A. I. AMBLER.

Car Coupling.

No. 36,382. Patented Sept. 2, 1862.

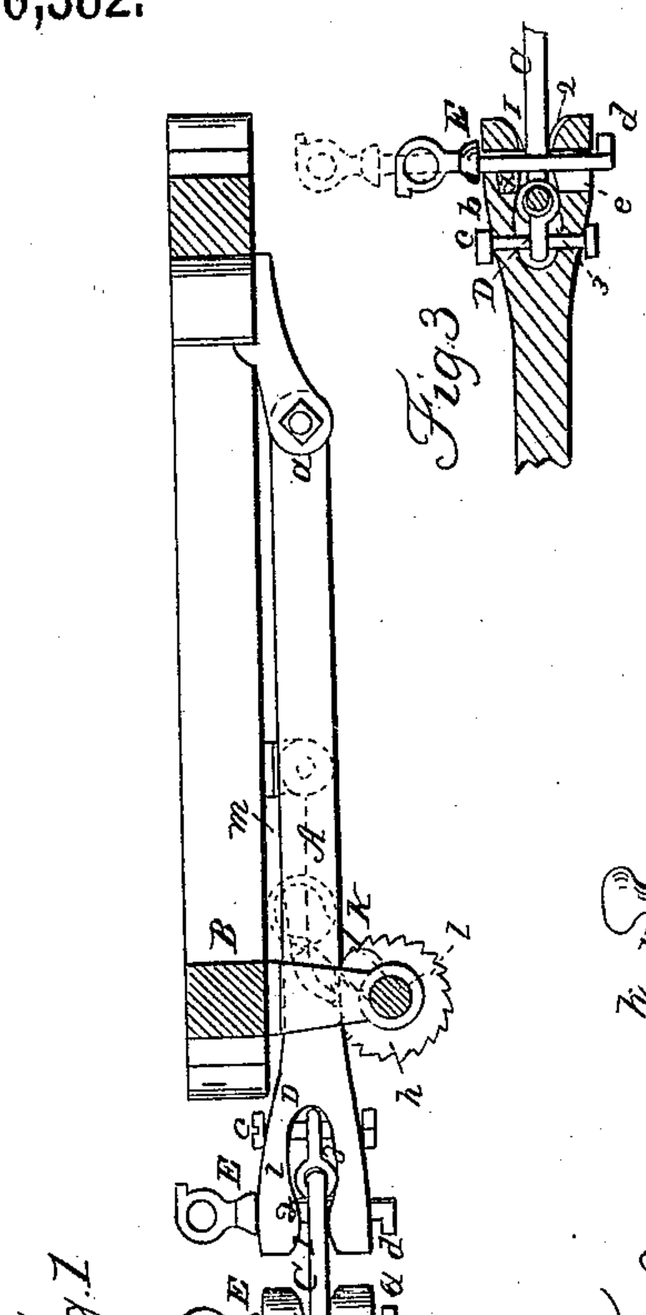

Fig. 1

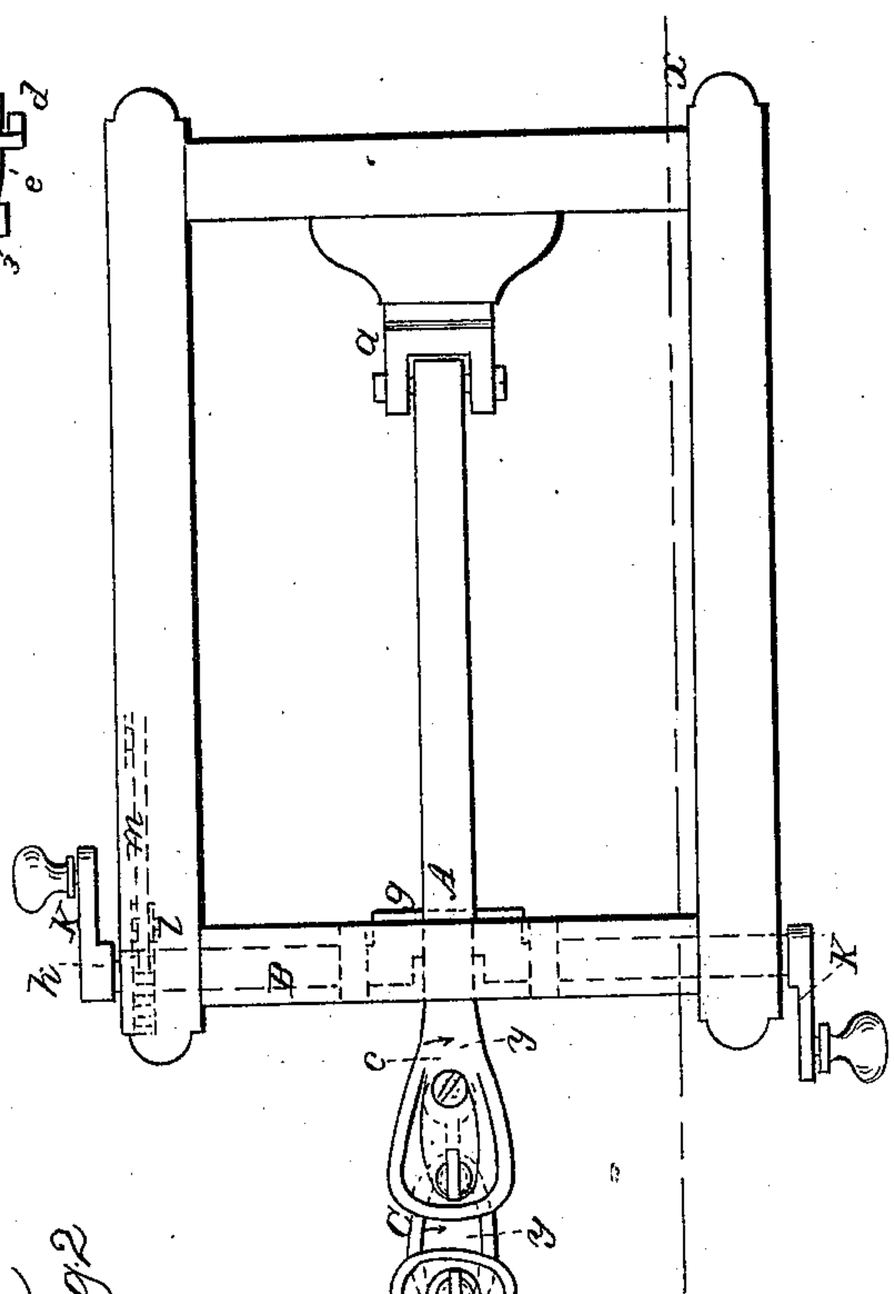

Fig. 2

Fig. 3

Witnesses:
J. W. Coombs
G. W. Reed

Inventor:
A. I. Ambler
per Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

AUGUSTINE IREL AMBLER, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO HIMSELF, R. N. AMBLER, AND W. MARTIN, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **36,382**, dated September 2, 1862.

To all whom it may concern:

Be it known that I, AUGUSTINE IREL AMBLER, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention, the framing in which the coupling is fitted being a section, as indicated by the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same; Fig. 3, a vertical section of the same, taken in the line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement in the ordinary car-coupling now in general use, and which consists simply of a socket formed at the end of the draw-bar and provided with a vertical pin, which secures the link or shackle within it, the link or shackle forming the connection between the draw-bars of two adjoining cars. This coupling, although possessing some disadvantages, has, on account of its simplicity, the small cost with which it may be constructed, and not being liable to get out of repair or become deranged by use, not been superseded by any of the more pretentious couplings hitherto devised. In many of the latter advantages have been attained not possessed by the old coupling, but at the same time they all have thus far proved to have some objectionable or impracticable feature, which has served to prevent their general adoption.

The within-described invention consists in a very simple modification of the old coupling, by which the link or shackle may be adjusted in the draw-bars of two adjoining cars when the former are in contact, the link or shackle not requiring to be adjusted longitudinally in the draw-heads by hand, as hitherto, when one or both cars are moving in contact. To effect this result I construct the draw-bars, or, rather, the sockets thereof, with a slot extending around the front and both sides in such a manner that the link or shackle may be inserted laterally in the sockets as well as longitudinally, as hereinafter fully described.

The invention also consists in a simple means for preventing the casual detachment of the link or shackle pins, and also the links or shackles themselves, from the draw-bars.

