

G. B. QUIGLEY.
Car-Couplings.

No. 152,682.

Patented June 30, 1874.

FIG. I.

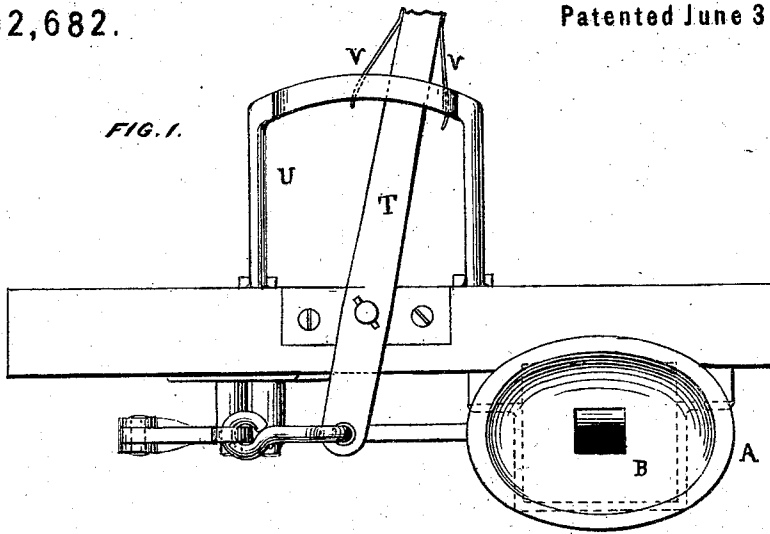
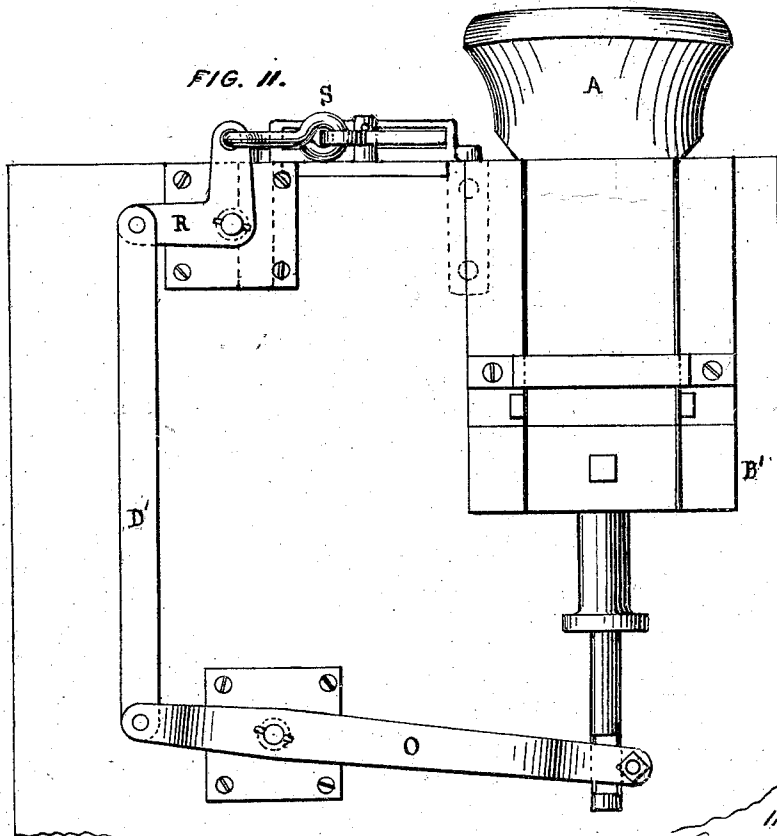


FIG. II.



WITNESSES:

Thomas S. Morris.
James L. Norris.

