(No Model.)

2 Sheets—Sheet 1.

J. H. DAVIS.

CAR COUPLING.

No. 372,459. Patented Nov. 1, 1887.

Fig. 1.

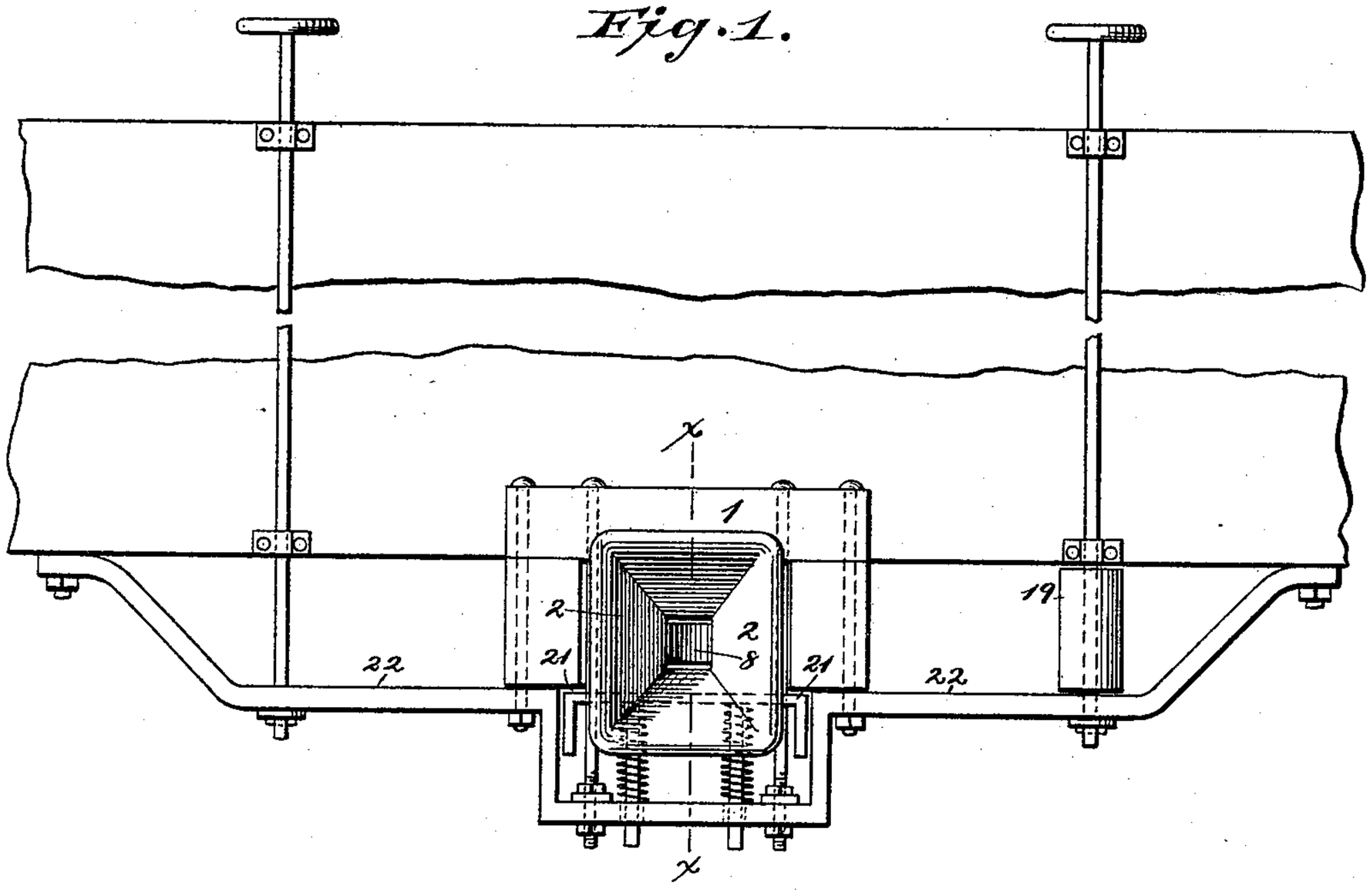
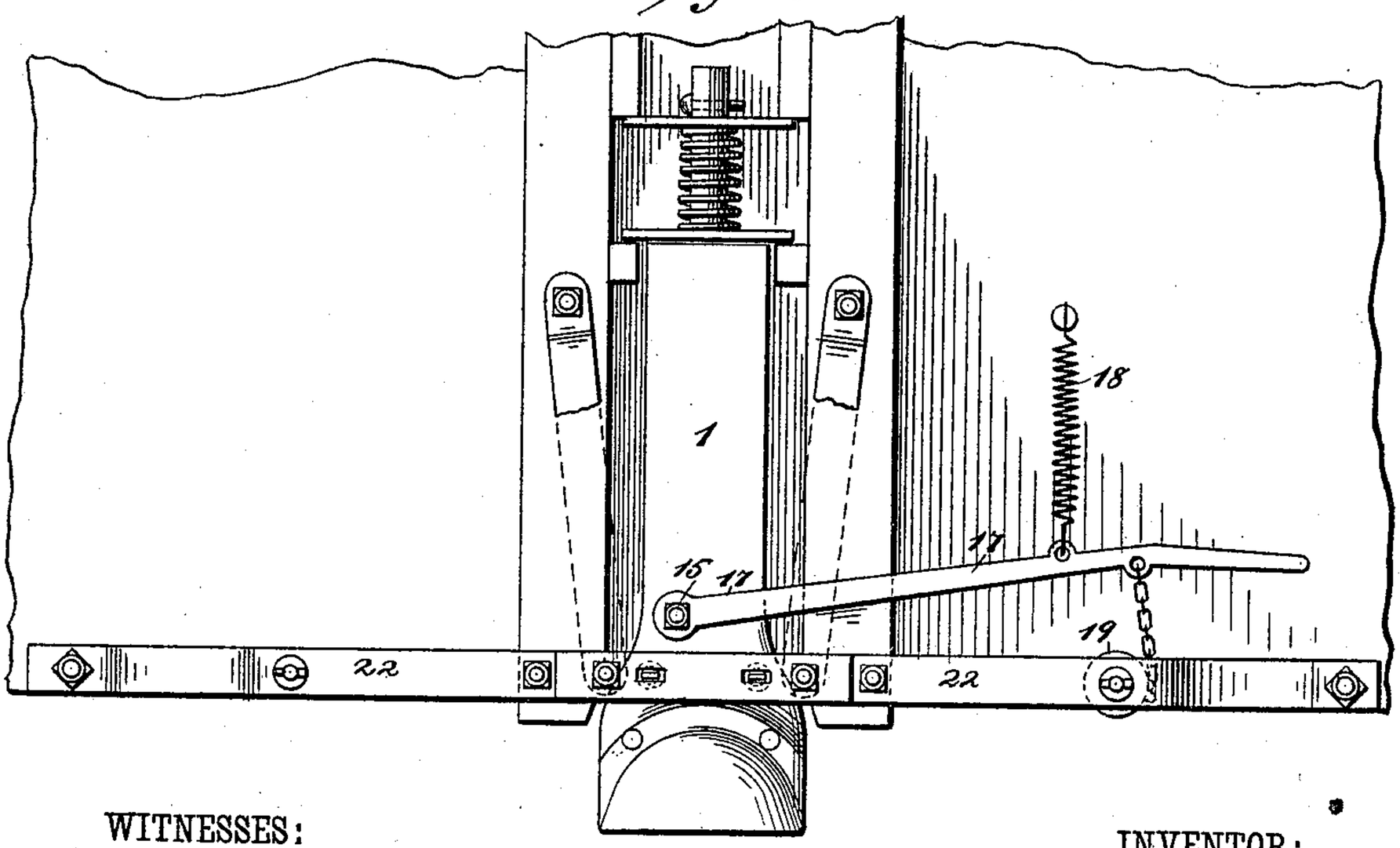


Fig. 2.



