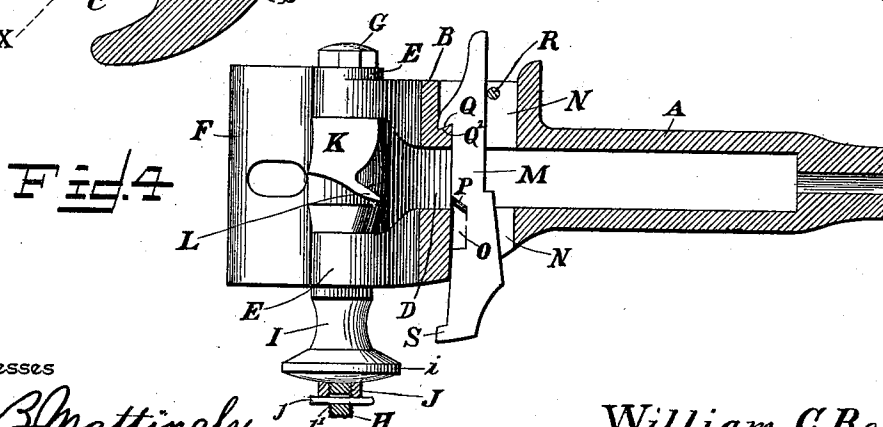
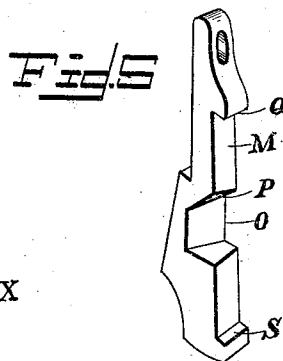
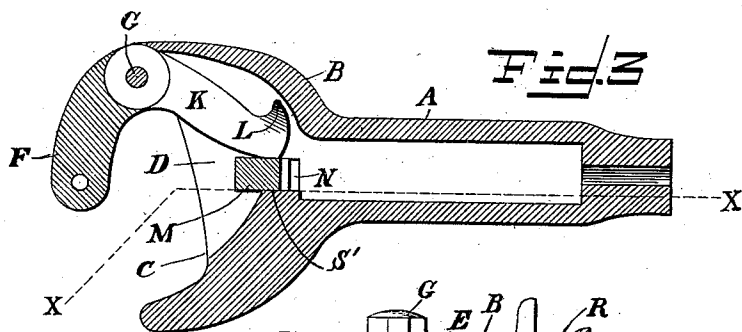
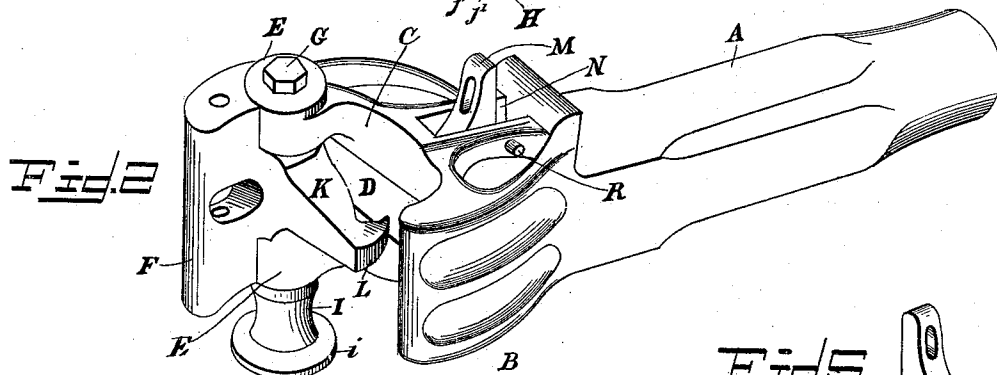
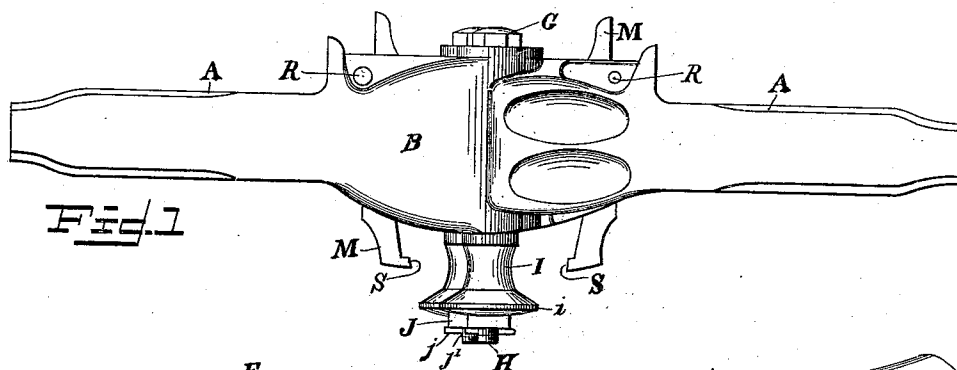


