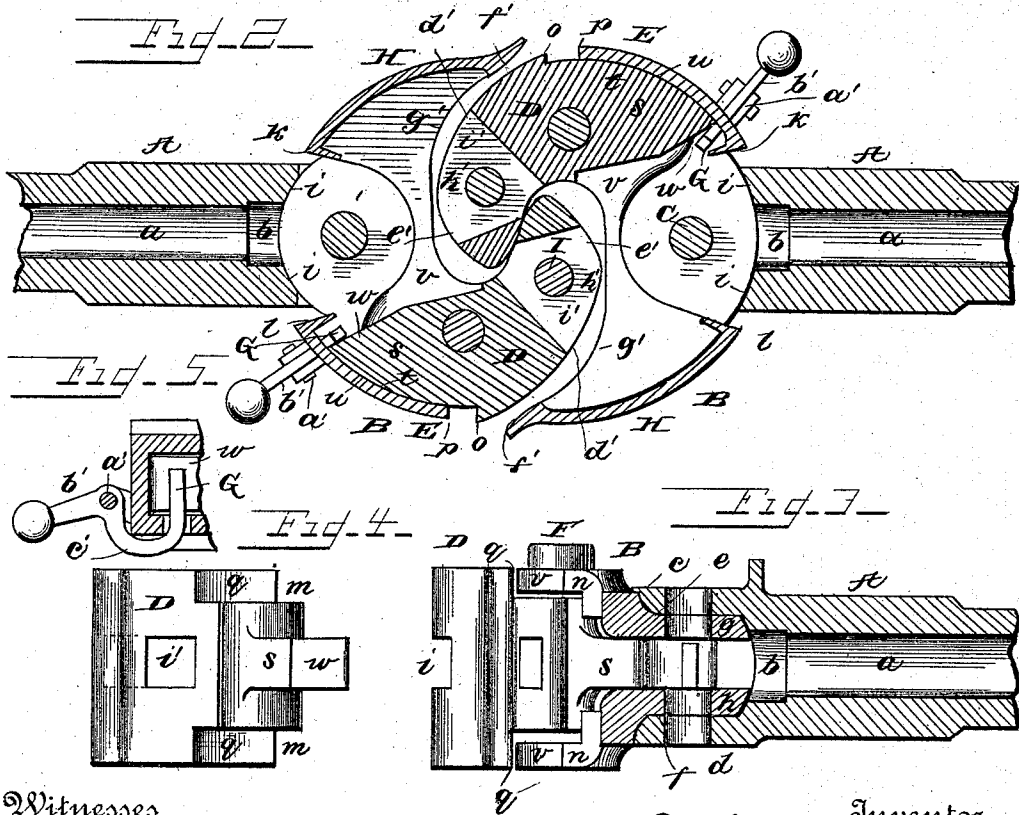


J. COUP.
CAR COUPLING.

Patented Dec. 3, 1889.



G. W. Tauberschmidt,
L. B. Whitaker.

Inventor
John Cook
By his Attorneys
Johnston, Reinohl & Dyre

UNITED STATES PATENT OFFICE.

JOHN COUP, OF EUCLID, OHIO, ASSIGNOR TO AMANDA B. COUP, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 416,668, dated December 3, 1889.

Application filed June 14, 1889. Serial No. 314,225. (No model.)

To all whom it may concern:

Be it known that I, JOHN COUP, a citizen of the United States, residing at Euclid, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to car-couplings, and has especial reference to improvements in that type of couplers known to the trade as the "Janney" or "master car-builders'" coupler—the latter for the reason that this type of coupler was adopted by them for use on railways at their last annual convention.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a plan view of my improved couplers; Fig. 2, a horizontal longitudinal section; Fig. 3, a vertical longitudinal section through the center of one coupler, showing the hook in side elevation. Figs. 4 and 5 are details of the hook and the latch.

Reference being had to the drawings and the letters thereon, A indicates the shank, which is provided with a longitudinal aperture *a* and an enlarged chamber *b* to receive a tie rod or bolt and its head. (Not shown.) This chamber *b* is formed in the shank at a point at which the head of the bolt cannot interfere with the swinging head B of the coupler. The sides of the shank are parallel to each other, and at its front ends are extensions *c d*, which engage with rabbets or seats *e f* on the head B, and each of said seats extends back into the front end of the shank, as shown at *g h* in Fig. 3, and are seated at their ends in a transversely concaved seat *i* in the shank.

