

(No Model.)

2 Sheets—Sheet 1.

M. J. ALTHOUSE.
CAR COUPLING.

No. 491,503.

Patented Feb. 7, 1893.

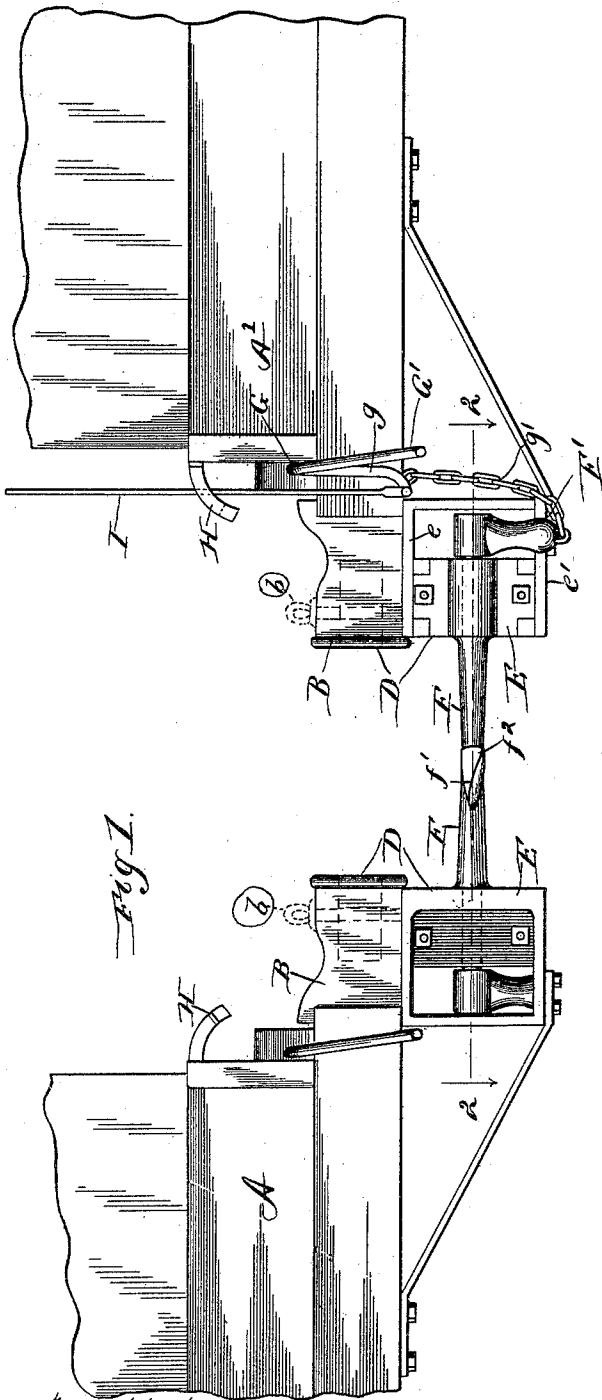
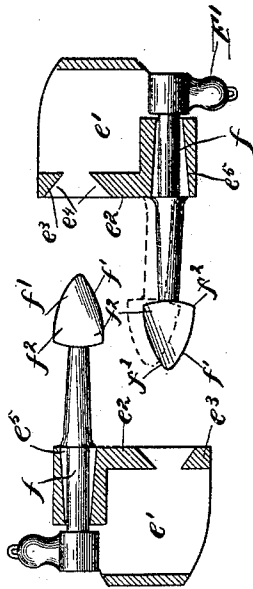


Fig. 2.



