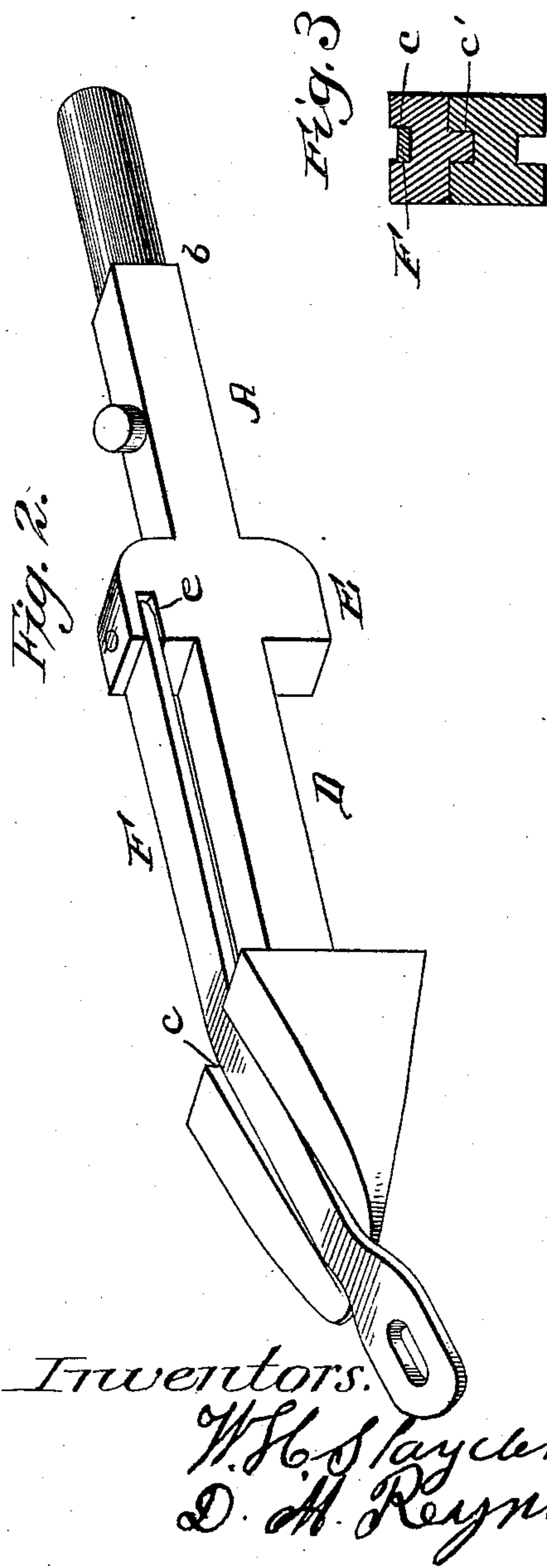
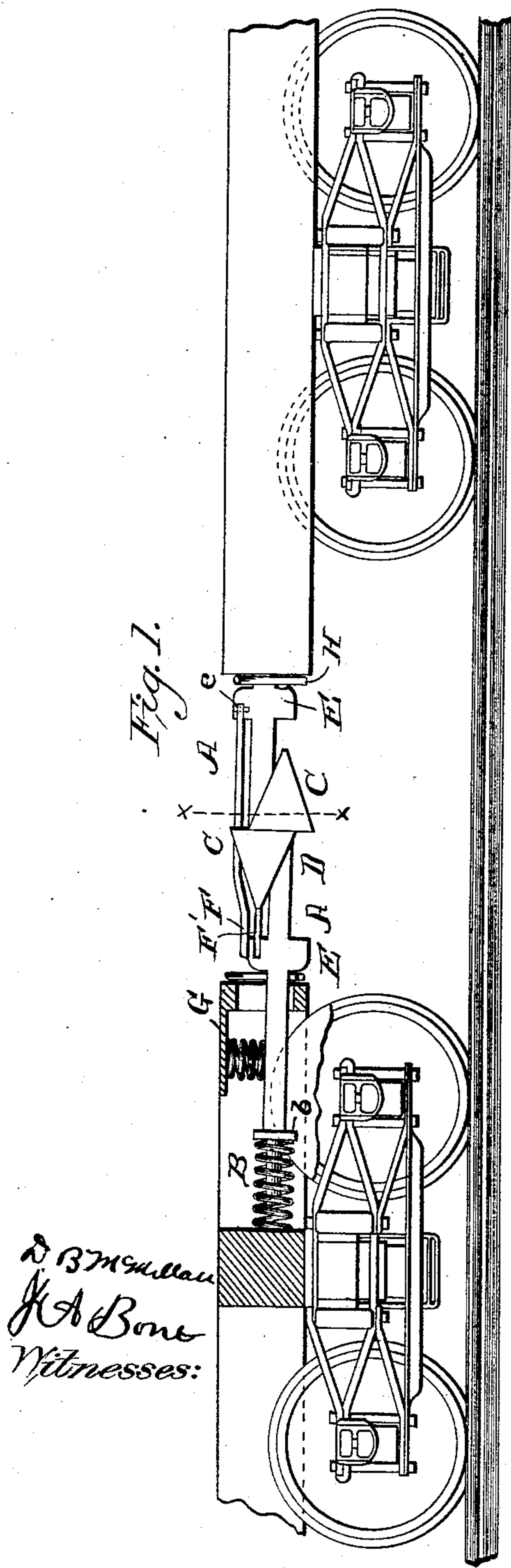


