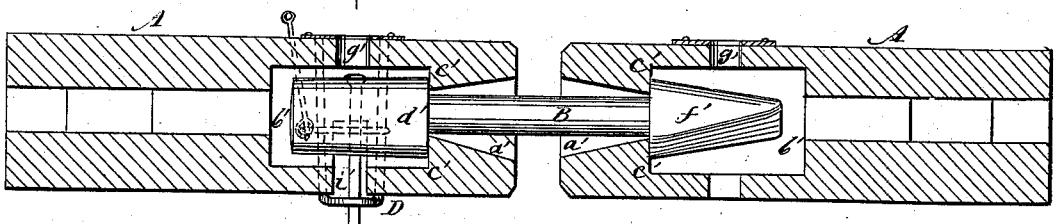


Fig. 2

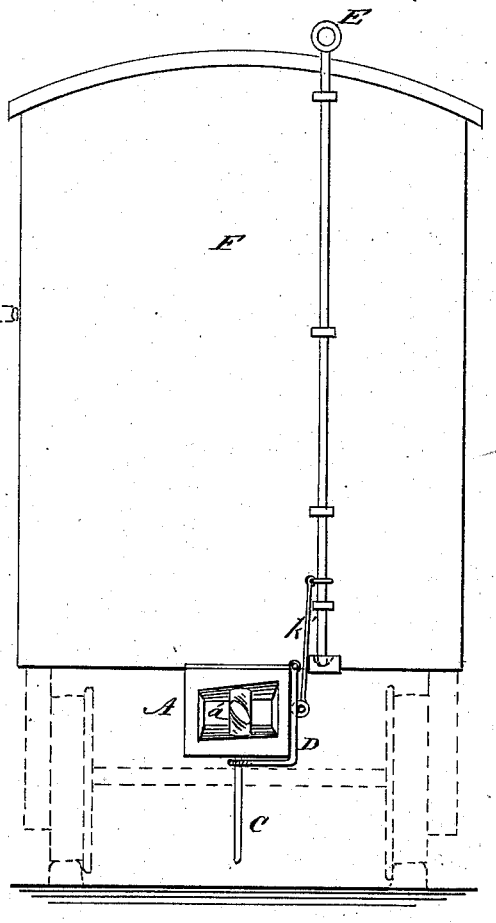


Fig. 3

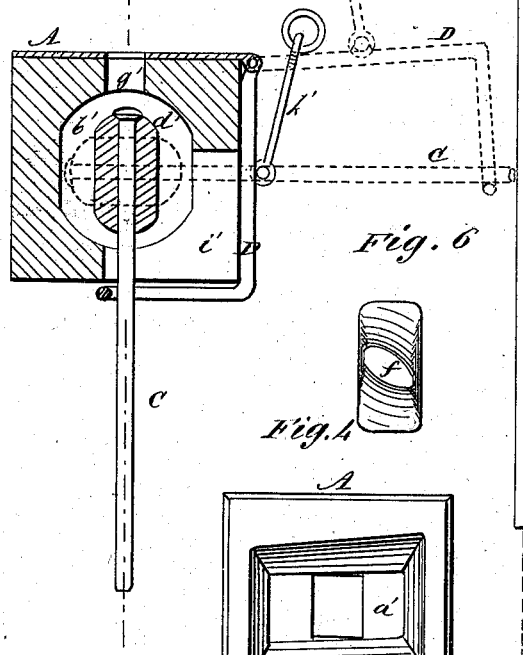


Fig. 6

Fig. 4

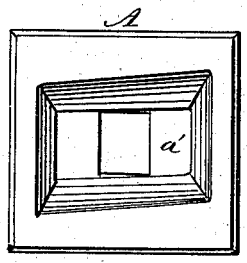
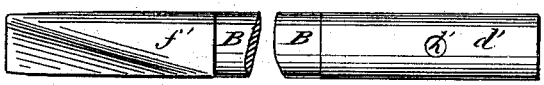


Fig. 5

WITNESSES:

C. Neveux

C. Sedgwick



INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

ABSALOM W. CAIN, OF HARRISBURG, ILLINOIS.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **219,216,** dated September 2, 1879; application filed April 17, 1879.