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By Charles Turner Brown,
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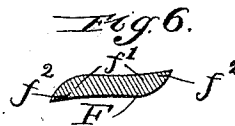
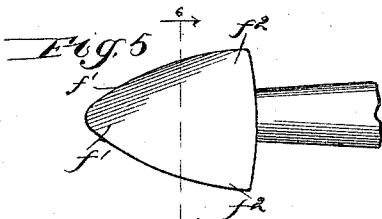
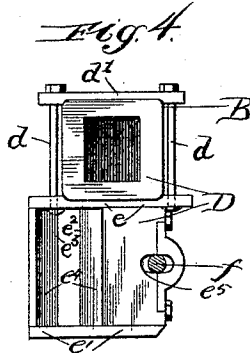
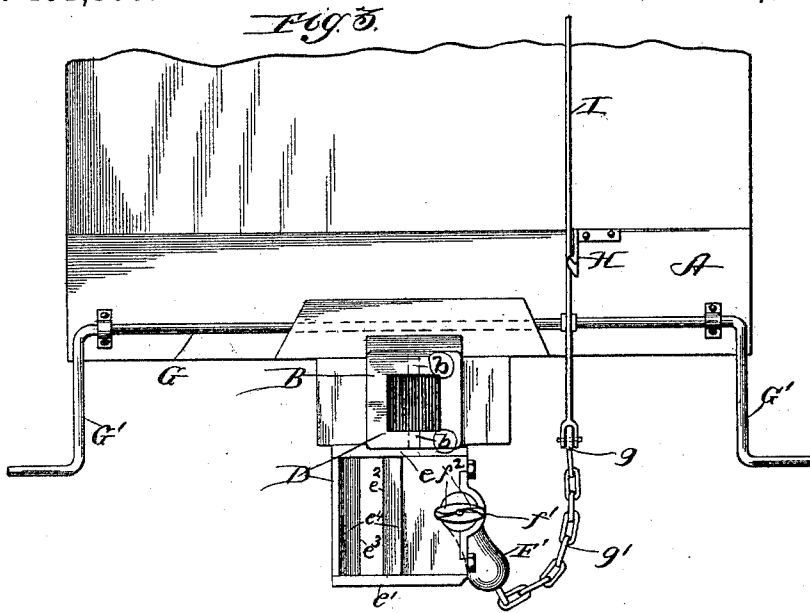
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2 Sheets—Sheet 2.

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CAR COUPLING.

No. 491,503.

Patented Feb. 7, 1893.



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UNITED STATES PATENT OFFICE.

MILO JACKSON ALTHOUSE, OF WAUPUN, WISCONSIN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,503, dated February 7, 1893.

Application filed March 14, 1892. Serial No. 424,737. (No model.)

To all whom it may concern:

Be it known that I, MILO JACKSON ALTHOUSE, residing in the city of Waupun, in the county of Fond du Lac and State of Wisconsin, have invented certain new and useful Improvements in Car-Couplers, of which the following, in connection with the drawings accompanying and forming a part hereof, is a full and complete description, sufficient to enable those skilled in the art to understand, make, and use the same.

My invention relates to automatic car couplers, as they are known in the art, that is car couplers which shall automatically, upon the bringing together of cars to which they are attached, become coupled, without the assistance or interference of the person or persons in charge thereof. And the objects of my invention are to obtain a car coupler, which shall, when desired, automatically couple, when cars are brought together; which can be uncoupled at any time, without requiring a person to go between the cars to do the same; which shall be efficient in action, simple in construction, and strong, and durable in use; to obtain an automatic coupler so constructed that a car having thereon the ordinary link and pin coupling can be attached thereto without adjustment of any of the parts thereof; to obtain an attachment which may be secured to an ordinary link and pin coupling or draft iron, and by which there shall thereby be obtained an automatic car coupler of the character hereinabove named; to obtain an automatic car coupler by means of which no throwing into or out of position of the several parts, or any of them, is required, when either end of a car is presented to a second car for coupling thereto.

A still further object of my invention is to obtain an automatic car coupler of the character named, by which, when two cars are brought together, the same shall not be coupled, if so desired, or one of two possible couplings shall be automatically made, and in addition thereto the ordinary link and pin coupling may be made, when, as in passing over heavy grades or with an unusually long and heavy train the same is needed.

An automatic car coupler embodying the inventions by means of which I accomplish

the several above named results is illustrated in the drawings, in which:—

Figure 1, is a side elevation of the ends of two cars having my automatic coupler on each one thereof; the ends of the cars being near to each other but the couplers not in engagement; Fig. 2, a horizontal sectional view on line 2—2 of Fig. 1, viewed in the direction indicated by the arrows; Fig. 3, an end elevation of a car having the coupler thereon; Fig. 4, an end elevation of a modification of the device; Fig. 5, a plan view on an enlarged scale of one end of the hook forming a part of the coupler; and Fig. 6, a cross-section of the hook on line 6—6 of Fig. 5, viewed in the direction indicated by the arrows.