On the rear side of the head B is a recess having angular walls *k l*, to afford free lateral motion of the head on the shank in rounding curves in the roadway. The head B and the shank are secured together by a pin C, which extends through apertures in both of said parts.

D indicates the coupling-hook, which is provided with recesses *m n*, which form seats for the extensions *n n* on one arm E of the head, and a projection or shoulder *o*, which extends across the entire height of the hook, and engages with or abuts against the shoulder *p* on the arm E and receives part of the shock in shunting cars, the shock being distributed upon the curved walls *q* on the hooks, the circular front end *r* of the extensions *n n*, and the pin F, which secures the hook D to the arm E of the head B. The hook is also provided with a rearward extension *s*, which is curved on its outer surface *t* and conforms to the wall *u* of the chamber *v* in the head B, and is provided with a flat surface *w* on its end, which bears against one side of a gravity dog or latch G, pivotally secured to one side of the head at *a'*, is provided with a weighted lever *b'*, is curved at *c'*, and projects up into the chamber *v* from the under side of the head and locks the hook in coupled connection with another similar coupling.

The outer surface of the hook D is curved at *d'*, and is intersected by an angular surface *e'*, at a tangent to the curved line *d'*, which tangential or angular surface *e'* directs the adjacent hook against the rounded surface *f'* on the arm H of the head B, from which it slides along the curved surface *g'* of the head until the two hooks are firmly and securely interlocked.

As two couplings approach each other the first point of impact or contact is at *h'*, opposite the pin F, when the couplings move laterally, and the two hooks slide upon the inclined surfaces *e'* until they strike the rounded portions *f'* of the arms H, when the couplings again move laterally and interlock the hooks. To uncouple, the gravity-levers *b'* are raised by any suitable means, and the inner end of the dog withdrawn from the extension *s*, when the hooks will disengage themselves.

To provide for coupling with cars having the ordinary link, a slot *i* is formed in the front of the hook D, and a pin I passed vertically through the link. From the upper side of the shank A projects a flange *k'* for engaging with the timber of a car, and on the

lower side thereof is a shoulder *l'*, which bears against the stirrups in common use for supporting draw-bars.

By the construction shown each part A, B, and D may be made of cast-iron, as sufficient strength is afforded by the distribution of metal to resist the shock and strain common to railway-service, and cars may be uncoupled while standing or moving around a curve in a roadway.

Having thus fully described my invention, what I claim is—

1. In a car-coupling, a shank having a longitudinal aperture through it and a chamber to receive the head of a bolt, an upper and lower extension at the front end, and a transversely-curved seat between said extensions, in combination with a head having rearward extensions fitting the curved seat in the shank, seats to receive the extensions on the shank, and a hook pivoted in one arm of the head, substantially as described.

2. In a car-coupling, a shank having parallel sides and upper and lower extensions at its front end, a head pivotally secured to the shank and provided with a recess having angular walls and seats to receive the extensions on the shank, and a hook pivotally attached to one arm of the head, substantially as described.

3. In a car-coupling, a shank having upper and lower extensions at its front end, and a laterally-swinging head pivotally secured to said extensions, and a shoulder, as *p*, in combination with a hook having a shoulder, as *o*, a curved surface intersected by an angular surface on its front end, an extension having a curved surface conforming to the wall of the arm of the head, and a latch projecting through the bottom of the head and engaging with the end of said extension on the hook, substantially as described.

4. In a car-coupling, a shank having parallel sides, upper and lower extensions at its front end, and a laterally-swinging head provided with a recess having angular walls on its rear side to engage with the shank, in combination with a swinging hook pivotally secured to one arm of the head, and provided with an extension having a seat on one side thereof, and a gravity-latch projecting through the bottom of the head and pivotally secured to one side thereof, substantially as described.

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

JOHN COUP.

Witnesses:

J. S. CHARLES,

ALBERT ARTHUR COUP.