WITNESSES:

George Binstenburg

C. Sedgwick

INVENTOR:

J. H. Davis

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ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

J. H. DAVIS.

CAR COUPLING.

No. 372,459. Patented Nov. 1, 1887.

Fig. 3.

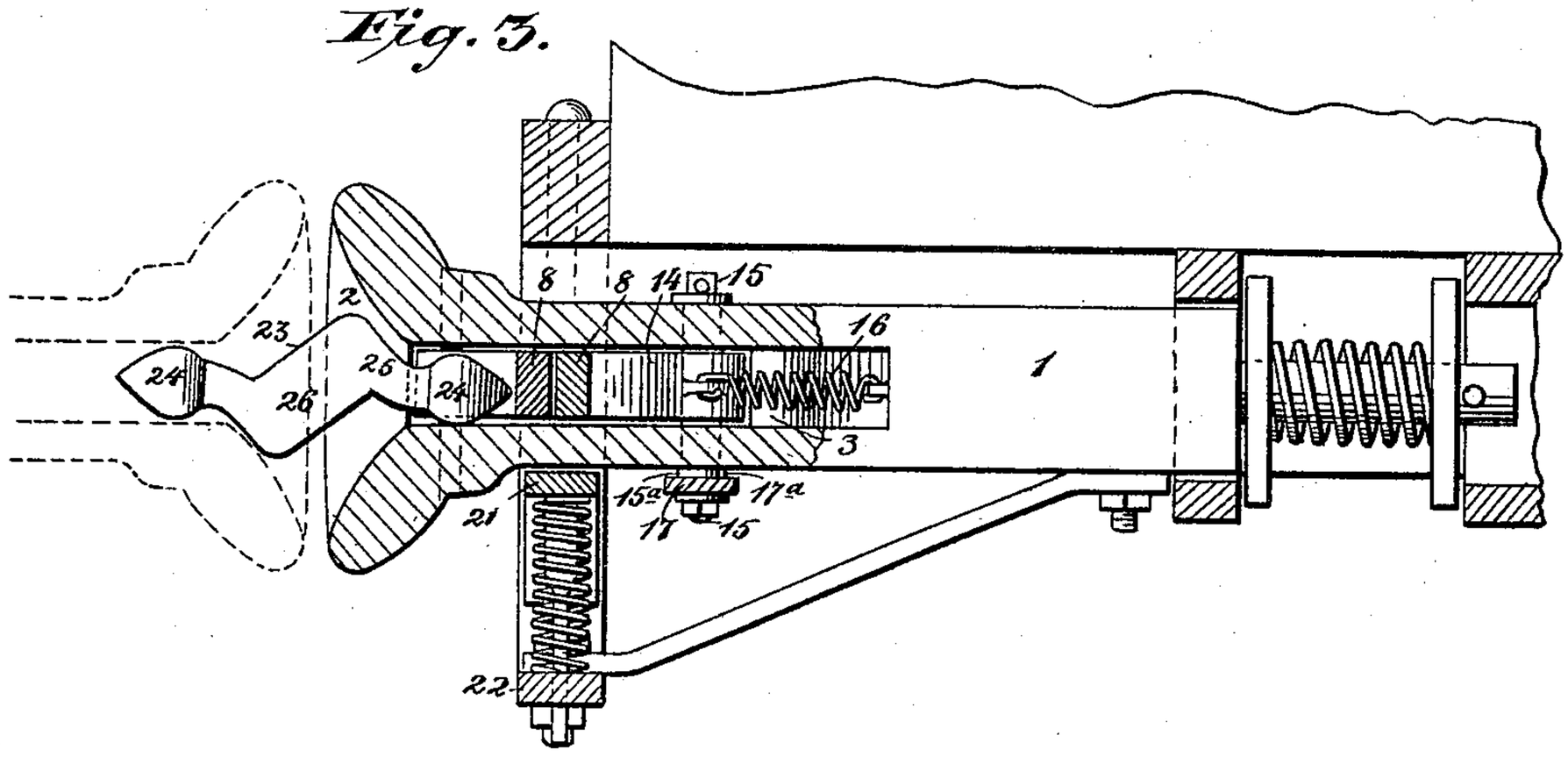


Fig. 4.

