(No Model.)

J. D. HALL.

CAR COUPLING.

No. 458,900. Patented Sept. 1, 1891.

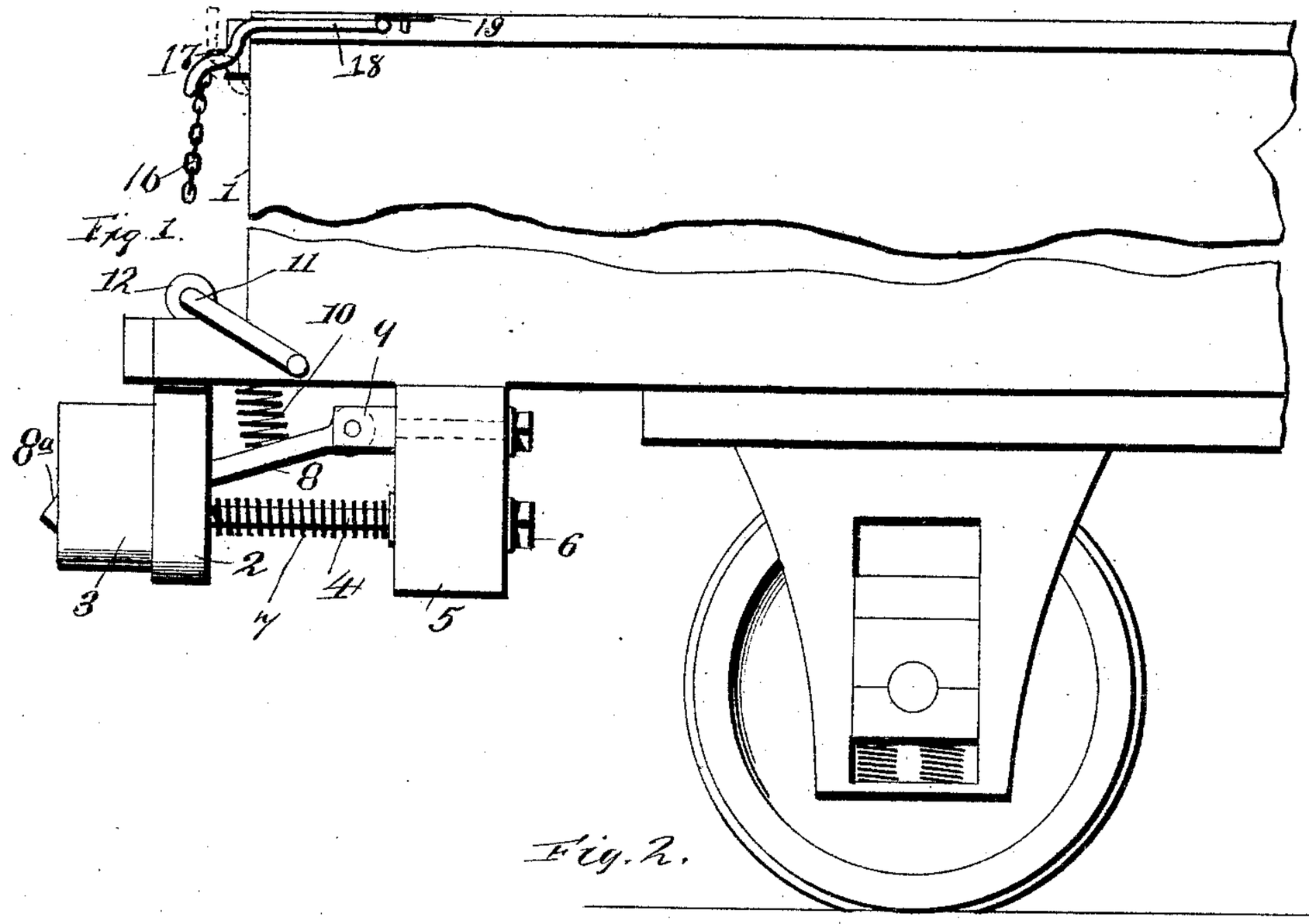


Fig. 1.

