

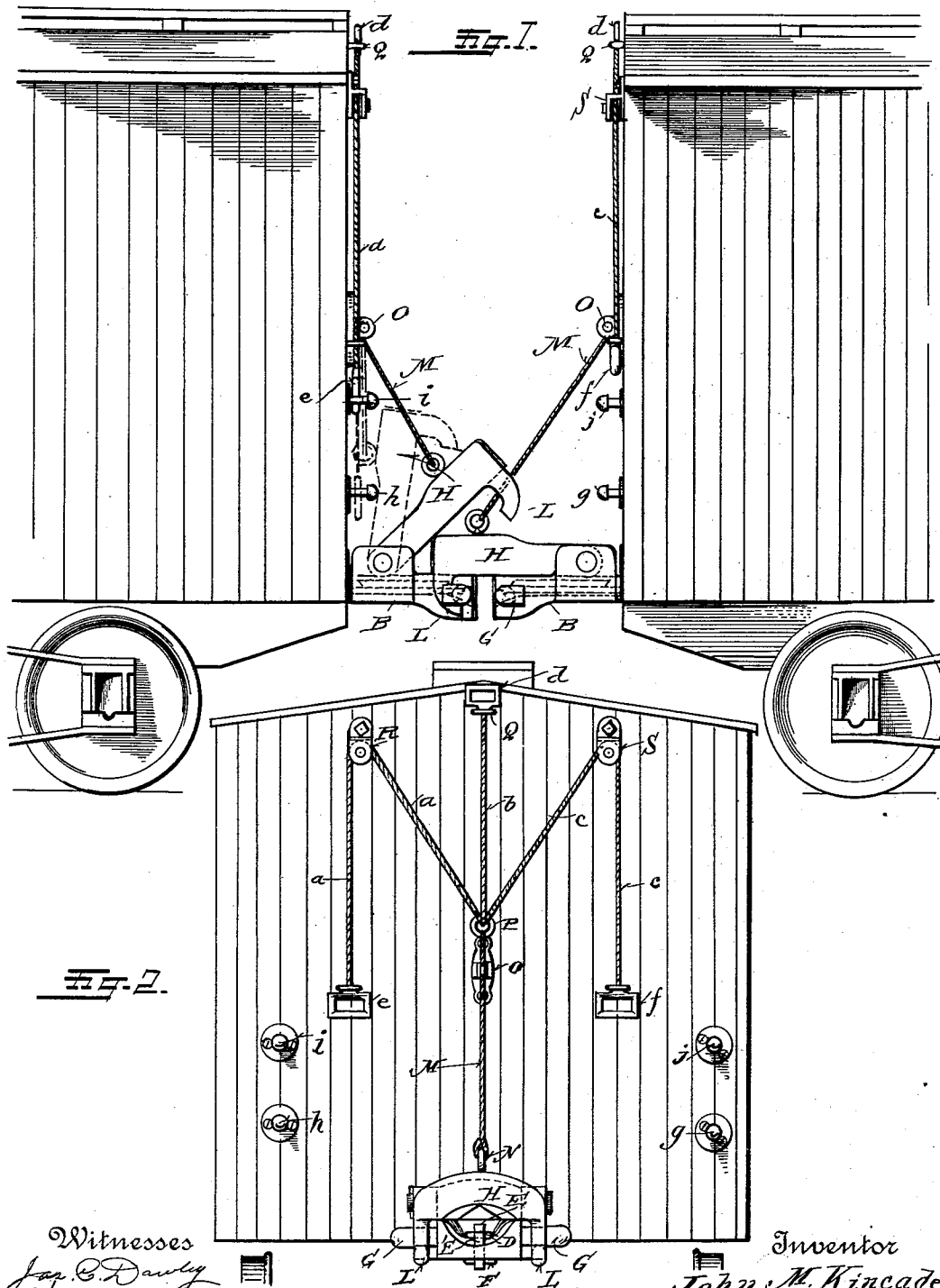
(No Model.)

2 Sheets—Sheet 1.

J. M. KINCADE.
CAR COUPLING.

No. 569,023.

Patented Oct. 6, 1896.