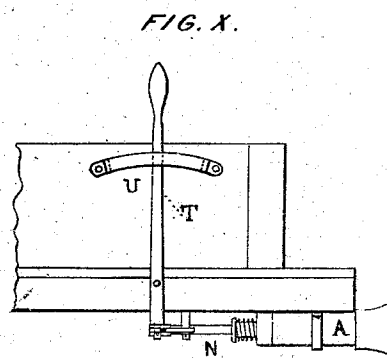
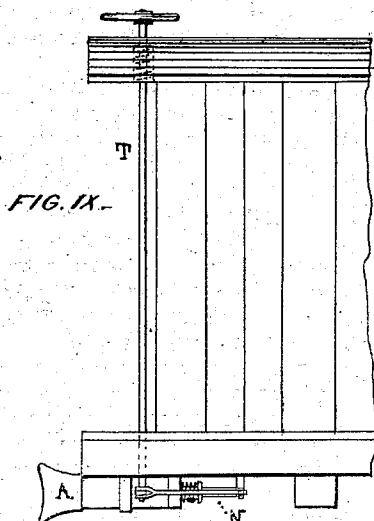
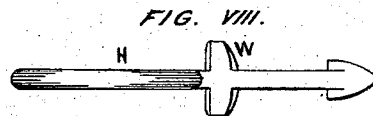
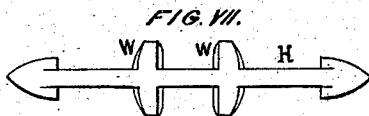
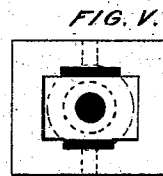
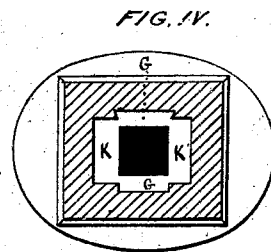
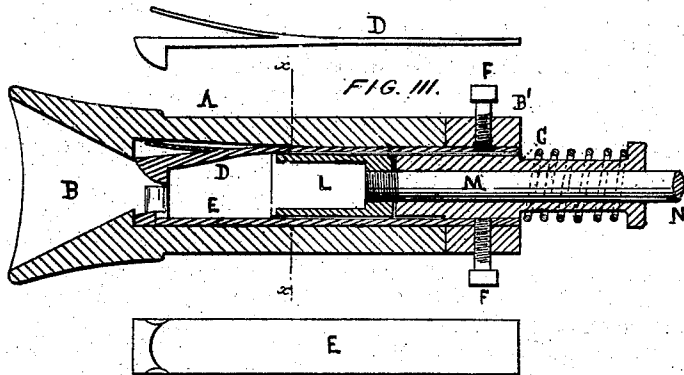
INVENTOR:

George B. Quigley

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WITNESSES:

Thomas T. Moore
J. L. Norris

INVENTOR:

George B. Quigley

UNITED STATES PATENT OFFICE.

GEORGE B. QUIGLEY, OF ST. PETERSBURG, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO THOMAS T. MOORE AND JEROME B. AKEN, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **152,682**, dated June 30, 1874; application filed June 22, 1874.

To all whom it may concern:

Be it known that I, GEORGE B. QUIGLEY, of St. Petersburg, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification:

This invention relates to that class of car-coupling devices in which is employed a spring hook or jaw and a barbed coupling bar or link; and it has for its object to simplify the construction of parts, and to render the coupling operation more certain and precise, provision being also made for readily removing any or all of the coupling devices whenever desired.

The invention consists, first, in a draw-head for cars, made in two parts, or bisected vertically, the first section being provided with internal grooves or seats in its top and bottom for the reception of a spring-pressed hooked coupling-jaw, and a rigid hooked base plate or jaw, the rear ends of which are inserted into recesses made in the detachable rear section of the draw-head, and secured thereto in such a manner that the coupling and disengaging devices may be readily withdrawn by removing the detachable rear section of the draw-head. The invention further consists in the employment of a longitudinally-sliding hollow block or plunger, for spreading or raising the hooked coupling-jaw in order to liberate the barbed coupling bar or link, said block being operated through the medium of a horizontal lever, which is connected with the stem of the sliding block at the rear of the draw-head, said lever being operated to move the sliding block by means of a vertical lever located on the platform or side of the car, or by a shaft extending to the roof, and a bell-crank lever and connecting-link. The invention further consists in a coupling-bar having barbed heads at both ends, or formed with a head at only one end and a link at the other end, to adapt it for use in connection with ordinary draw-heads, said coupling-bar being provided with projections or stops midway between both heads, for limiting the extent of penetration into the draw-head, so as to cause the barbed or arrow head to engage properly with the

movable spring-jaw and the hooked bottom plate, which is conducive of retaining the firm connection of the parts until the car leaves the track or becomes separated, when the coupling-bar will turn so as to free its shoulders from the coupling-jaws, thus disengaging the parts.

In the accompanying drawings, Figure 1 is a front elevation of a draw-head and disengaging devices. Fig. 2 is a bottom view of a car, showing the sectional draw-head and the system of levers for disengaging the coupling devices. Fig. 3 is a longitudinal section of a draw-head constructed according to our invention, representing also the coupling and uncoupling devices in position. Fig. 4 is a transverse section taken on the line *x x* of Fig. 3. Fig. 5 is a front view of the rear section of the draw-head. Fig. 6 is a detail view of the sliding uncoupling block or head. Figs. 7 and 8 represent different forms of coupling-bars used in connection with our draw-head. Figs. 9 and 10 represent means for operating the uncoupling devices from the top and side of a car.