The same letter of reference is used to indicate a given part where more than one view thereof is shown in the several figures of the drawings.

A, represents one end of a car; and A', one end of an adjacent car.

B, is an ordinary link and pin coupler, draw-head, or draft iron, as it is termed, attached to a car in the ordinary manner, and forming a part of the device obtained by me.

b, is a pin, indicated by dotted lines, by which a link is secured in the draw-head or draft iron.

D, is the outer end of a draw-head or draft iron embodying my invention and consists of the link and pin coupling device B, the frame E, and the horizontally journaled coupling hook F. The part E of the draw-head or draft iron D may be and ordinarily is integral with the part B thereof but may be, as illustrated in Fig. 4, constructed separate therefrom and secured thereto by the bolts d, d', and plate d', or other equivalent means. The part E of the draw-head or draft iron consists of the horizontal plates e, e', the vertical bars e² e³, having beveled edges e⁴, and the journal bearings e⁵ in which the hook F is journaled. Where the part B of the draw-head D is integral with part E thereof the horizontal plate e is common to both parts. The journal bearing e⁵ is illustrated in Fig. 2, as having at the outer end thereof a horizontal axis greater than the diameter of the shaft of the hook F, which is journaled therein and at the inner end circular and of about the

same diameter as such shaft. A lateral movement of such hook in a horizontal plane is thereby permissible to the right or left, as indicated by the dotted lines representing one of such hooks as thrown to the right. Edges f', f' , of the hook F are curved in the same manner as in the hook illustrated and described in Patents Nos. 47,985, and 466,221, so that when the point of the arrow is brought against the beveled edges e^1, e^1 of the vertical bars e^2, e^3 , the hook is rotated in its journal bearing e^5 so that the wings f^2, f^2 , are vertical or nearly so and thereby adapted to pass between such bars to the rear of the same, and F', is a weight secured to the shaft f of the hook F to one side thereof which automatically turns the hook back so that the wings f^2, f^2 , thereof are horizontal or nearly so after such wings have passed beyond the bars e^2, e^3 .

The operation of coupling just described is the same in my device as in the devices set out in the patents named, so far as the automatic engagement of the hook F with the bars e^2, e^3 , is concerned.

G, is a rotatable rod extending across the end of the car A'; g , an arm rigidly secured to rod G; and g' , a chain extending from arm g to weight F'.

G', is a handle on rod G by which the rod can be rotated and thereby the outer end of the arm g brought upward from the position in which it is illustrated in Fig. 1, carrying along therewith the chain g' into position whereby the hook F is turned in its journal bearings so that the wings f^2, f^2 , of the hook, F are in a vertical or nearly so position; and H, is a spring catch adapted to engage with the arm g and maintain it in a raised position.

I, is a rod extending down the end of the car, secured at its lower end to the arm g whereby such arm can be raised by a person standing on the top of the car (the rod G turning therewith). The spring catch H is made sufficiently flexible to allow the arm g to automatically engage therewith when turning up into proper position, and to be disengaged therefrom by forcing the crank arm G' or the rod I downward, while at the same time it is not sufficiently flexible to permit the arm g to become automatically disengaged therefrom.

It will be observed that the axial line of the hook F, when the same is in the position illustrated by the full lines in Fig. 3, is to one side of the pin b , in part B of the coupling, a distance equal to the distance the center of the opening between the bars e^2 and e^3 is to the other side of such pin b , the position of such pin being indicated by the dotted lines lettered b , and the pin b being supposed to be on the central line of the cars, A, A', respectively. It is evident that when adjacent cars are brought together, each one having thereon a coupling embodying my device, the axial line of the hook on the one car will come midway of the opening between the bars e^2, e^3 in the coupler on the adjacent car, and the axial

line of the hook on such adjacent car will be midway between the bars e^2 and e^3 , of the coupler on the first named car, and hence that the hook of each of such couplers will pass between the bars on the adjacent coupler and by falling back into its initial position, become automatically engaged therewith; provided, of course, that the arm g is substantially in the position illustrated in Fig. 1 of the drawings, so that the weight F' may actuate such hook. It is further evident that if one of such hooks be in the position illustrated in Fig. 1, of the drawings and the other thereof be held, by means of the arm g and chain g' , in position so that the wings f^2, f^2 are substantially in a vertical plane, that such wings may and will pass between the bars e^2, e^3 of the adjacent coupler, though such hook will not engage with such bars and may be withdrawn therefrom. Hence if the hooks on both cars be held so that the wings f^2, f^2 of each thereof are substantially in a vertical plane the cars will not be coupled, although the heads of the hooks may pass into position behind the bars e^2, e^3 .