Witnesses
Joe C. Dawley
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By *his* Attorney

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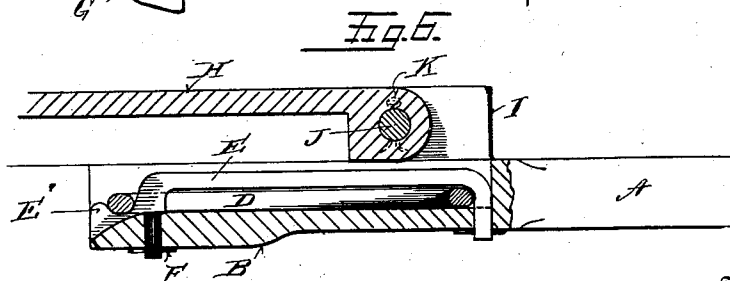
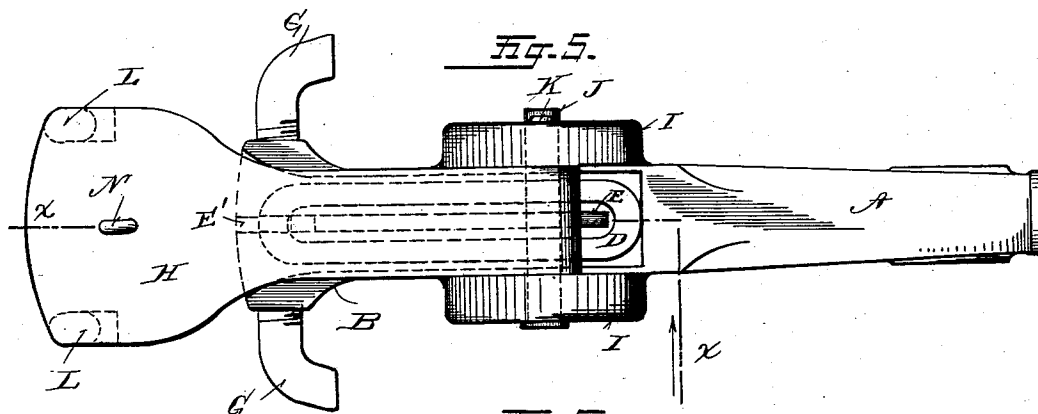
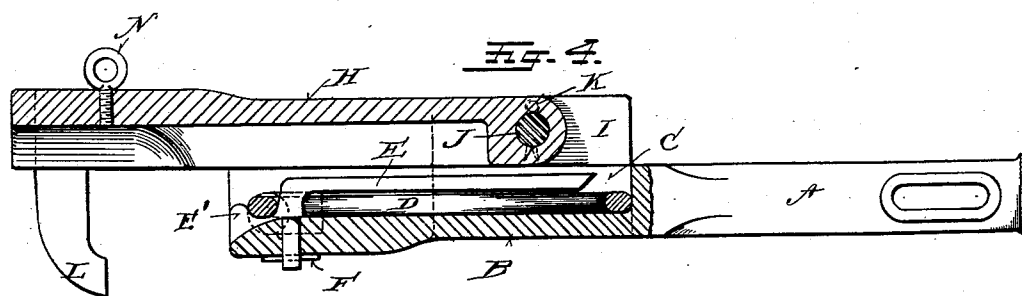
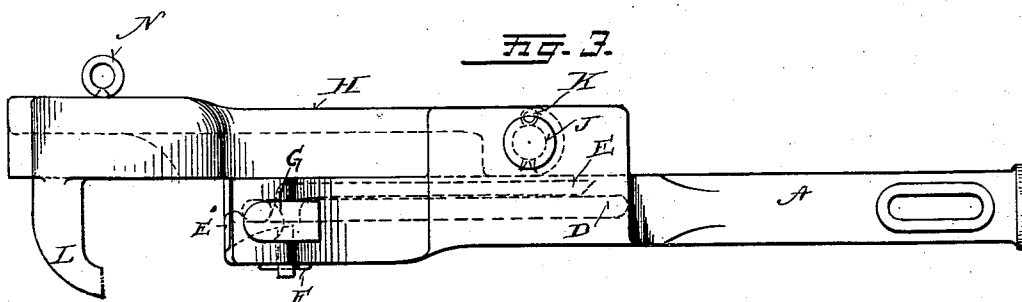
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2 Sheets—Sheet 2.

J. M. KINCADE.
CAR COUPLING.

No. 569,023.