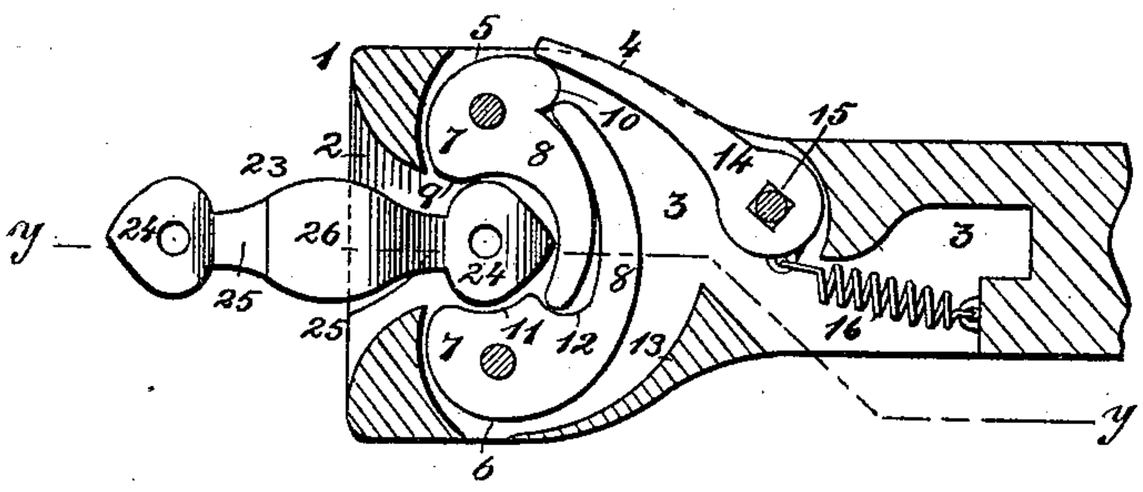


Fig. 5.

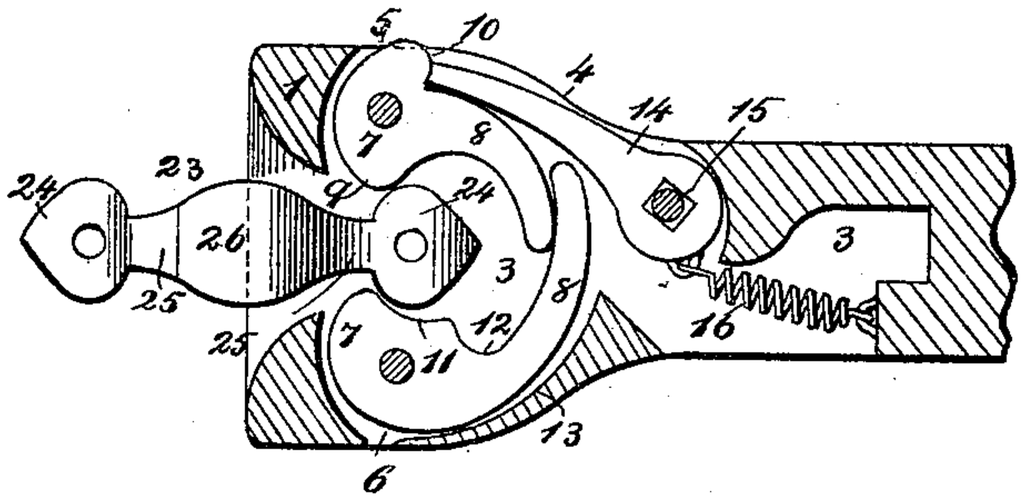


Fig. 6.