(No Model.)

W. H. SLAYDEN & D. M. REYNOLDS.
CAR COUPLING.

No. 453,947.

Patented June 9, 1891.



UNITED STATES PATENT OFFICE.

WILLIAM H. SLAYDEN AND DANIEL M. REYNOLDS, OF ERIN, TENNESSEE,
ASSIGNORS OF ONE-FOURTH TO JOHN S. EDWARDS, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 453,947, dated June 9, 1891.

Application filed October 21, 1890. Serial No. 368,870. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. SLAYDEN and DANIEL M. REYNOLDS, citizens of the United States, residing at Erin, in the county of Houston and State of Tennessee, have invented a certain new, safe, and useful Car-Coupler; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in automatic car-couplers, and has for its object to provide a simple and inexpensive coupler, which is arranged and adapted to operate automatically and couple two cars when they are brought together.

A further object of our invention is to provide suitable means for holding the draw-bars securely in place after they have been coupled, so that they cannot become disconnected by the jar of the running train; and a further object is to provide suitable means for uncoupling the cars without requiring the brakeman to go between the cars to loosen the coupling-bars.

With these ends in view our invention consists of an arrow-head coupling-bar suitably secured in the end of a car and provided with a spiral spring on its rear end or shank, within which it is adapted to move to lessen the jar occasioned when two cars are brought together. The arrow-shaped head on the coupling-bar is preferably made of one piece integral with the coupling-bar, and it has a longitudinal slot on its upper and lower faces in which the coupling-bar on the other car is adapted to fit. Beneath the car and just inside the end thereof is a coiled spring arranged to bear upon the coupling-bar and hold the same steadily in position. Outside of the end of the car and forming part of the coupling-bar we provide shoulders on the upper and lower faces of the coupling-bar, which upper shoulder has a horizontal slot in its face. Secured in this slot is a longitudinal spring-arm, which extends forward over the head of the coupling-bar and has its free end fitted in the slot in the upper face thereof. Secured to the coupling-bar in rear of the shoulders thereon is a lever, which ex-

tends at right angles to the length of the bar and at a sufficient distance to enable a person to loosen the coupling by raising or depressing the lever, thus lowering or elevating the coupling-bar to which it is attached.

To enable others to more fully understand our invention, we have illustrated the same in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, showing the ends of two cars properly coupled in accordance with our invention. Fig. 2 is a perspective view of the coupling-bar; and Fig. 3 is a sectional view of the coupling, taken on the line *xx* of Fig. 1.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A represents the coupling-bar, which is loosely secured in the end of a car in any suitable manner and has its rear end or shank free and arranged to move longitudinally in a spiral spring B, fitted over the end thereof and impinging against the shoulder *b* on the shank of the coupling-bar at a suitable distance from its end. Secured on the bottom of the car above the coupling-bar and between the shoulder *b* and the end of the car we provide another spiral spring G, which bears directly on the coupling-bar and serves to hold the same steady and in a substantially firm position.

