No. 627,761. Patented June 27, 1899.

W. A. OLER.

CAR COUPLING.

(Application filed Feb. 27, 1899.)

(No Model.)

Fig. 1.

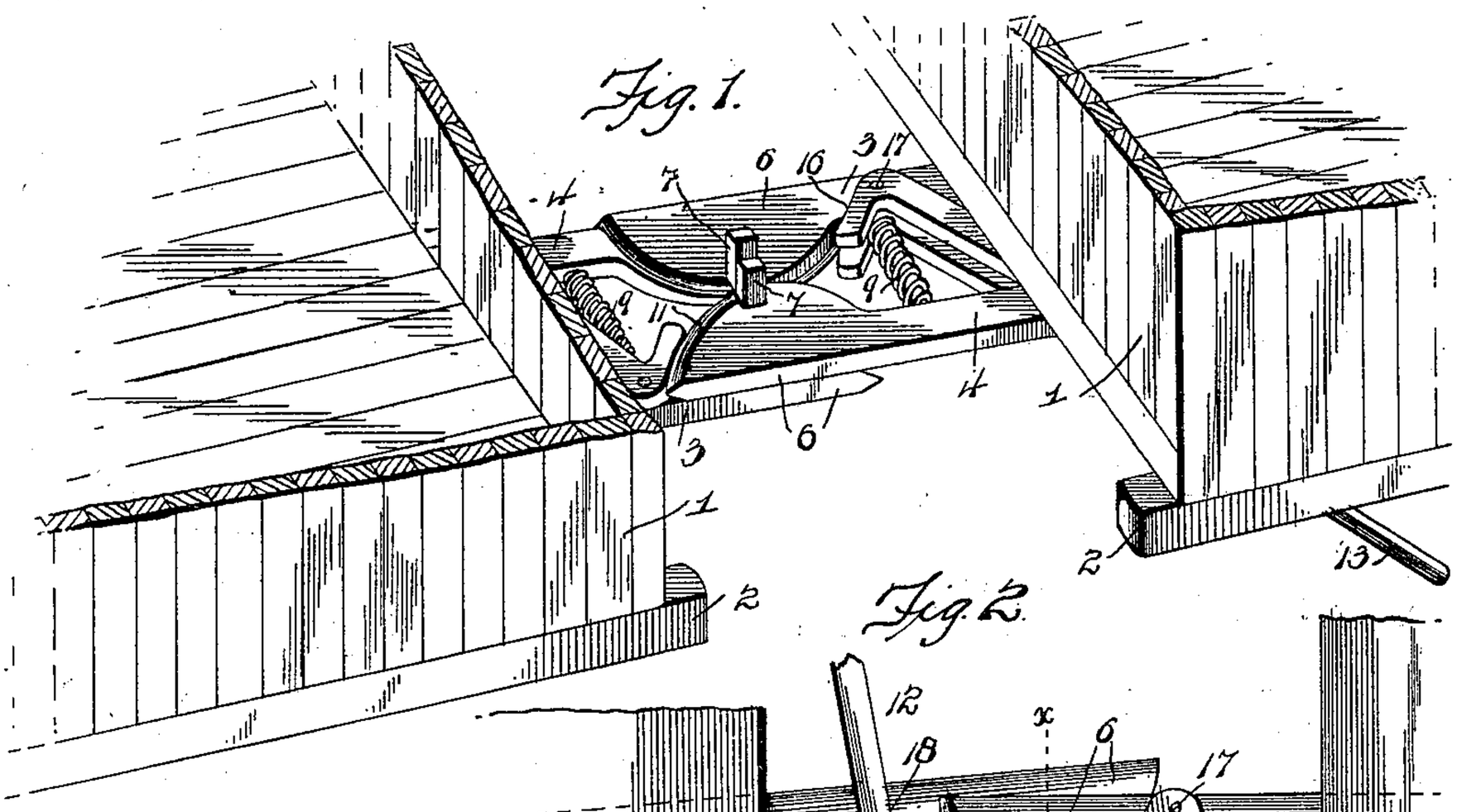


Fig. 2.