The part E of the draw bar D being attached or built into the part B thereof, and underneath such part B, and the length of the shaft of the hook F being properly determined so that when the cars are coupled the part B of adjacent draw-heads are brought close together, a link may be inserted in such part B of the draw-head and there held by the pin b .

In the Patent No. 466,221, the feature whereby a link and pin coupling may be obtained at the same time a hook coupling is secured is shown, but in my device as hereinbefore described, and as illustrated in the drawings, a double hook coupling is obtainable, and in addition thereto a link and pin coupling.

By the device illustrated and described herein either end of a car can be brought to either end of an adjacent car and automatically coupled thereto, without throwing any of the parts into or out of their ordinary position and hence the necessity of the revolving feature of the draw-head illustrated and described in both of the patents referred to is obviated and a draw-head can be constructed which is rigid throughout the several parts thereof, other than the horizontally rotatory movement of the coupling pin F, and hence much greater efficiency in the practical working of the car coupling, and much greater strength and consequent durability of such car coupling is obtained than has been heretofore secured.

I have found in practice that where the journal bearing e^5 is made of the shape described and illustrated and the weight F' is attached to the shaft of the hook in the manner illustrated and described to yieldingly hold the wings of the hook in a horizontal plane, when such weight is allowed to drop and the wings are thereby turned from a

vertical to a horizontal position, in such turning the hook will assume substantially the position illustrated in Fig 2, of the drawings. I do not, however, make the major or horizontal axis of the ellipsis of the journal bearing sufficiently great to carry the winged end of the hook or to permit its being carried sufficiently to one side to come other than between the bars $e^2 e^3$ when two cars are brought together to be coupled.

The part B of the head D is designed to receive the shock consequent upon cars coming together in a coupling, as well as to receive, when desired, the link and pins as hereinbefore described, and hence in this device the position of such part B is maintained in the same place as is the ordinary draft iron or draw-head of a common link and pin coupler; hence when the part E of the coupler is secured to part B by the fastening d, d' , the resulting coupler is as efficient as when the two parts B and E are integral, and I therefore attain by the combination of the part E and an ordinary link and pin draw-head or draft iron and the fastenings and coupler, substantially the same coupler in all practical ways as the coupler illustrated in Figs. 1, 2, and 3 hereinbefore described.

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

1. In a car coupler, the combination of a link and pin draw head with a head underneath such link and pin draw head integral therewith, parallel bars in such lower head

to one side of its center, a rotatable arrow horizontally journaled in such lower head on the other side of such center so that the wings of the head of the arrow are normally though yieldingly held in a horizontal plane, with the edges of the wings of the head of the arrow curved, whereby when two cars are brought together, each having such a coupler thereon, the head of the arrow of one coupler will enter the space between the parallel bars of the adjacent coupler, thereby partially rotating the arrow in its journal bearing, and pass beyond such bars, and thereupon such wings of the head of the arrow will automatically resume position in a horizontal plane and engage with the parallel bars of the adjacent coupler, and the link and pin draw-head forming part of such adjacent couplers will act as buffers to receive the shock incident to coupling; substantially as described.

2. In a car coupler, a hook having double wings with curved edges to such wings, in combination with a journal bearing in the draw bar, such journal bearing being circular in cross-section at the rear end thereof, and elliptical in cross-section at the front end thereof, with the minor axis vertical, and the major axis horizontal, whereby horizontal movement of the winged end of the hook is permitted in its journal bearing; substantially as described.

MILO JACKSON ALTHOUSE.

In presence of—

WILLIAM BANNERMAN,

CHARLES TURNER BROWN.