The forward end of the coupling-bar A is made in the form of an arrow-head C, which head is provided with a longitudinal slot *c c'* in its upper and lower faces, in which the narrow portion D of the coupling-bar on another car is adapted to rest when a coupling is effected. In the rear of the head C and just in front of the end of the car are shoulders E on the upper and lower sides of the coupling-bar, and the upper shoulder is provided with a horizontal slot *e*, with its open end in the forward face thereof. Secured rigidly in this slot *e* is a spring-arm F, of any elastic material, which extends forwardly over and bears down upon the head C. When two cars are brought together, this arm F is forced up by the head on the coupling-bar of the other car, and when the two cars are coupled the arm F fits in the slot *c* in the upper face of the head on the other coupling-bar and holds the coupling firm and secure.

This is very desirable, as in couplings of this simple construction the heads are apt to become disconnected by sudden jars while the train is in motion and to prevent them from slipping apart in rounding curves, although the heads themselves are of such a size and peculiar construction that ordinary movement of the train would not have any injurious effect on the coupling, nor would the deviation from a straight line in passing around curves cause the coupling to slip apart, because the coupling-bars are so constructed and secured in position that a limited amount of movement in any direction is allowed without interfering with the proper operation of the coupling.

When the heads of the coupling-bars have been brought into engagement, the narrow portion D of the coupling-bar is fitted in the slot *c'* on the head of the other coupling-bar, and the portion D of the other coupling-bar fits snugly in the upper slot *c* of the head of the first coupling-bar, and the spring-arm F adjusts itself in the upper slot *c* of the other coupling-head and bears down forcibly on the head, thus making a secure and rigid coupling.

In practice we do not provide the spring-arm F on the coupling-bar of the rear end of a car, because it would then interfere with the operation of the spring-arm on the coupling-bar of other car; but we do provide the rear coupling-bar with a lever H, which is secured to the bar, preferably behind the shoulder E, in any suitable manner, and extends at right angles to the bar to a convenient place near the edge of the car, so that it can be readily and easily operated to uncouple the cars without compelling a person to go between the cars, which is dangerous. This lever H can be attached to the coupling-bar in such a manner that when operated it will raise the coupling-bar to which it is attached out of contact with the other coupling-bar; or it may be arranged to depress the coupling-bar to serve the same purpose, as desired.

When cars are provided with our improved coupler, it will be readily seen that the couplers are always in a position for operation, and it is only necessary to bring the cars together in the proper manner in order to couple them. Although we prefer to provide the spring-arm F on the coupling-bar of the front of the car only and not on the coupling-bar of the rear end of the car, still it is obvious that both

coupling-bars may be provided with the spring-arm, if it is so desired, to enable the front ends of the cars to be coupled without danger of interfering with the proper operation of the coupling. In this case—*i. e.*, where two springs are used or the front ends of two cars are to be coupled—the slot *c'* will fit snugly over the narrow portion D of the coupling-bar, and the spring-arm F' on the other coupling-bar will be raised by the spring-arm F, and after it has adjusted itself in the slot *c* of the other coupling-head the spring-arm F' will press down upon it, and thus make a very firm and secure coupling. The arm F can also be used on the ordinary coupling-bars and draw-heads, in order to provide a coupling which can be operated with safety, and it will assist greatly in making a quick and secure coupling. We also provide a loop on the side of the car or other convenient place for holding the arm F when it is not in use.

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

1. A car-coupling consisting of the arrow-headed coupling-bars, each provided with the longitudinal slots, and the spring-arm secured to one of the bars and extending over the slotted portion of said bar and resting on the head thereof, substantially as and for the purpose set forth.

2. A car-coupling having the arrow-headed coupling-bars, each provided with the longitudinal slots in its upper and lower faces, the narrow portion D, adapted to fit snugly in the slot of the head on one of the coupling-bars, and the spring-arm secured in the shoulder E and extending over the head of the coupling-rod, substantially as described.

3. In a car-coupling, the combination of a coupling-bar having the arrow-shaped head and the longitudinal slots in the upper and lower faces thereof, the shank fitted loosely in the spiral spring on its end, and the spring-arm secured in the shoulder on the coupling-bar and extending over the head thereof to bear down upon the head of the other coupling-bar when two bars are brought together, substantially as and for the purpose set forth.

WILLIAM H. SLAYDEN.
DANIEL M. REYNOLDS.

Witnesses:

J. S. LEE,
G. H. FRENCH.