Fig. 2.

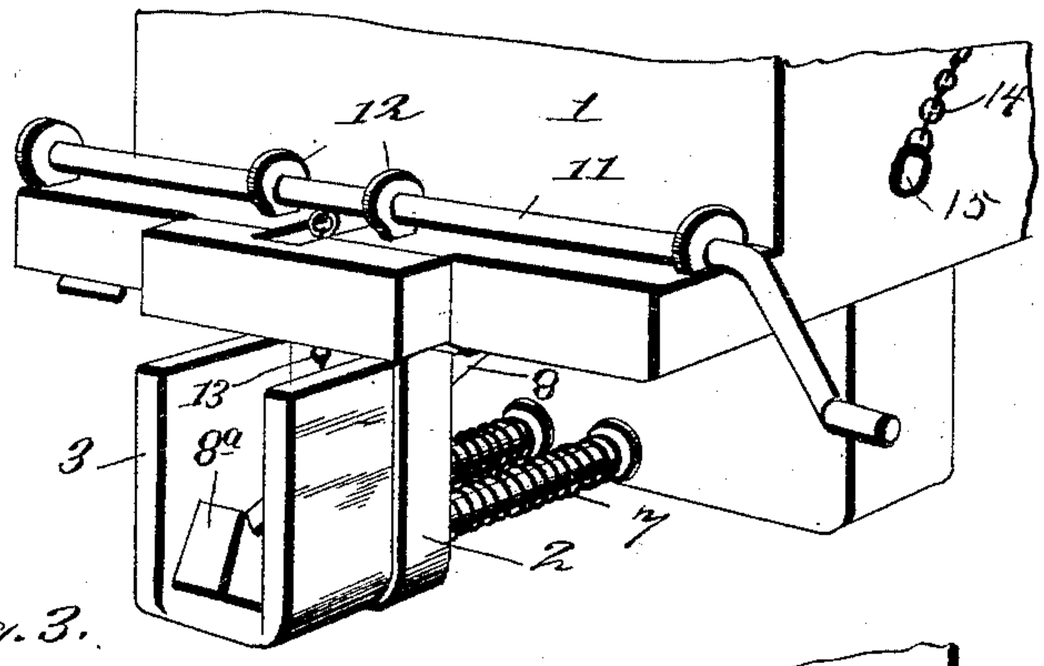
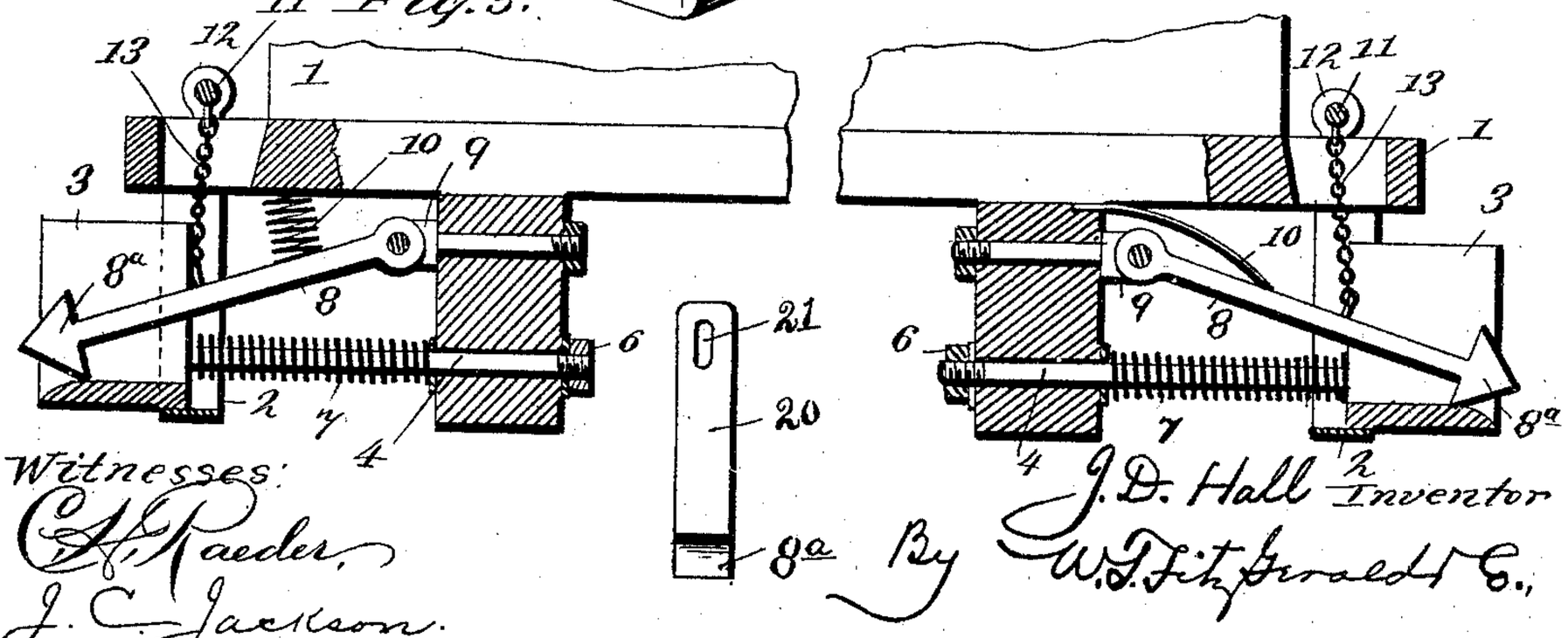


