(No Model.)

# D. J. SALLEY.

## CAR COUPLING.

No. 455,692. Patented July 7, 1891.

Fig. 1.

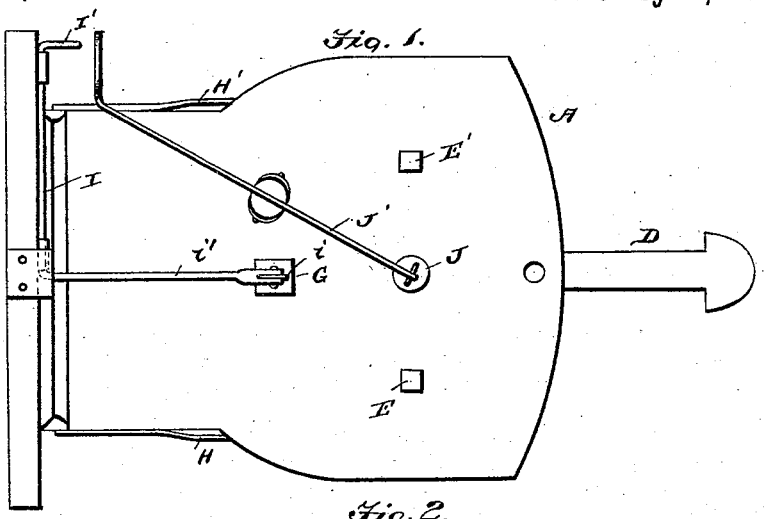



Fig. 2.

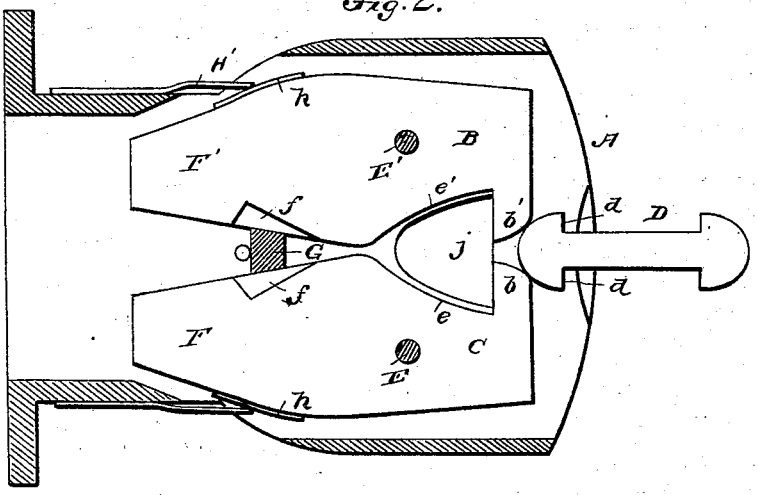
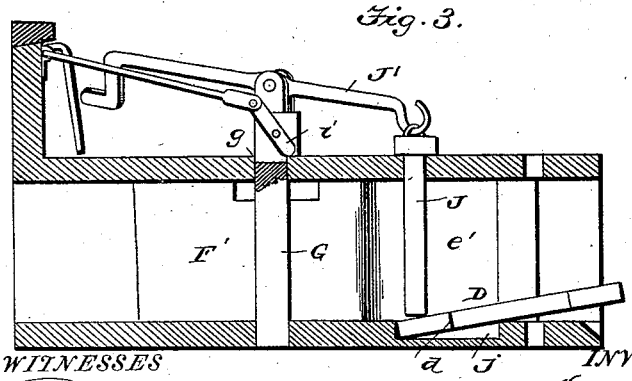



Fig. 3.




WITNESSES

INVENTOR

Daniel J. Salley

By W. D. Mowry

Attorney

# UNITED STATES PATENT OFFICE.

DANIEL JOHN SALLEY, OF SAPA, MISSISSIPPI, ASSIGNOR OF ONE-FOURTH TO CHARLES S. LAWRANCE, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 455,692, dated July 7, 1891.

Application filed February 18, 1891. Serial No. 381,797. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL JOHN SALLEY, a citizen of the United States, residing at Sapa, in the county of Webster and State of Mississippi, have invented certain new and useful Improvements in Car-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers; and the objects of the invention are, first, to provide an improved coupler which shall be entirely automatic as well as effective in coupling two approaching cars and at the same time is capable of being uncoupled by an attendant standing at the side of the car, thereby avoiding the necessity of having the attendant stand between the cars, as in the old style of pin-and-link coupler, thus reducing to a minimum the liability of injury to the attendant; secondly, to improve the parts in minor details and secure a simple device which possesses great strength and durability, and, thirdly, to provide means for tilting or lifting the free end of the coupling or draw-bar, so that it can be lifted to accommodate itself to a higher draw-head on the other car it is desired to couple with, said pin or draw-bar-lifting mechanism being adapted for operation at the side of a car, so that the attendant is not required to stand between the cars either in coupling them or to uncouple, or to adjust the draw-bar.

With these ends in view my invention consists in the combination of devices and novel construction and arrangement of parts, as will be hereinafter fully described and claimed.

Figure 1 is a plan view, looking on the top of the draw-head. Fig. 2 is a horizontal sectional view through the draw-head, showing the clutches or jaws in plan view, and Fig. 3 is a longitudinal vertical sectional view showing one of the clutches or jaws in elevation.

Like letters of reference denote corresponding parts in the several figures of the drawings, referring to which—

A designates the draw-head, which is secured and arranged at the end of the car in the usual manner, and said draw-head is of the usual form, except in the special parts, where it is changed to receive or accommodate the parts of my improvement.

