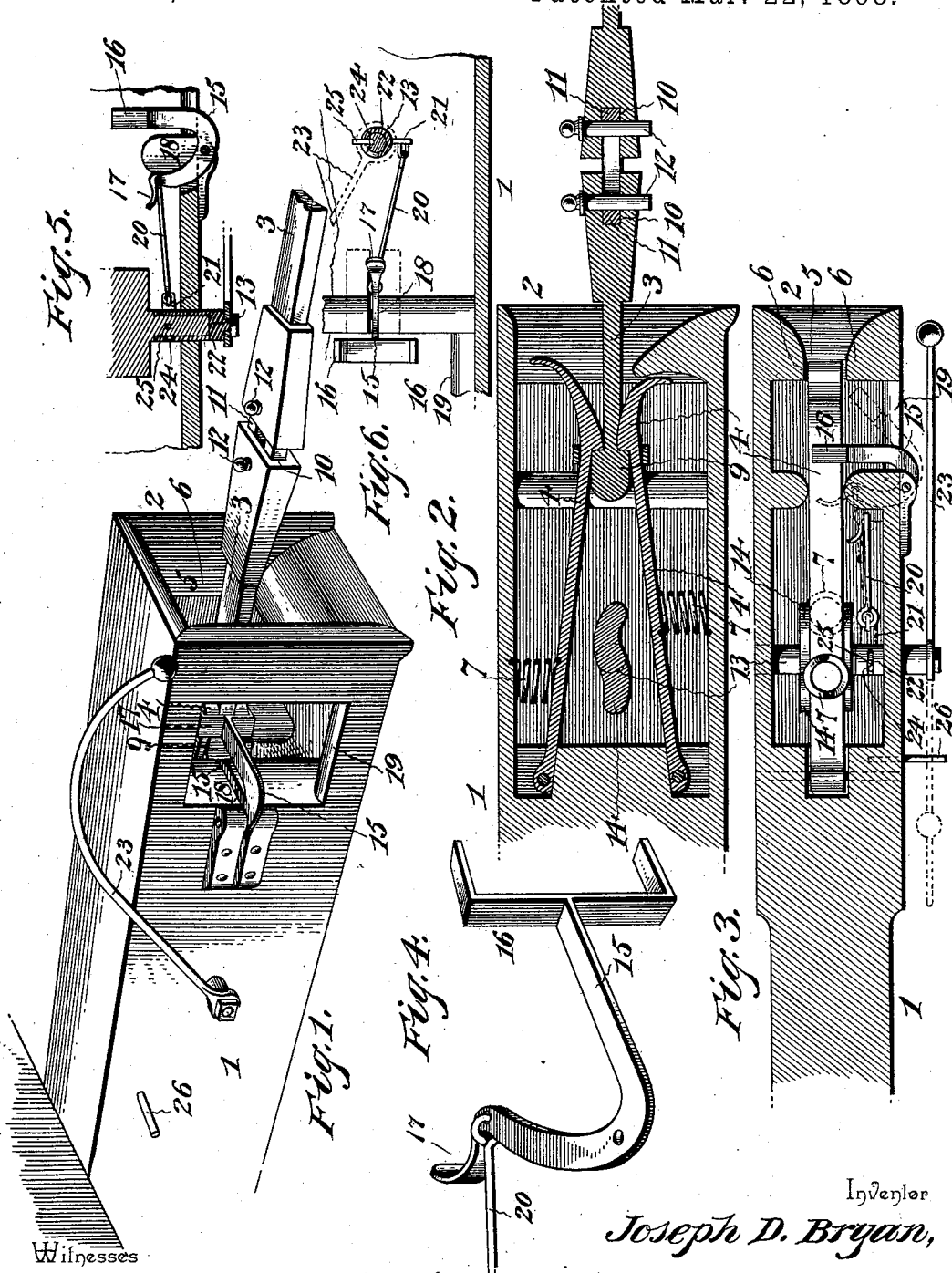


(No Model.)

J. D. BRYAN.  
CAR COUPLING.

No. 601,119.

Patented Mar. 22, 1898.



Witnesses

Harold H. Quinn. By his Attorneys,

J. H. Riley

Inventor

Joseph D. Bryan,

Cashwell.

# UNITED STATES PATENT OFFICE.

JOSEPH D. BRYAN, OF VALLE CRUCES, NORTH CAROLINA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 601,119, dated March 22, 1898.

Application filed May 7, 1897. Serial No. 635,522. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH D. BRYAN, a citizen of the United States, residing at Valle Cruces, in the county of Watauga and State of North Carolina, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

The object of the present invention is to improve the construction of car-couplings and to provide a simple and comparatively inexpensive one capable of coupling automatically and adapted to be readily uncoupled without going between cars.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a car-coupling constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view illustrating the position of the parts when coupled. Fig. 3 is a horizontal sectional view, the locking-lever being shown in engagement with the jaws in full lines and out of engagement in dotted lines. Fig. 4 is a detail perspective view of the locking-lever. Fig. 5 is a detail sectional view illustrating the construction of the connection between the locking-lever and the rock-shaft. Fig. 6 is a detail sectional view taken longitudinally of the draw-head and illustrating the construction of the rock-shaft.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

1 designates a draw-head having a flaring mouth 2, adapted to direct a coupling-link 3 into engagement with a pair of longitudinally-disposed jaws 4, pivoted at the rear ends of their shanks by transverse pins which pass through the back of the draw-head. The draw-head is provided in rear of the throat 5 with flanges 6, which form a guide for the lower jaw 4, and the latter, which terminates short of the throat, is arranged between the flanges 6 and is beveled at the upper face of its head. The upper longitudinally-disposed jaw 4 extends beyond the lower jaw and is curved upward slightly

and is guided in the throat 5. The jaws are forced together by upper and lower spiral springs 7, interposed between the shanks of the jaws and the top and bottom of the draw-head, and the curved extension of the upper jaw forms a flaring mouth and enables the coupling-link in entering the draw-head to spread them readily.