To all whom it may concern:

Be it known that I, ABSALOM W. CAIN, of Harrisburg, in the county of Saline and State of Illinois, have invented a new and Improved Car-Coupler, of which the following is a specification.

Figure 1 is a sectional elevation of the coupling-bar coupling the draw-heads. Fig. 2 is an elevation showing the attachment for uncoupling from the top of a car. Fig. 3 is a sectional elevation on line *x x*, Fig. 1. Fig. 4 is an end view of a draw-head designed for this coupling-bar. Fig. 5 is a plan of the coupling-bar. Fig. 6 is an end view of the head of the coupling-bar.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a novel and effective car-coupler that will couple the cars on their coming together, and which will permit the uncoupling of the cars from their tops, so that all the risk to life and limb that is incident to the ordinary methods of coupling or uncoupling by going between the cars is obviated.

In the faces of the draw-heads A A are parallelogrammic openings *a' a'*, sloping and narrowing rearward to larger recesses or sockets *b' b'*, in such a manner that at their junction the upper and lower shoulders, *c' c'*, are formed for holding the head or butt of the coupling-bar B.

On one end of the coupling-bar shank is the butt *d'*, and on the other end the head *f'*, both of the same thickness as the shank, but both wider, so that shoulders are formed at their junctions with the shank, that are intended to engage against the shoulders in the sockets *b' b'*, and hold the cars coupled.

The butt is flat and parallelogrammic, with slightly-rounded edges and end, to facilitate its turning in the sockets *b' b'*. The head is arrow-headed, with two of its diagonally-opposite edges beveled off from shoulder to point, so that the point itself is of an oval shape. The butt is pierced through its broadest section, and about midway of its length, with a hole, *h'*, for the reception of the pin C.

The coupling-bar is applied by first entering the butt, with flat side uppermost, into the socket through the front opening, *a'*. It is then turned so that the hole in it shall be brought perpendicularly under the larger hole *g'* in the upper side of the draw-head; then the long pin C, that is provided with a head smaller than *g'*, but larger than the hole *h'*, is thrust down through *g'* and *h'* until its head rests on the coupling-bar, and its point extends downward through the corner opening, *i'*, in the draw-head and the loop of the bent hinge D, that swings from the upper face of the draw-head. This corner opening, *i'*, is of sufficient extent to permit a free vertical movement or swing of the pin C, so that when the opposite draw-head is forced against the head of the coupling-bar, that is projecting horizontally, the shapes of the opening *a'* and of the head *f'* cause the bar to make a half-turn on its axis, so that the head will enter the socket *b'*. The weight of the pin C then causes the bar instantly to turn back again, so that the shoulders of butt and head shall engage with the shoulders *c' c'* of the socket, and the bar be held in the coupling position.

In order to uncouple the cars, the brakeman takes hold of the link *k'*, that is made fast to the hinge D, and by pulling out the loop and the pin C to the position shown by the dotted lines in Fig. 3 the coupling-bar is turned, as shown by dotted lines, so that the head of the bar may be withdrawn from the opposite draw-head. This operation can be performed from the top of a car, if a connecting-rod, E, be carried to the top of a car, F, within reach of an operator there. Of course, the loop in the hinge D is small enough to restrict the movements of the pin C, so that it cannot at any time accidentally swing to either side enough to turn the coupling-bar so that the cars may become uncoupled, and the opening *i'* is wide enough for the coupling-bar butt to move back and forth within the socket *a'* without pressing the pin C against the sides of the opening.

It is obvious that for safety, for certainty and quickness of application, and for simplic-

ity of parts, this coupling possesses many advantages over those now in general use.

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

1. The combination, with draw-heads having holes g' i', opening a', socket b', and shoulders c', of the coupling-bar having transversely-perforated butt d' on one end and head f' on the other, and the pin C, as shown and described.

2. The combination of the pin C with the hinge D, link k', and rod E, as and for the purpose specified.

ABSALOM W. CAIN.

Witnesses:

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WILLIAM K. BURNETT.