In the front part of the draw-head I arrange the two clutches or jaws B C, which are of the same form and size, and said jaws are situated on opposite sides of the median line of the draw-head, and so placed and shaped as to receive between their forward ends the arrow-head coupling-bar D. The jaws are independently pivoted at their forward ends on vertical pins or pivots E E′, which are suitably supported or secured in the draw-head, and in the opposing sides or faces of the clutches or jaws are formed recesses, which provide the lips *b b′* at the front ends of said clutches and the shoulders or abutments *e e′*, which converge toward each other behind the recesses and in rear of the lips *b b′*. It will be noticed that the abutments or shoulders nearly close the space between the jaws in rear of the lips, and that said abutments are in the path of the draw-bar as it enters the draw-head chamber, so that said draw-bar is adapted to impinge or strike against the abutments, and thereby force the forward ends or lips *b b′* inward, said lips engaging the shoulders *d* on the end of the draw-bar, while the head of said bar is received within the recesses or cut-away portions in the sides of the clutches or jaws. The rear portions of the jaws or clutches are extended some distance beyond the pivots or pins into the draw-head chamber, so as to form the shanks F F′, the lips *b b′* being on the front side of the pivots or pins, while the shanks are on the rear side of said pivots, whereby as the lips are moved inward toward each other the shanks are moved outward away from each other. In the opposing edges or faces of the shanks are cut the vertical grooves or recesses *f*, which are coincident with each other, and when said shanks of the clutches are diverged by the draw-bar striking the abutments a gravity locking-pin G fits in the recesses *f* and operates to prevent the shanks from moving to-

ward each other, and thus the lips *b b'* are caused to remain in engagement with the shouldered coupling-bar.

When the draw-bar is not fitted in the draw-head, the front ends or lips of the clutches are spread apart to receive a draw-bar, while the shanks are drawn so close together or occupy such a relative position that the space between the shanks is of less width than the width of the gravity locking-pin G, so that the pin is caused to rest upon the clutches and to be sustained or held in its elevated position thereby. This adjustment of the clutches is caused by the employment of pressure or retractile springs H H', preferably of the form shown. The flat springs are arranged outside of the jaws, with one end of each spring fastened rigidly to the draw-head and the opposite free end of the spring pressing against the contact or face plate *h*, fixed to the outside of the jaw or clutch, the arrangement of the springs being such that they are not exposed to injury, and thus their durability and efficiency are insured.

The locking-pin G slides freely through a vertical aperture *g* in the top of the draw-head, and to the upper end of the pin is pivoted a link *i*, the opposite end of which link is in like manner connected to an arm *i'* of a rock-shaft I. This rock-shaft is journaled in suitable bearings on the front of a car and it extends to the side of the car, at which point it is provided with a handle I', by which the attendant is enabled to lift the locking-pin, and thereby withdraw the same from between the clutches, whereby the springs act to separate the lips *b b'* and to release the same from the shouldered draw-bar to uncouple the car.

In the bottom of the draw-head chamber at a point between the lips at the front of the jaws I provide a depression or recess *j*, and immediately over or in vertical alignment with such depression is a vertically-movable bolt or pin J, which operates in a suitable aperture or hole in the top of the draw-head chamber. To an eye on the upper end of this bolt J is connected one end of a lever J', that is fulcrumed on a fixed post or stud and has its free end terminating at a point convenient for the attendant to manipulate while standing at the side of the car. The weight of this lever J' is such that it tends to keep the bolt or pin J in an elevated position out of the way of the jaws or clutches and the draw-bar; but the lifting of the lever operates to lower the bolt or pin, which is adapted to bear upon the end of the draw-bar and to depress the same into the recess or depression, thus tilting the draw-bar and raising the free end of the same, so that the elevated end of the bar can be caused to properly enter a draw-head on a higher plane than the one in which said draw-bar is fitted.

The operation of my improved coupling may be briefly described as follows: To couple, the locking-pin is raised to allow the springs to separate the lips *b b'* and force the shanks together, to adapt said locking-pin to rest upon the jaws. As the draw-bar on an approaching car enters the draw-head of the other car it impinges against the abutments or shoulders, and thereby operates to force the lips *b b'* into engagement with the arrow-head on said draw-bar, and at the same time separate the rear ends of the jaws, whereupon the pin G drops between the jaws and locks or confines them in place. To uncouple, it is only necessary to lift the pin G by the rock-shaft I, and the springs separate the front ends of the jaws, which releases the draw-bar. The draw-bar can be tilted or inclined by simply pressing the bolt or pin J down upon the same, as stated. The ordinary link can also be used, as the jaws are so proportioned that a link can readily fit between them. Changes in the form and proportion of parts and details of construction can be made without departing from the spirit of my invention.

I claim—

1. In a car-coupler, the independently-pivoted jaws having the lips and abutments at their forward ends and the extended recessed shanks at the rear ends, in combination with a retractile spring, the vertical locking-pin guided in the draw-head and arranged to drop by gravity between the shanks of the jaws, and a rock-shaft linked to said locking-pin, substantially as described.

2. In a car-coupler, the combination, with a draw-head, the jaws, and a draw-bar, of a vertically-movable bolt or pin normally sustained out of the path of the draw-bar and jaws and adapted to be depressed upon the draw-bar to tilt the latter, as set forth.

3. In a car-coupler, the draw-head having the depression or cavity in its bottom between the jaws, a vertical bolt or pin arranged above and in line with said depression or cavity, and a lever connected to said bolt or pin, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL JOHN SALLEY.

Witnesses:

ALEX. MORROW,

S. S. WAITS.