(No Model.)

J. H. DUFFINS.

CAR COUPLING.

No. 410,543. Patented Sept. 3, 1889.

Fig. 1.

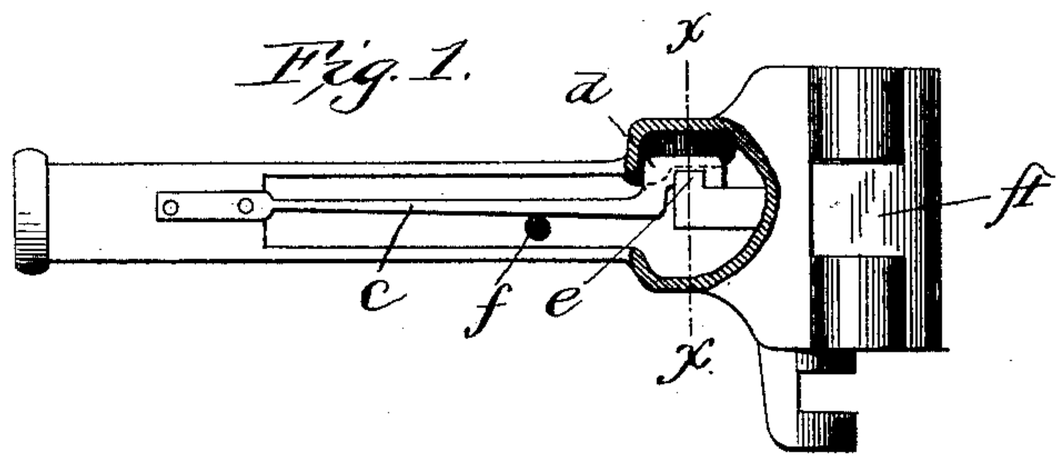


Fig. 2.

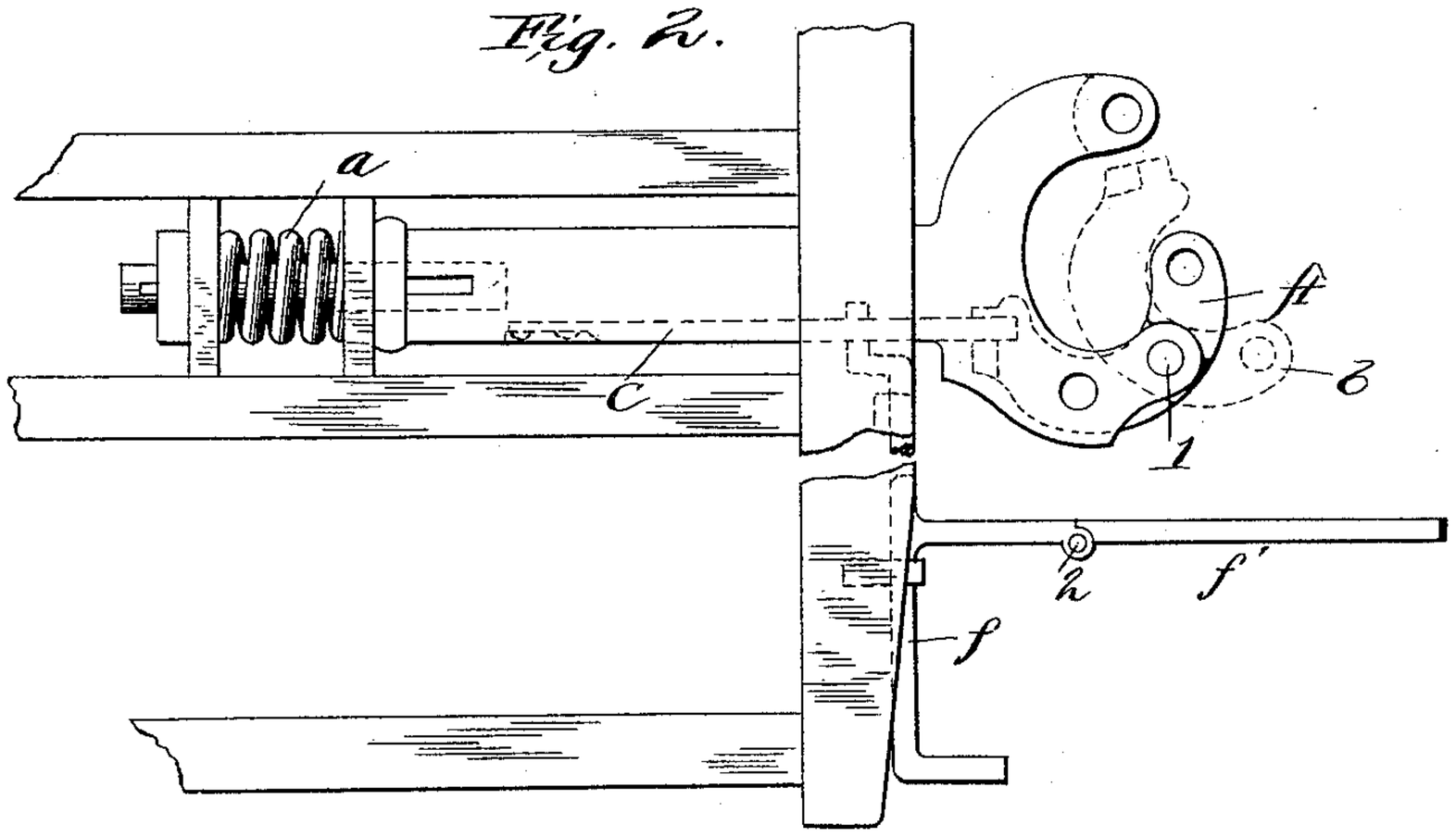


Fig. 3.