W. C. BEAL.
CAR COUPLING.

Patented Nov. 7, 1893.



Witnesses

Chas. B. Mattingly
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Inventor

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UNITED STATES PATENT OFFICE.

WILLIAM CONSTANTINE BEAL, OF FERNANDINA, FLORIDA, ASSIGNOR OF
ONE-HALF TO DAVID E. MAXWELL, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 507,982, dated November 7, 1893.

Application filed April 27, 1893. Serial No. 472,074. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CONSTANTINE BEAL, a citizen of the United States, residing at Fernandina, in the county of Nassau and State of Florida, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to car couplings; and it has for its object to provide certain improvements in the twin type couplings, whereby the locking and unlocking of the twin heads together will be more readily insured by means of simple and efficient locking devices, without the employment of complicated locking devices as are ordinarily used, and at the same time to provide a construction which prevents a draw head from falling onto the track in case it should be broken or pulled out.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a car coupling constructed in accordance with my invention, both draw heads being interlocked. Fig. 2 is a perspective view of one of the draw heads showing the pivoted coupling knuckle thrown open in its unlocked position. Fig. 3 is a horizontal sectional view of the coupling showing the pivoted knuckle locked. Fig. 4 is a central vertical sectional view on the line $x-x$ of Fig. 3. Fig. 5 is a detail in perspective of the gravity locking pin.

Referring to the accompanying drawings, A represents a draw bar terminating at one end in the draw head B, and secured in position at one end of the car in the ordinary manner.

The draw head B, approximates the same general shape as the heads in couplings of the twin type, being provided with an outer rounded portion C, and an enlarged horizontal recess D, cut into the same to accommodate the locking devices to be described.

The draw head B, is provided at the extremity of one side with the perforated knuckle ears E, between which is pivoted the

swinging locking knuckle or nose F. The knuckle or nose F, is pivoted between the ears E, on the knuckle or pivot pin G, which, as illustrated, is provided with a lower threaded portion H, extended below the draw head and accommodating the removable flanged safety knob I. The removable flanged safety knob I, has a widened flange i , that is held firmly in position against the draw head by means of the clamping nut J, engaging the threaded portion H, below the safety knob and held from loosening by means of the spring locking pin j , engaging an opening j' , at the extremity of the threaded portion H. Now by reference to the drawings it will be clear that the safety knobs I, may be attached at the top or bottom of the draw heads, but preferably at the bottom so that the falling of a broken or pulled out draw head is effectually prevented. It will be clear that in case the fastenings of a draw bar to the car should give way or break, the safety knobs will hold the head which has been drawn out from falling on the track and causing damage, and it will also be obvious that in case of high and low cars the safety knob prevents the overriding of the couplers, thereby preventing the possibility of disconnection. The flanges of the safety knobs are sufficiently wide to secure the results noted.

