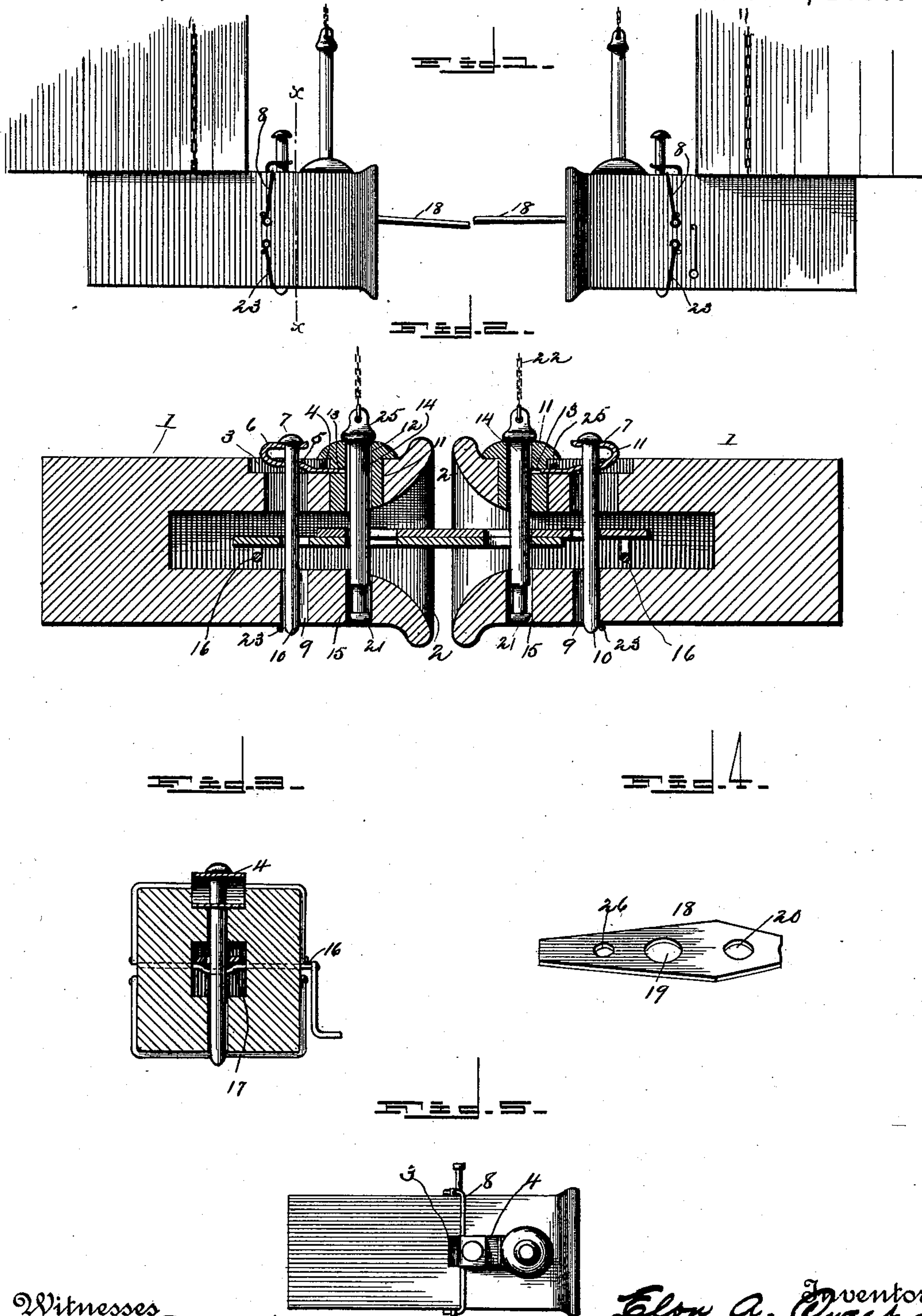


(No Model.)

E. A. SWEET & L. B. SESSIONS.  
CAR COUPLING.

No. 507,180.

Patented Oct. 24, 1893.



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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 507,180, dated October 24, 1893.

Application filed February 15, 1893. Serial No. 462,522. (No model.)

*To all whom it may concern:*

Be it known that we, ELON A. SWEET and LOREN B. SESSIONS, citizens of the United States, and residents of Panama, in the county of Chautauqua and State of New York, have invented a certain new and useful Improvement in Car-Couplings, of which the following is a specification.

Our invention has relation to automatic couplings for cars, whereby the risk to life and limb of the train hands is avoided.

Our invention consists in the combination hereinafter described and claimed.

In the drawings, Figure 1, is a side elevation of our coupler; Fig. 2, a longitudinal sectional view of the same; Fig. 3, a cross sectional view on line  $x-x$  of Fig. 1; Fig. 4, a perspective view of the link; Fig. 5, a plan view of one of the couplers.