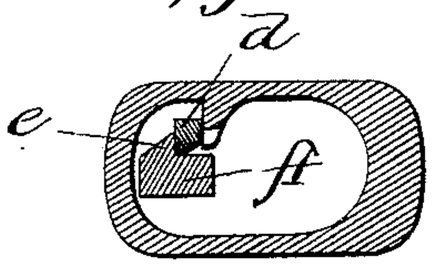
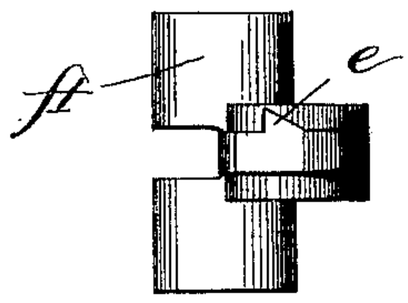


Fig. 4.



Witnesses
Walter F. Keene.
H. Duncan

Inventor.
Joseph H. Duffins
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Atty.

UNITED STATES PATENT OFFICE.

JOSEPH H. DUFFINS, OF HARRISBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JACOB WARREN ROOP, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 410,543, dated September 3, 1889.

Application filed July 2, 1889. Serial No. 316,306. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. DUFFINS, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improved car-coupler, and relates to that class which are provided with twin jaws adapted to lock automatically when they come in contact with each other.

The invention consists in the detals of construction hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of the coupler with a part of the outer shell broken away. Fig. 2 is a plan view showing the pivoted jaws locked. Figs. 3 and 4 represent details of construction.

In the drawings the coupler shown consists of the ordinary yoke or coupling-frame supported on the end of a cylindrical shank, which is properly held between beams and is in connection with a spring *a*, all these parts being of ordinary construction.

A pivoted jaw A is pivotally supported upon one branch of the coupling-frame by a pivot 1, this jaw being of curved shape, as shown, and when in locked position extends across the line of the center of the coupler-frame toward the other branch thereof, and in this position, when the corresponding jaw of the opposite coupler is in engagement therewith, the cars are coupled together. When the pivoted jaw is swung back, as shown in Fig. 2, its inner end is brought into the position shown, and when the opposite car, having its pivoted jaw in like position, comes in contact the projecting branches *b b* of the couplers will strike the inner ends of the pivoted jaws, throwing them inwardly, and this will cause the jaws to swing upon their pivots toward the center, and thus engage so as to lock each other.

In order, however, to hold the parts in this locked position, it is necessary to provide locking means, and these locking means constitute the essential part of my invention. To one side of the tubular shank of the coupling I place a spring-bar *c*, the rear end being secured in place, leaving the front end free to be lifted under pressure. This bar has a projection *d* on its front end, which is raised above the level of its shank, as shown in the detail figure, and it extends into the coupling-head, so as to be in line with the extreme inner end of the pivoted jaw, which is provided with an extension or tail-piece having a projection in its center, as shown at *e*, with its upper side inclined after the manner of a door-latch. The inner part of the spring-bar is directly in the path of this projection, and when the pivoted jaws are swung inwardly to engage with each other the inclined face of the projection comes in contact with the end of the spring-bar and lifts the same until it has passed by, when the bar, by reason of the tension upon it, slips down behind the projection, and thus holds it securely in place against the wall of the coupling, preventing any displacement of the same, and consequently the uncoupling of the cars, while the spring locking-bar remains in this normal position.

When, however, the cars are to be released or uncoupled from each other, it is necessary to lift the spring locking-bar, and as this will free the pivoted jaws any pressure upon one car or the other will easily separate them. To provide for the lifting of the rocking bar, I arrange a horizontal bar *f*, having a crank end extending beneath the locking-bar, and this has a handle secured to it, so that by simply turning this bar the locking-bar is lifted and the pivoted jaw released.

In case the locking-bar should break or be ruptured in any way, I may still secure the pivoted jaws in locked position by an opening through the pivoted jaw in rear of its pivot and corresponding openings through the wall of the coupling-frame, and a headed pin may be dropped through these holes when they register, which will thus hold the parts in place. The bar *f* has an extension *f'* extending at right angles thereto beneath the platform of the opposite car, which in case of an accident—such as the breaking down of the car—will cause a depression of the extension and thus uncouple the cars. The extension is hinged to the bar

f at the point 2, and when not in use may be folded back against the end beam of the car. One jaw of each of the couplers may be provided with a series of tongues for attachment to different heights of cars.

I claim as my invention—

1. In a car-coupler, a coupling-frame, a pivoted jaw, a projection on the upper face of the same at the rear end thereof, and a spring-bar in the path of said projection and adapted to engage the same, substantially as described.

2. In combination, a coupler-frame, a pivoted jaw, a projection on the upper face of the same at the rear end thereof having an inclined face, and a spring locking-bar in the path of said projection, substantially as described.

3. In combination, a coupler-frame, a pivoted jaw, a locking projection on the rear end of said pivoted jaw, a spring locking-bar adapted to engage said projection, and a lever for lifting said locking-bar, substantially as described.

4. In combination with a pivoted jaw of a coupler, a spring locking-catch and an operating-lever extending beneath the opposite car, substantially as described.

5. In combination with the pivoted jaw of a coupler, a spring locking-catch, a bar *f*, for operating it, and an extension *f'*, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH H. DUFFINS.

Witnesses:

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W. J. RICHARDS.