The pivoted knuckle or nose F, is provided with an angularly disposed locking arm K, which is designed to swing in and out of the horizontal recess of the draw head, and said arm K, is itself provided at its outer extremity with the beveled lifting tongue L, which, when the arm is thrown into the recess of the draw head, by the coupling on the other car, is designed to automatically lift the gravity locking pin M, so that it can pass such pin. The gravity locking pin M, is adapted to slide vertically in the vertical pin openings N, which intersect the horizontal recess of the draw head, and is provided at a point intermediate of its ends with the angle notch O, through which passes the tongue end of the locking arm in the coupling and uncoupling of the cars, and the top edge or side of said angle notch is beveled at P, to correspond with the bevel of the lifting tongue L, so that when the locking arm K, is forced into the

recess of the draw head, the tongue L, will ride under the beveled edge P, so as to lift the gravity pin M, sufficiently to allow the tongue end of the arm K, to pass through the notch O. After the tongue end of the arm K, has passed through the notch of the pin M, said pin of its own weight falls to its lowest position behind the arm K, so as to throw its notch O, below such arm and lock it firmly within the draw head. As clearly shown in the drawings the gravity locking pin M, is reduced toward its upper end to a size narrower than the upper one of the pin openings N, at one side of which pin opening is formed a stop shoulder Q, against which falls the corresponding shoulder Q', near the upper end of the gravity pin so as to limit the downward fall of the same. Said pin is held in a position to work over the shoulder of the draw head by means of the removable pin R, arranged across the upper one of the securing pin openings back of the locking pin. By removing the pin R, the gravity pin may be lowered out of the draw head. The upward movement of the locking pin which is lifted automatically by the locking arm of the pivoted knuckle or nose, is limited by the shoulder stop S, formed at the lower end of said locking pin and adapted to be drawn against the bottom of the draw head, and when it is desired to uncouple the cars, to allow the arm of the knuckle or nose to be swung out of the recess, the gravity locking pin is lifted by any suitable lever devices on the car end so as to bring the notch O, in a position so that the tongue end of the arm K, can pass therethrough.

In connection with the vertical movement of the gravity locking pin M, it may be observed at this point that the draw head B, is provided within its horizontal recess with a vertical shoulder S', at one side of the locking pin, so that such pin will be relieved entirely from the strain of the arm K, which is placed thereon when the cars are pulling.

From the foregoing it is thought that the construction, operation and the many advantages of the herein described car coupling will be readily apparent, it being of course

understood that the draw heads on each car are duplicate constructions, and that the pivoted knuckles or noses automatically interlock with each other when the draw heads are brought together in the ordinary manner.

Changes in the form, proportion and the minor details of construction as embraced within the scope of the appended claims may be resorted to, without departing from the principle or sacrificing any of the advantages of this invention.

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

1. In a car coupling, the horizontally recessed draw-head having vertically aligned pin openings and a stop shoulder located at one side of the upper one of the pin openings, a gravity locking pin removably mounted within the pin openings for a vertical play and provided with a narrowed upper end, an upper stop shoulder adapted to work onto the stop shoulder in the upper one of the pin openings, a lower stop shoulder at its lower end adapted to work against the bottom of the draw head, and an intermediate angle notch having a beveled upper edge, a securing pin removably fitted in the draw-head and arranged transversely across the upper one of the pin openings in rear of the upper narrowed end of the locking pin, and the pivoted knuckle or nose having a swinging locking arm provided with a beveled lifting tongue, substantially as set forth.

2. In a car coupling, the combination with the twin interlocking heads; of the knuckle or pivot pins having lower projecting portions extended below the heads, and safety knobs removably clamped on the extended portions of said pins and provided with widened flanges, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM CONSTANTINE BEAL.

Witnesses:

JOHN S. LEE,
JOHN T. BEAL.