The draw-head A, which is of a quadrilateral form throughout nearly its entire length, possesses a bell-shaped or flaring mouth, B, for facilitating the passage of the coupling bar or link into the same. The draw-head is divided or bisected vertically near its rear end so as to form a rear section, B¹, which is entirely separate or distinct from the main portion of the draw-head. The rear section B¹, which in its external form is the same as the front section, is fitted to the latter, or secured to the same by means of a square block or projection, C, on its front face, (shown in Figs. 3 and 5,) which is seated in the correspondingly-shaped chamber of the draw-head, and secured in position by screws or bolts passing through the walls of the draw-head and entering the square block C. The coupling devices, consisting of the hooked spring-pressed jaw D and the stationary hooked or shouldered bottom plate E, are secured to the rear section of the draw-head by inserting their rear ends into recesses in the larger portion of said rear section, and securing them in place by

means of screws F, as is clearly shown in Fig. 3. The front section A of the draw-head is provided with internal grooves or channels G G in its top and bottom walls, said grooves being designed for the reception and retention of the hooked jaws D E, which are thus secured in a firm and efficient manner, but nevertheless detachably, so that by detaching the rear section of the draw-head the coupling devices can be readily removed for repairs, or for other purposes.

The jaw D, located at the top of the draw-head is, provided with a hooked head, the inner shouldered portion of which is made concave or curved, so as to receive a correspondingly-shouldered head of a barbed or arrow-headed coupling bar or link, H. (Shown in Figs. 7 and 8.) The requisite downward pressure upon the jaw D is obtained by means of a spring, I, which is riveted to the jaw; or it may be formed of the same metal as the jaw, or be of any other suitable form. The lower hooked or shouldered plate E, which may be termed a fixed jaw, is provided with a curved or concave shoulder, the same as that of the jaw D, and also with lateral vertical cheeks or flanges K, which limit the lateral movement of the coupling-bar.

The connection of the coupling-bar with the jaws D E is effected in an automatic manner by presenting the bar properly and causing it to glide into the draw-head, so as to raise the spring-jaw D until the head of the bar has passed its shouldered portion, when it is immediately forced downward to retain the coupling-bar.

The connection of the cars coupled together is certain so long as the same remain on the track; but when, from any cause whatever, the cars are thrown off the track, then the coupling-bar will be turned so as to free its shoulders from the coupling-pins, thus permitting the uncoupling of the separated cars to take place.

The disengaging mechanism for uncoupling the cars by manual power comprises a longitudinally-sliding block or plunger, L, made hollow for the sake of lightness, and located within the draw-head, as shown in Fig. 3. Said block is forced forward toward the mouth of the draw-head, so as to raise the jaw D, when the coupling-bar is permitted to pass out, and for graduating the spreading force, the top of the block may be made slightly beveled or tapering. The disengaging-block is carried by a stem or spindle, M, which passes out, and is guided by a cylindrical extension, N, of the rear portion of the draw-head. The rear end of said stem is fitted between or connected with a horizontal lever, O, having bifurcated ends, the long arm thereof being connected to the stem, while the shorter end on the opposite side of the fulcrum P carries

an arm, D', extending in a lengthwise direction to the front of the car, and attached there to one arm of a horizontal bell-crank or elbow-lever, R. A link, S, serves to connect said elbow-lever with a vertical hand or power lever, T, which extends above the car-platform, so as to be within easy reach of the brakeman. The lever T operates in a guide-frame, U, and is provided with springs V on both sides, which act as cushions, or elastic stops.

It will be perceived that by turning the hand-lever to the left the system of horizontal levers and connections will force the uncoupling head forward, and by moving the lever to the right the latter will be shifted to the rear of the draw-head.

In freight and other cars possessing no platforms, the uncoupling is effected either from the top or side of the car, as represented in Figs. 9 and 10, a vertical windlass-shaft, extending to the top of the car, and a lever at the side of the car, being respectively shown in said figures.

The double-headed coupling-bar (shown in Fig. 7) is employed when both cars to be coupled are provided with our coupling devices, while the combined link and headed bar (shown in Fig. 8) is used in connection with an ordinary draw-head.

The stops or projections W, located on the bar between the heads, are designed to prevent the latter from penetrating too far into the drawhead.

In some instances, the upper spring-jaw will be jointed at or about its center, so that the free end portion of the spring may have an up-and-down motion within the draw-head, whereby the spring will have a tendency to always press upon the link, by which means is secured a constant pressure on the spring and link during any motion of the cars or the coupling-pin.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A draw-head for cars, composed of two sections, A B', detachably combined, to enable the rear section, together with the coupling devices, to be removed, substantially as described.

2. The combination of the channeled front section A, hooked coupling-jaws D E, and the rear detachable section B', having a square attaching-block, C, substantially as described.

3. In combination with the draw-head A B' and jaws D E, the longitudinally-sliding plunger L, connected with mechanism for operating the same, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand.

GEO. B. QUIGLEY.

Witnesses:

JAMES L. NORRIS,
T. T. MOORE.