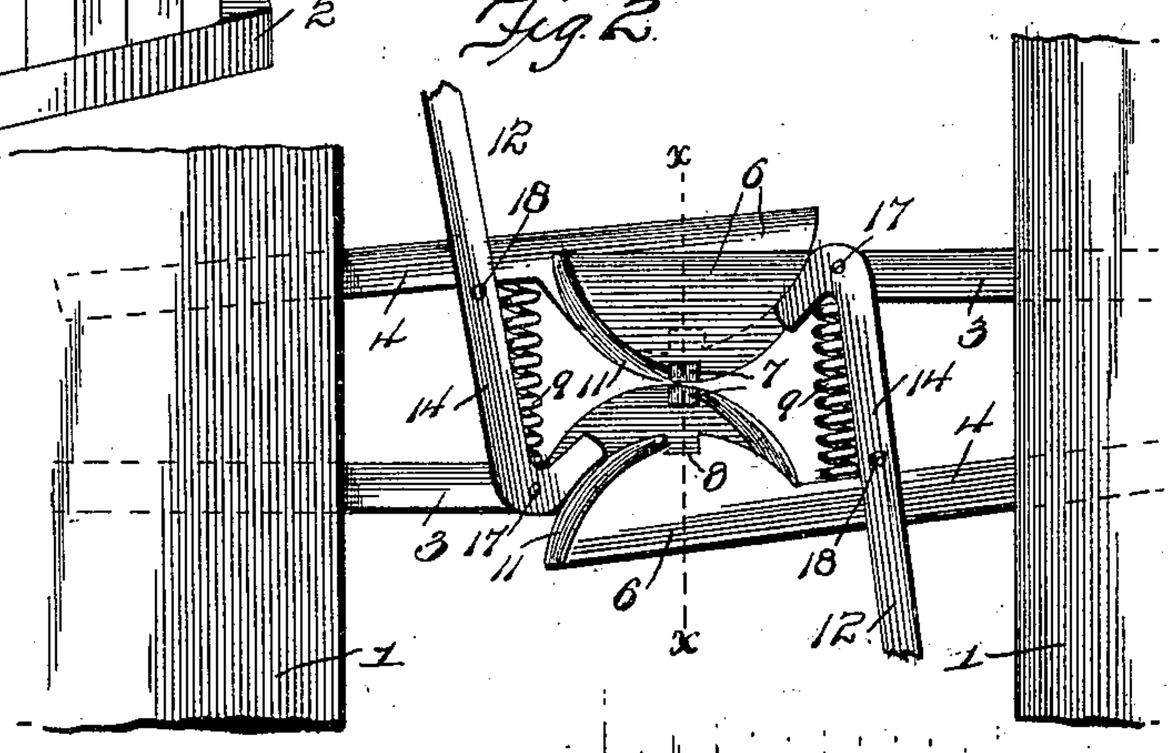


Fig. 3.

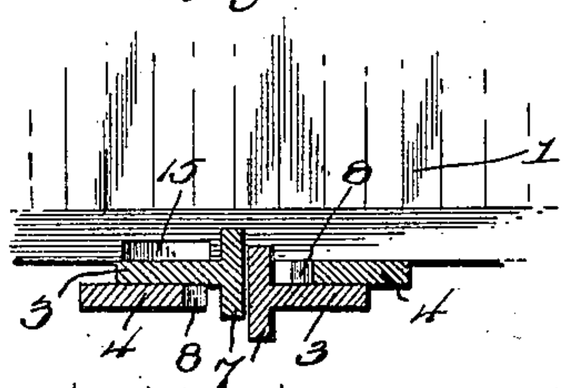


Fig. 4.