The invention also consists in the employment or use of an adjusting mechanism arranged with the draw-bars in such a manner that the latter may be elevated or depressed, so as to suit the different height of cars—that is to say, enable the draw-bars of adjoining cars to be brought in line with each other when the platforms of the same are at different heights.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A A represent the draw-bars of two adjoining cars. These draw-bars may be constructed of wrought or cast iron, and they are secured to the buffer-rods or to buffer-frames B by means of joints or hinges *a a*, which admit of the front ends of the draw-bars being raised or lowered. The draw-bars are provided with sockets *b* at their front or outer ends to receive the link or shackle C. Each socket *b* is provided with a link or shackle, which is permanently secured in it by means of a small link, D, through which a bolt, *c*, passes, said bolt passing vertically through the back part of the socket. The sockets *b*, instead of being formed in the front ends of the draw-bars, as usual, are formed of a slot, which passes entirely through the draw-bars from side to side, the opening at each side being equal to the length of the sockets, as shown in Fig. 1. The sockets *b* are not of equal depth throughout, they being rather deeper at the front ends of the draw-bars at the center, as shown at 1, Figs. 1 and 3, gradually contracting toward the corners, as shown at Fig. 2, and then increasing in depth at their back ends and sides, as shown at 3. The shallowest part of the sockets *b*, however, is sufficiently deep to admit of the link or shackle C passing into it.

Each draw-bar A is provided with a vertical pin, E, fitted in it in a suitable hole, and in the lower part of each pin a key, *d*, is inserted. These keys *d* prevent the pins E being withdrawn from the draw-bars, or, rather, from the sockets thereof, except when they are so turned that the keys will be in line with slots *e* made

in the lower parts of the draw-bars adjoining the pin-poles. (See Fig. 3.) In the upper parts of the draw-bars there are made similar slots or recesses, *f*, to receive the keys *d* when the pins are raised, so that the latter cannot serve as an obstruction to the link or shackle when the latter is being withdrawn from the sockets. The slots or recesses *f*, however, do not extend through the upper parts of the draw-bars, and the pins therefore cannot become casually detached from the draw-bars. (See Fig. 3.) By this arrangement it will be seen that the links or shackles may be adjusted laterally in the draw-bars equally as well as longitudinally, and hence the two draw-bars may be connected by either link or shackle when they are not in motion toward each other, as formerly required, and they may be connected even when in contact with each other and at rest. The peculiar shape of the sockets *b* admits of the links or shackles being turned to one side in the draw-bars and held in proper position, and still admits of either of the former having sufficient play-room when coupled or connected to the draw-bars. Thus I retain all the advantages of the old coupling and at the same time attain the advantages just stated of the lateral adjustment of the link or shackle in the sockets of the draw-bars. The ordinary chains for securing the link or shackle pins to the draw-bars are dispensed with by providing the pins E with the keys *d*, as described. By having a link or shackle, C, secured to each draw-bar A, as described, the former are prevented from being lost or mislaid, and each draw-bar always has a link or shackle ready for use, and when two draw-bars are connected the idle link or shackle (only one being used) is not at all in the way, as it projects from the side of its draw-bar, as shown in Figs. 1 and 2. The draw-bars are raised and lowered to suit platforms of different heights by having them rest on eccentrics or cranks *g*, placed on shafts *h*, the bearings of which are attached to the under sides of the frames. B. These shafts may be turned by a screw, *i*, and worm-wheel *j*, or by cranks *k*, attached directly to the shafts. In the latter case a ratchet, *l*, is placed on the shafts, a pawl, *m*, engaging with the ratchet to prevent the casual turning of the eccentric. By this means the draw-bars of two adjoining cars the platforms of which vary in height may be brought in line with each other with the greatest facility.

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

1. Providing the draw-bars A with sockets *b*, extending entirely through them from side to side to admit of the lateral insertion of the link or shackle C, as and for the purpose herein set forth.

2. The keys *d*, fitted in the lower parts of the pin E, in combination with the slots *e* and recesses *f* in the draw-bars, as and for the purpose specified.

3. The securing of the links or shackles C in the draw-bars A A by means of the links D and bolts *c*, when used in connection with the sockets *b*, extending entirely through the draw-bars from side to side, as set forth.

4. Adjusting the draw-bars A vertically at their outer ends to suit cars or platforms of different heights by means of eccentrics, cranks, or their equivalents placed on shafts and having the draw-bars resting on them, and operating or turned by means of cranks or gearing, as set forth.

5. The combination of the sockets *b*, links or shackles C, and pins E, all arranged in connection with the draw-bars A, as and for the purpose set forth.

AUGUSTINE IREL AMBLER.

Witnesses:

JAS. VAN VICHTEN,

P. H. WITE.