Patented Oct. 6, 1896.



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UNITED STATES PATENT OFFICE.

JOHN M. KINCADE, OF WESTVILLE, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 569,023, dated October 6, 1896.

Application filed March 24, 1896. Serial No. 584,608. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. KINCADE, a citizen of the United States, residing at Westville, in the county of Champaign and State of Ohio, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in car-couplers.

The objects of my invention have reference to pivoted jaws with depending horns connected thereto and lateral horns carried by the draw-head; have reference to a system of ropes or chains for operating the pivoted jaws from either side or top of the car without going between the cars; have reference to constructing my coupler so that it may be used in connection with an ordinary link and pin, and have reference to points of detail hereinafter appearing, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a side view of a portion of two freight-cars, showing my improved couplers attached thereto and in coupled position. Fig. 2 is an end view of one of the cars and looking at the end of the coupler; Fig. 3, a side elevation of the coupler alone; Fig. 4, a sectional view of the same on the line *x x* of Fig. 5, looking in the direction of the arrow; Fig. 5, a plan view of the same; and Fig. 6, a partial detail sectional view of the coupler, showing another form of link-fastener.

The letter A represents a draw-bar adapted to be secured to the car timbers by being connected with any ordinary draft-rigging, and the letter B what I term the "head" of the draw-bar A. This head is recessed, as shown at C, to receive a link D, such as used with the ordinary link-and-pin coupler. This link is held in position by a lip E' and a shank or staple E, part of which extends through the draw-head and is fastened with a cotter-pin or in any other suitable manner, as shown at F, and which also acts as a pin when the coupler connects with a car of the ordinary link-and-pin type.

From each side of my improved draw-bar head and near its outer end extend horns G, preferably in a horizontal direction, made of

steel, cast-steel, or any other suitable material, and which are either cast with the head or are screwed or forced into the head in such a way as to be perfectly rigid, as the pulling strains act directly on these horns, as will hereinafter appear.

The letter H represents a jaw pivoted between lugs or ears I, extending upward from the draw-bar head B, by means of a pin J, held in position by a cotter-pin K or in any other manner. Near the end of the jaw H, and preferably cast therewith, are two depending or downwardly-projecting horns L. These horns are curved downward and inward along their outer edges, while their inner edges are hook-shaped for the purpose hereinafter appearing. These horns are far enough apart to straddle the draw-head and hook over the lateral horns of a matching coupler of the same type when a coupling is made with another car.

I will now refer to the mechanism for operating the jaws. This consists of a rope or chain M, connected to an eyebolt N, screwed or otherwise secured in the top of the jaw H, and which passes underneath a sheave or pulley O, secured to the end of the car by bolts or screws and preferably in line with the draw-bar, as shown in Fig. 2. This rope M is secured to a ring P at its upper end. From this ring extend three branches *a*, *b*, and *c*, respectively. The branch *b* extends through a staple Q at or near the top of the car and has a handle *d* at its upper end which prevents the rope from dropping down through the staple Q and which also allows the rope to be readily drawn on. The branches *a* and *b* are passed around through pulleys or staples R and S, respectively, and extend down a suitable distance, so that one or the other may be easily grasped by a brakeman from either side of the car without the necessity of going between them. These ropes are also provided with suitable handles *e* and *f*, respectively, to enable the operator or brakeman to more readily operate my coupler, as will presently appear.

We will suppose that two cars equipped with my improved coupler are about to be coupled and that the brakeman is on the right-hand side, as viewed in Fig. 2. As the cars approach each other he takes hold of the

handle *f* and pulls on the rope *c*, which, being connected with the ring *P*, also pulls the rope *M* and raises the pivoted jaw, as seen in dotted lines in Fig. 1, when the handle *f* is hooked over the pin *g*, and as the cars are brought nearer together the lateral horns extending from the head come in contact with the depending horns extending from the pivoted jaw of the next coupler, when the latter horns ride up on the former and hook over them. Thus the coupling is completed. If the brakeman should happen to be on the left-hand side of the car, as viewed in Fig. 2, the handle *e* is pulled upon and hooked over the pin *h*. If the brakeman should be on top of the car the handle *d* is pulled upon to raise the pivoted jaw sufficient to allow the horns on the pivoted jaw of the next coupler to hook over the horns on the head, when it is let down and rests on the corner of the pivoted jaw of the matching coupler, as shown in full lines in Fig. 1. Pins *i* and *j* are provided for preventing the handles *e* and *f* from swinging too far out and striking the car-windows of passing trains or other objects close to the track, as might otherwise readily occur. These handles may be made heavy or light, as desired, according to the weight of the pivoted jaw. If it is desired that the jaw shall lift very easily, a larger amount of iron is placed in the handles than if it was not to lift quite so easily.