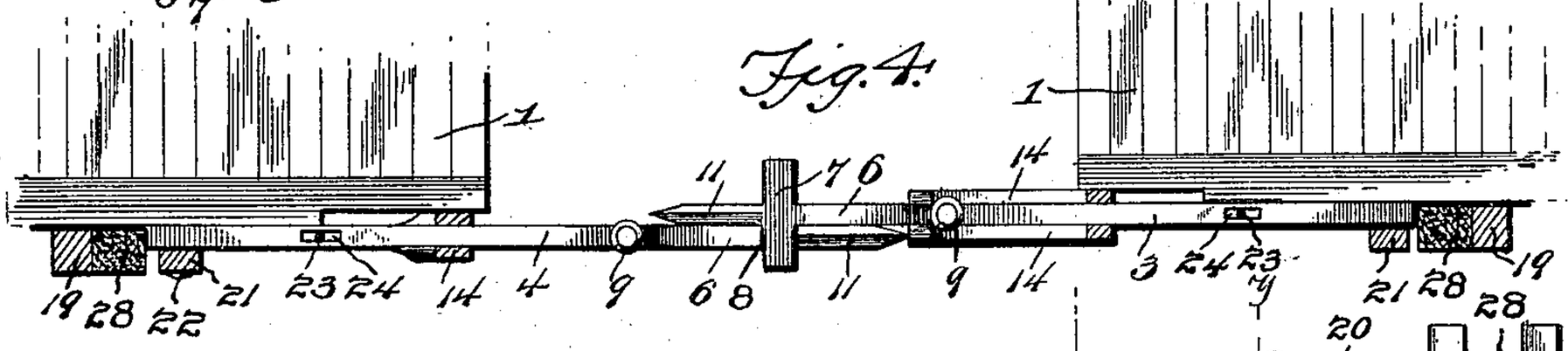


Fig. 5.

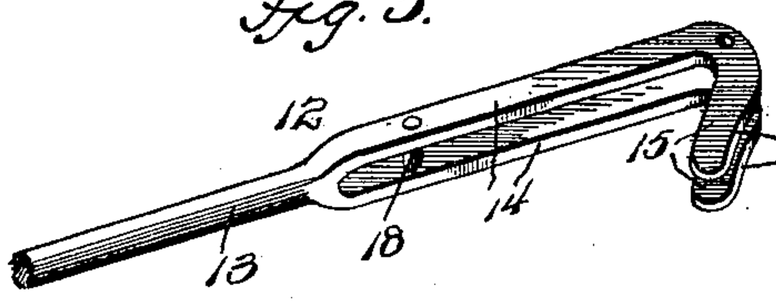


Fig. 6.

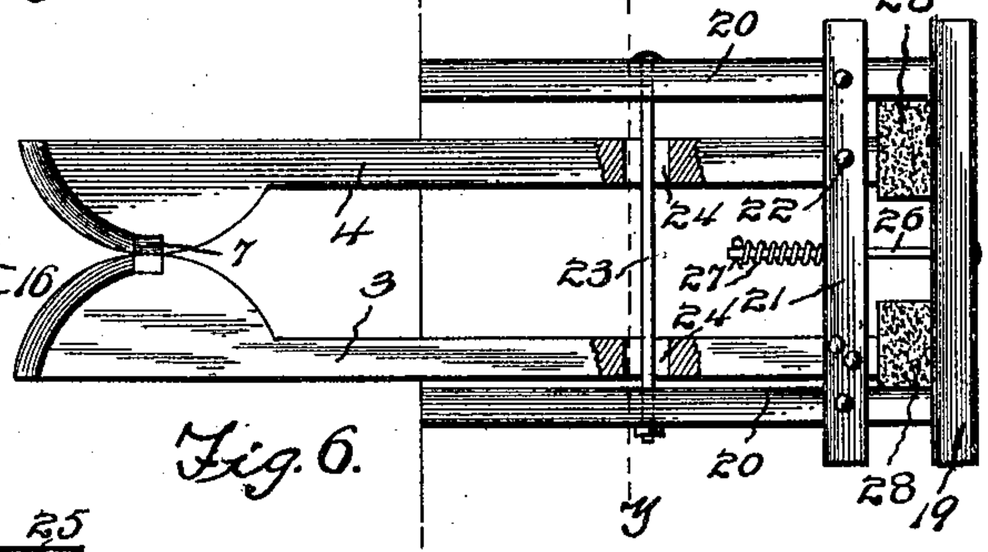
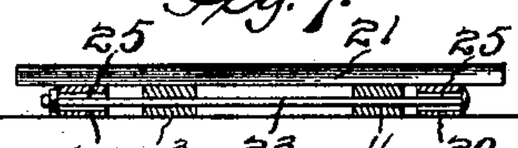


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM A. OLER, OF DUBLIN, INDIANA, ASSIGNOR OF ONE-HALF TO WILLIAM L. NOFTSKER, OF ELWOOD, INDIANA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 627,761, dated June 27, 1899.