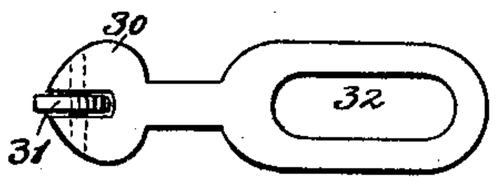
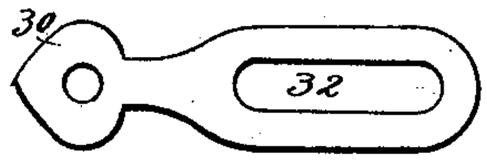


Fig. 7.



WITNESSES:

George Bintenburg

C. Sedgwick

INVENTOR:

J. H. Davis

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JONATHAN H. DAVIS, OF NATCHEZ, MISSISSIPPI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 372,459, dated November 1, 1887.

Application filed March 31, 1887. Serial No 233,156. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN H. DAVIS, of Natchez, in the county of Adams and State of Mississippi, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to an improved car-coupling, and has for its object to provide a coupler of simple and cheap construction which may be substituted for the ordinary coupler with little expense, and wherein the cars carrying the improved coupler may be coupled upon a curve and with an opposing coupler of unequal height.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the coupler attached to a car, and Fig. 2 is a bottom plan view of the same. Fig. 3 is a central vertical section through line *x x* of the coupler, illustrating the coupling with an opposing draw-head of equal height on line *x x* of Fig. 1 and *y y* of Fig. 4. Fig. 4 is a horizontal section through the draw-head, representing the position of the parts when the link is presented for coupling; and Fig. 5 is a horizontal section through a draw-head when the link has entered and fallen back to its working position. Figs. 6 and 7 are detail views of the link.

The draw-head 1, provided with the usual bell-mouth, 2, is preferably cast in one piece and of a shape approximating the ordinary draw-head, whereby the said draw-head and attached bar may replace the said ordinary coupler without inconvenience.

The interior of the draw-head is provided with a central chamber, 3, having direct communication with the usual link-opening therein, the said chamber being preferably open upon one side 4, or both sides, if desired. Within the said chamber 3, at each side of the link-opening, latches 5 and 6 are pivoted, the said pivotal connection being effected through their bodies 7, each body having an integral rearwardly-projecting curved arm, 8, as shown in Figs. 4 and 5.

The latch 5 is constructed with a cam projection, 9, integral with the inner edge of the body, and a shoulder, 10, upon the opposite or outer edge, the arm 8 being convexed upon the outer edge and curved or concaved upon the inner edges to an intersection with the aforesaid cam projection 9. The body of the latch 6 and the integral arm 8 have their outer edges formed in one continuous curve, the inner edge of the body being provided at the outer end with a cam projection, 9^a, in alignment with the cam projection 9 upon the body of the opposing latch. Immediately to the rear of said projection 9^a a concavity, 11, is formed, adapted to substantially correspond with the opposing curve in latch 5, and an inner recess, 12, is provided, adapted to intersect the said concavity and the inner concave edge of the integral arm 8.

A concave wall, 13, is provided, the chamber 3 upon one side forming the boundary thereof, adapted to both strengthen the draw-head and limit the outward throw of the latch 6. The said wall may, however, be omitted and the two sides of the chamber be left open, if found desirable, to facilitate placing the various parts of the coupler in proper position.