It will be seen that I have extended the ends of the draw-head and also the pivoted jaw slightly beyond their respective horns. This is done so that when the couplers come together with a sudden shock the horns will not be broken off. It will also be seen that the ends of the pivoted jaws and the draw-heads are not straight across, but are curved, the middle portion projecting the farthest. This is for the purpose of preventing the couplers from binding when going around curves, especially when the cars are being held back, as in going down a slight grade and around a curve.

Referring again to the horns, it will be seen that I have made them large. This is done so that if one breaks by reason of some flaw the other will be amply large and strong enough to resist whatever pulling strains may be brought upon it; also in going around curves usually but one horn of each set is brought into play. If both horns should break off from one draw-head, the horns of the other draw-head may be used in connection with the pivoted jaw of the broken coupler. Thus in practice my coupler is doubly safe.

When one of the cars is of the ordinary link-and-pin type, the link *D* is drawn out of the recess and the coupling is made in the ordinary manner.

I preferably construct my couplers of malleable iron or cast-steel, but any suitable metal may be used. The horns may also be cast with the draw-head and pivoted bar or

may be made of cold-rolled steel and screwed into place or may be forced into place in such a manner as to be perfectly rigid. The preferred way is to screw the horns into place, so that in case one becomes broken off a new one may be readily inserted, thus preventing the necessity of recasting the whole coupler.

Referring again to the lugs *I*, it will be seen that they also serve the purpose of bumpers when the springs in the draft-rigging are compressed, so that the backward thrust is limited and undue compression of the springs prevented.

I wish also to be understood as not confining myself to any particular shape or outline for my improved coupler, as it may be either plain, as shown in the drawings, or may be corrugated or beaded. By corrugating or beading my coupler I am enabled to make the couplers somewhat smaller and still retain the desired strength.

It will also readily be seen that with my improved coupler I am enabled to couple with cars carrying a higher or lower mounted coupler, as my pivoted jaw may be raised to accommodate a coupler attached to a much higher car. The horns on the pivoted jaw also project far enough below the jaw to allow of coupling with cars somewhat lower. When these couplers are once coupled, there is no chance of becoming uncoupled or breaking apart, as is the case where but a single pin is used.

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

1. In a car-coupler, the combination with a draw-head having a lateral horn extending from each side of a jaw pivoted to said head and having a horn extending downward from near each side thereof and adapted to ride over and engage with such lateral horns of an opposing car and mechanism for raising said pivoted jaw, adapted to be operated from either side or top of the car.

2. In a car-coupler, the combination with a draw-bar and its head, a horn projecting from said head, a recess in said head adapted to receive an ordinary link, a shank extending through said link and secured to said head, lugs or ears extending from said head and having a jaw pivoted between them.

3. In a car-coupler, the combination with a draw-head having a jaw pivoted thereto and a recess therein, said recess adapted to receive an ordinary draft-link, of a shank or staple extending through said link and adapted to hold it when used for coupling, and a lip projecting into the outer end of said recess and adapted to hold the said link within the recess when not in use.

4. In a car-coupler, the combination with a draw-head having a lateral projection from each side thereof, said projections being curved backward to form hooks, a jaw pivoted in said head and having a depending projection near each side thereof, said pro-

jections being curved along their front edges
and hooked-shaped along their rear edges,
whereby they will ride over the lateral pro-
jections of an opposing coupler and be pre-
5 vented from being disengaged by constant
jarring.

5. In a car-coupler, the combination with
a draw-head having a lateral horn extending
from each side of a jaw pivoted to said head,
10 and having a horn extending downward from

near each side and adapted to ride over and
engage with such lateral horns of an opposing
car.

In testimony whereof I affix my signature
in presence of two witnesses.

JOHN M. KINCADE.

Witnesses:

OLIVER H. MILLER,
W. M. MCNAIR.