Application filed February 27, 1899. Serial No. 707,031. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. OLER, a citizen of the United States, residing at Dublin, in the county of Wayne and State of Indiana, have invented a new and useful Car-Coupler, of which the following is a specification.

This invention relates to car-couplers; and the object thereof is to provide an automatic coupler which may be readily coupled when the cars are on a curve, and a further object is to provide improved means for uncoupling the same.

To these ends the present invention consists in the novel combination and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the device in coupled position. Fig. 2 is a top plan view thereof in the uncoupled position. Fig. 3 is a transverse sectional view taken on the line *x x*, Fig. 2. Fig. 4 is detail elevation of a pair of opposite jaws in coupled position. Fig. 5 is a detail perspective view of the uncoupling-lever. Fig. 6 is a bottom plan view showing the manner of mounting the jaws upon the car. Fig. 7 is a transverse sectional view on the line *y y*, Fig. 6.

Corresponding parts are denoted by like reference characters in all the figures of the drawings.

Referring to the accompanying drawings, 1 designates the end of an ordinary car, having bumpers 2.

The coupling-jaws 3 and 4 are connected to the under side of the car, the jaw 3 being fixed and the jaw 4 being pivoted at its rear end. Each jaw is provided at its outer end with a flat segmental head 6, the curved sides thereof being disposed upon the inner meeting edges of the heads. The fixed jaw is provided with an upright lug or pin 7, extending above and below the plane of the head and flush with the curved edge thereof. The other pivoted jaw is provided with a notch or recess 8 in the curved edge thereof directly opposite the pin of the fixed jaw. A coiled spring 9 is connected at its opposite ends to the jaws 3 and 4 just in rear of the respective heads 6 and adapted to normally hold the pivoted jaws closed against the respective stationary jaws.

To couple the cars, the latter are simply run together, the pins 7 of the fixed jaws of each coupler entering between the segmental heads of the opposite coupler and forcing the pivoted jaws apart from the fixed jaws until each pin reaches a point directly opposite its respective notch 8 in the pivoted jaw, when the latter under the influence of the spring 9 will quickly close together against the fixed jaw and receive the pin in said notch. In this position the pins are seated within the respective notches, and the springs hold the jaws together, whereby the cars are coupled in a substantial manner. It will be observed that the outer segmental edges of the heads 6 are beveled from both faces of each respective head, as at 11, whereby one of the couplers is deflected above or below the plane of the other, so that the coupling action may be effected. The pins 7 fit loosely within the notches 8 to permit of the cars turning upon a curve of the track.

An important feature of the present device is that it will effectually couple upon a curve, for just as soon as the pins engage the pivoted jaws the latter will be opened thereby and the pins will be received in the notches no matter at what angle less than ninety degrees they may meet. In rounding a curve each coupler turns upon its respective pin as a center within the notch of the opposite pivoted jaws, whereby no twisting action is had to force the jaws apart, but the latter remain closed and intact.

To uncouple the device, a lever 12 is provided, and is shown in detail in Fig. 5. This lever comprises a handle 13 and a pair of parallel arms 14, each of which has a transverse head 15 extending in the same direction and at one side only of the arms. The outer edge of each of these heads is slightly concaved, as at 16, from end to end thereof. This lever is pivoted, as at 17, at its head extremity to the fixed jaw a suitable distance in rear of the segmental head thereof and receiving the two jaws in the slot formed between its arms 14. A stop-pin 18 extends through the arms 14 and engages the inner edge of the pivoted

jaw. The normal position of the lever is shown in Fig. 2, the handle being thrown back toward the car. To uncouple, the handle is thrown forward upon the pivot 17 as a center, the stop-pin 18 engages the pivoted jaw and forces it away from the fixed jaw, and the concaved portion of the head engages the curved end of the pivoted jaw of the opposite coupler and forces it away from its respective fixed jaw, all as indicated in Fig. 2. By mounting the lever to act upon the pivoted jaws of both couplers they may each be simultaneously released, thus guarding against accidental catching or hanging of any of the parts thereof.