To the rear and at one side of the draw-head a pawl, 14, is attached to a pivotal pin, 15, journaled vertically in the same, which pawl is automatically retained in its normal position—namely, in contact with the shoulder 10 of latch 5—by a spring, 16, attached in any suitable manner to said pawl and the draw-head within the chamber 3. The lower end of the pivotal pin 15, to which the pawl 14 is attached, is provided with a semicircular projection, 15^a, near the end. Upon the extreme lower end of said pin 15 a lever, 17, is pivoted, adapted to extend horizontally beneath the car-body, as shown in Fig. 2, the said lever 17 being provided at its pivotal point with a semicircular projection, 17^a, similar to the said projection upon the pin 15, which projections upon the pin and lever are adapted to face each other and engage when the lever 17 is drawn outward. When, however, the link engages the latches 5 and 6 in entering the draw-head, the pawl 14 may act independently of the lever 17. The lever 17 is normally held out of connection with the pivot-pin 15 by a spring, 18, attached thereto and to the under

portion of the car-body, and may be brought into action to uncouple by chain attachment to a suitable brake, 19, or by the manipulation of the end 20 of the said lever, which may project to one or both sides of the car.

The draw-head is supported by a spring-actuated bar, 21, held in a yoke, 22, attached transversely the car at the end, or, preferably, upon the yoke itself, the springs being discarded. In that event the yoke is made shallower than illustrated; or the support may be a straight bar or a bar curved forward sufficiently to avoid interfering with the semicircular projections 15^a and 17^a.

The link, 23, employed in coupling is made with apertured arrow-like heads 24 in substantially the same plane, each head being provided with an oppositely-curved neck, 25, connected to a body, 26, integral with said necks extending above and below the plane of the heads and at an angle thereto, whereby the said link is specially adapted to couple with an opposing coupler of equal height, and also with those unequal in height. This is due to the special construction, wherein ample play is admitted either to extend at an inclination up or down when in the draw-head. The apertures, round or oblong, in the head of said link are to facilitate coupling with an opposing pin coupler.

In Fig. 6 I illustrate a modified form of link, in which one end, 30, is formed into an arrow shape, having a roller, 31, journaled at the apex, the other end being constructed in the form of an ordinary link, 32. Fig. 7 differs from Fig. 6 only in that the roller is discarded and the aperture 34 substituted.

From the foregoing description, taken in connection with the accompanying drawings, the operation will be readily understood.

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

1. The combination, with the draw-head 1, having a central chamber, 3, of the latches 5 and 6, pivoted each side the link-opening, having engaging curved arms 8, the link 23, spring-actuated pawl 14, and means for operating the same, substantially as shown and described.

2. The combination, with the draw-head 1, having a central chamber, 3, of the latches 5 and 6, pivoted each side of the link-opening, having opposing concavo-convex edges and overlapping integral curved arms 8, the link 23, spring-actuated pawl 14, the lever 17, and means for operating said lever, substantially as shown and described.

3. The combination, with the draw-head 1, having a central chamber, 3, of the latches 5 and 6, pivoted each side of the link-opening, having opposing concavo-convex edges and overlapping integral curved arms 8, the latch 5, provided with a shoulder, 10, upon its outer edge, a spring-actuated pawl, 14, pivoted in said chamber 3, and means for operating said pawl, substantially as herein shown and described.

4. The combination, with the draw-head 1, having a central chamber, 3, latches 5 and 6, pivoted each side of the link-opening, having opposing concavo-convex inner edges and overlapping integral arms 8, the latch 5, provided with a shoulder, 10, upon its outer edge, a spring-actuated pawl, 14, and means for operating the same, of a link, 23, provided with apertured arrow-headed ends 24, and a body, 26, extending above and below said heads, substantially as shown and described, and for the purposes herein set forth.

5. The combination, with a draw-head constructed substantially as herein shown and described, of a link, 23, provided with arrow-headed ends 24, having oppositely-curved necks 25, and the body 26, extending above and below said ends and necks at an angle thereto, as set forth.

6. In a car-coupling, a link having arrow-shaped ends in substantially the same plane, integral necks 25, curved in opposite directions, and a body, 26, adapted to project above and below the plane of said necks and arrow-shaped ends and at an inclination thereto, as set forth.

JONATHAN H. DAVIS.

Witnesses:
CHAS. T. CHAMBERLAIN,
C. V. PATTERSON.