The coupling-link 3, which is provided at its ends with substantially arrow-shaped heads 9 to interlock with the jaws 4, is composed of two bars or sections provided at their inner ends with sockets 10, receiving a connecting link or plate 11, and the latter is slotted and is secured in the sockets 10 by bolts or pins 12. The slotted connecting link or plate 11 permits the necessary longitudinal play of the parts and enables cars to be successively started.

The jaws are spread to release the coupling-link and effect the operation of uncoupling by a transverse rock-shaft 13, journaled in suitable bearings and provided with oppositely-disposed arms 14, arranged between the shanks of the jaws and having curved engaging faces. The shanks of the jaws diverge inwardly, and the arms 14, which are arranged between them, are disposed longitudinally of the draw-head when the parts are coupled, and by rotating the rock-shaft the arms 14 are swung toward an upright position and force the jaws apart against the action of the springs 7.

When the jaws are in engagement with the coupling-link, they are locked against accidental separation by a lever 15, consisting of a substantially U-shaped body portion, a rectangular yoke 16, carried by the front of the locking-lever, and an arm 17, arranged substantially at right angles to the rear portion of the same. The U-shaped body portion of the locking-lever is fulcrumed on the draw-head and operates in a slot 18 and an opening 19, and the yoke is adapted to engage the upper and lower faces of the jaws. The arm 17, which is curved, extends transversely of the jaws when the parts are uncoupled, as illustrated in dotted lines in Fig. 3 of the accompanying drawings, and it is adapted to be engaged by a link entering the draw-head, whereby the locking-lever will be carried into engagement with the jaws.

The locking-lever is connected by a link-rod 20 with an arm 21 of a sleeve 22, which forms a section of a rock-shaft 13 and which carries an exteriorly-arranged operating-arm 23. The sleeve or tubular section of the rock-shaft is provided with a slot 24, receiving a pin 25 of the main section, which carries the arms 14, and by this construction the outer tubular section has a limited movement independent of the main section, whereby when the operating-arm is oscillated the locking-lever will be thrown out of engagement with the jaws before the latter are separated by the arms 14. The draw-head, which may be constructed in any suitable manner, is provided with a stop 26, arranged to limit the inward swing of the operating-arm 23, and any suitable means may be provided for enabling the latter to be oscillated from the sides or top of the car or the platform of a coach.

It will be seen that the car-coupling is simple and comparatively inexpensive in construction, that it is positive, reliable, and automatic in operation, and that it obviates the necessity of going between cars either in coupling or uncoupling.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a car-coupling, the combination of a draw-head, a pair of jaws mounted therein, a substantially U-shaped locking-lever fulcrumed at its bend on the draw-head and provided at one arm with a yoke to receive the jaws when the parts are coupled, and provided at its other arm with a curved portion 17 disposed at an angle to the adjacent portion of the lever and arranged between the jaws in the path of the link when the yoke is out of engagement with the jaws, whereby when a link enters the draw-head the locking-lever will be operated, and means for spreading the jaws and for operating the locking-lever to carry the yoke out of engagement with them, substantially as described.

2. In a car-coupling, the combination of a draw-head, spring-actuated jaws mounted in the draw-head and adapted to engage a link, a rock-shaft composed of two sections having a limited movement independent of each other, arms 14 interposed between the jaws, adapted to spread the same and mounted on one of the sections of the rock-shaft, an arm 21 carried by the other section, a locking-lever fulcrumed on the draw-head and arranged to engage the jaws, and a link-rod connecting the locking-lever with the arm 21, substantially as described.

3. In a car-coupling, the combination of a draw-head having a flaring mouth and provided in the rear of the throat with vertical flanges forming a guide, upper and lower longitudinally-disposed jaws mounted in the draw-head, the lower jaw being guided by the said flanges and the upper jaw being extended beyond the lower one and having its extremity curved and arranged in the throat of the draw-head, means for spreading the jaws, and a locking-lever connected with such means and arranged to engage the jaws, substantially as described.

4. The combination with two draw-heads each provided with a pair of jaws, of a link composed of two similar bars provided at their outer ends with arrow-heads 9 detachably interlocking with the jaws of the draw-heads, said bars being provided at their inner ends with longitudinal sockets 10 having coupling-pin perforations, a slotted plate or link 11, fitting in said sockets, and coupling-pins arranged in the coupling-pin perforations and engaging the slotted plate or link, whereby the said bars have a limited longitudinal play, substantially as and for the purpose described.

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

JOSEPH D. BRYAN.

Witnesses:

E. S. COFFEY,  
A. J. CRITCHER.