The manner of mounting the jaws to the bottom of the car is shown in Fig. 6. A transverse sill 19 is secured to the bottom of the car a suitable distance from the end thereof, and a pair of longitudinal sills 20 extend forward therefrom. The jaws 3 and 4 are arranged between the longitudinal sills and are connected together at their rear ends by means of a transverse beam 21. The jaw 4 is pivoted to the beam, as at 22. The beam is arranged against the lower sides of the longitudinal sills, having its ends projecting beyond the same to provide a guide for the jaws in their longitudinal movement. A rod 23 extends transversely through slots 24, formed in each of the jaws, and the ends of the rod are mounted in vertical slots 25, formed in each of the longitudinal sills. By this means the jaws may move longitudinally upon the rod, and the latter may move vertically with the jaws. The jaws are connected to the transverse sill 19 by means of a rod 26, fixed to the sill and passing loosely through an opening formed through the transverse beam 21. A coiled spring 27 is provided upon the rod, bearing against the opposite side of the beam and confined in place by means of a nut or key provided upon the end of said rod. Interposed between the rear ends of the jaws and the fixed transverse sill 19 are buffers 28, formed of rubber or coiled springs, as desired.

By the construction and arrangement heretofore described the jaws are permitted to move longitudinally upon the rod 23, the spring 27 taking up the jar in starting and the buffers 28 in stopping. The transverse beam 21 connects the jaws together and guides the same in their longitudinal movement and the transverse rod 23 guides them in their vertical play.

By the combination and arrangement of the several parts of the device as herein set forth the same may be effectually coupled upon a curve, will permit of the cars rounding a curve without the possibility of becoming uncoupled, and is provided with efficient uncoupling means.

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

Having thus described the invention, what is claimed is—

1. A car-coupler, comprising a fixed jaw having a segmental head provided with a stationary pin extending above and below the plane of the head and at the curved edge thereof, and a pivoted jaw having a segmental head provided with a notch in its curved edge, the curved edges of the heads being disposed upon the contiguous sides of the jaws, substantially as and for the purpose set forth.

2. In a car-coupler, the combination with a fixed jaw and a pivoted jaw, of an uncoupling-lever pivoted intermediate its ends to the fixed jaw, having an engagement with the pivoted jaw, and one of its ends being adapted to engage the pivoted jaw of the opposite coupler, whereby both couplers may be simultaneously uncoupled, substantially as shown and described.

3. In a car-coupler, the combination with a fixed jaw, and a pivoted jaw, of an uncoupling-lever therefor, said lever comprising a pair of spaced arms having a handle at one end, a transverse head at the other end thereof, and a stop-pin, the lever being pivoted to the fixed jaw, receiving both jaws between the arms, the stop-pin engaging the pivoted jaw, and the head adapted to engage the pivoted jaw of the opposite coupler, whereby both couplers may be simultaneously uncoupled, substantially as shown and described.

4. In a car-coupler, the combination of a fixed jaw having a stationary pin, a pivoted jaw having a notch formed therein, and an uncoupling-lever, said lever being pivoted to the fixed jaw, having an engagement with the pivoted jaw and adapted to engage the pivoted jaw of the opposite coupler, whereby both couplers may be simultaneously uncoupled, substantially as shown and described.

5. In combination with a pair of coupling-jaws, a transverse and longitudinal sills rigidly secured to the under side of a car, the jaws being arranged between the sills, a transverse beam connecting the jaws and forming a guide for the longitudinal movement thereof, a bolt carried by the transverse sill and passing loosely through an opening in the transverse beam, a coiled spring mounted upon the rod and against the opposite side of the beam, and a transverse rod passing through slots formed through each jaw, and mounted in vertical slots formed in the respective longitudinal sills, substantially as and for the purpose 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 A. OLER.

Witnesses:
W. E. CAROTHERS,
G. W. MURRAY.