In the drawings, 1, is a draw-head or casing which may be made in one piece or in suitable sections, as preferred. In the front end of the casing there is an opening, all four walls 2 2 2 2 of which are made flaring for the guidance of the coupling link connected with the adjacent car, said opening extending back a considerable distance into the casing. The top of the casing is recessed at 3, to receive a flat plate 4, which is stepped at its forward end as at 5, and doubled back upon itself as at 6, at its rear end. While the plate 4, is preferably made of sheet metal it is obvious that it may be cast in the same shape. A hole 7, extends through the doubled over portion as well as the underneath portion of the plate 4, for a purpose to be hereinafter described. Across the recess 3, in the top of the casing we place a wire 25, against which the step portion of the plate 4 bears, in order to more securely hold it in position. A tension wire 8, is secured to the sides of the casing and extends over the top thereof and between the upper and lower portions of the plate 4. In the upper and lower walls of the casing slots 9 9 are made, in line with the hole 7 in the plate 4, and through said hole and slots is passed a pin 10, the head of which rests on top of plate 4. In front of the plate 4, in the top of the casing, is an enlarged slot 11, shaped so as to receive a hollow thimble 12. In the side of the thimble 12, facing

the plate 4, is a recess 13, through which the front of the plate 4, projects so as to form a seat to retain the coupling pin 14, prior to its being dropped into its locking position, there being a hole 15, through the lower front wall of the opening in the casing to receive the coupling pin when it drops.

In order that our coupler may be adapted to couple cars when bumpers are of various heights, as well as to provide means whereby the coupling links on adjacent cars may be prevented from coming in end contact with each other, we pass through the walls of the casing a rod 16, the portion of which in the hollow part of the casing we bend or make in crank form as 17.

The coupling-link 18, employed by us is made of substantially rectangular form. The link which is permanently connected to the coupling is provided with a hole 26 near one of the ends through which hole the pin 10, already referred to, passes. The inner end of the link extends far enough inwardly to rest on the bent or crank portion 17 of the rod 16. By turning the crank rod 16 the link may be raised or lowered as desired. About the center of the link 18, is formed an enlarged slot 19, through which the coupling pin passes, said slot being enlarged in order to allow for the irregular motions of the cars in turning curves. The outer end of the link is also provided with a hole or slot 20, for engaging the coupling pin on the adjacent car.

The coupling pin 14, is of the usual construction, except that at its lower end a recessed portion 21 is formed in order that the pin may be held out of locking position, as before noted, when raised for coupling. To the upper portion of the pin a chain 22, is secured so that the pin may be raised and set for operation from the top of the car.

We may provide a tension wire 23, to extend around the lower portion of the casing in order that it may bear against the pin 10, where it projects through the casing and retain it in position. It will be understood that a coupling of this kind is to be employed at each end of adjoining cars.

The operation is as follows: The parts being in the positions shown and described, with the coupling pin resting by its recessed por-



tion on that part of the plate 4, which projects into the recess 13; the link of the adjacent car rides into the flaring opening in the casing until it contacts with the pin 10. This forces said pin 10, rearwardly, drawing with it the plate 4, from the recess 21 of the coupling pin 14, and causing the latter to drop through the slot in the middle of the link connected to the casing of the car on which it is mounted, as well as through the forward slot in the link of the car to be coupled, and also through the hole in the lower part of the casing. As the pin 10, bears against the tension wire 23, the latter is also forced back with the said pin. When the coupling pin has been raised the tension wire returns the plate 4, to its former position. When the cars are to be uncoupled this is accomplished by a train hand on top of the car pulling the chain 22 connected to the coupling pin, and allowing the latter to rest by its recess on the plate 4, ready for automatic coupling whenever desired.

It will be seen that we have provided a device which is reliable and effective, and which may be operated both to couple and uncouple cars without danger to the operator.

Among the advantages of our coupler are the fact that its parts are not liable to derangement and its simplicity.

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

1. In a car-coupler, a draw-head, a link arranged therein, a coupling-pin, a plate adapted to engage the pin to hold it out of engagement with the link, and a connection between the plate and the link, whereby the inward movement of the latter will actuate the plate and thus release the coupling-pin.

2. A car coupler comprising a casing, a recessed thimble mounted in the casing, a plate adapted to enter said recess and support the coupling pin therein, means adapted to force said plate backwardly and allow the coupling

pin to engage a link, and means to restore the plate to its normal position.

3. A car coupler comprising a casing, a bent plate in a recess in the top thereof, a hollow recessed thimble, a coupling pin adapted to be supported in said thimble by the bent plate, means for retracting said plate so as to allow the coupling pin to engage the link and a tension rod for returning the plate to its normal position.

4. A car coupler comprising a casing having a flaring flange in its front end, a recess in its top, a bent plate secured in said recess, a link entering said flaring opening, a pin passing through the bent plate, through a slot in the top of the casing through the link, through a slot in the bottom of the casing and a tension rod passing between said pin and the bent portion of the aforesaid plate.

5. A car coupler comprising a casing, having a flaring opening in its front portion, a bent plate in a recess in the top thereof, a pin passing through enlarged slots in the casing and through an opening in the link, and tension devices bearing against said pin above and below the casing.

6. A car coupling comprising a casing, a hollow recessed thimble, a plate adapted to enter said recess in the thimble, a coupling pin having a recess in its lower portion adapted to rest on said plate, and a chain connected to said coupling pin and extending toward the car top, whereby the pin may be manipulated.

In testimony whereof we have hereunto set our hands in the presence of the subscribing witnesses.

ELON A. SWEET.  
LOREN B. SESSIONS.

Witnesses to the signature of E. A. Sweet:  
DE FOREST COOK,  
C. A. DAVIS.

Witnesses to the signature of L. B. Sessions:  
W. E. AUGHINBAUGH,  
C. M. YORK.