Fig. 3.



Witnesses:
C. H. Raeder,
J. C. Jackson.

J. D. Hall Inventor
By W. J. FitzGerald & Co.,
Attorneys

UNITED STATES PATENT OFFICE.

JOEL DAVIS HALL, OF STEPHENS, ARKANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 458,900, dated September 1, 1891.

Application filed April 24, 1891. Serial No. 390,304. (No model.)

To all whom it may concern:

Be it known that I, JOEL DAVIS HALL, a citizen of the United States, residing at Stephens, in the county of Ouachita and State of Arkansas, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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.

My invention relates to certain new and useful improvements in car-couplers, by means of which the cars provided with my invention will automatically couple themselves together and can be readily uncoupled from either side or the top without going between them, and the invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a side view of the end of a car provided with my invention. Fig. 2 is a perspective end view of the same. Fig. 3 is a longitudinal vertical sectional view taken from the center of the coupling.

The same numerals of reference indicate corresponding parts in all the figures.

Referring to the several parts by their designating-numerals, 1 indicates the end of the car, which is shown provided with my coupler. Beneath the end of this car is bolted a U-shaped bracket 2, in which loosely fits and is movably supported a hollow U-shaped casing 3. This casing is secured to the forward ends of two bumper-rods 4, which extend through horizontal openings in the end cross-beam 5 and have nuts 6 secured upon their threaded rear ends. Upon the rods 4, between the frame 3 and the cross-beam 5, are mounted heavy spiral springs 7, which normally press the casings 3 outward.

8 indicates the coupling-hook, which is pivoted at its rear end in a bearing 9 and is formed at its outer end with the arrow-head 8^a. The outer free end of the hook is pressed downward by a spring 10.

In Fig. 3 of the drawings I have shown both a spiral spring and a curved spring in position, either of which may be employed, as may be desired, as both will be effective.

It will now be seen that when two cars provided with my coupler come together the pointed end of one pivoted hook will ride over the pointed end of the hook on the other car until their shouldered outer ends engage or lock one into the other, thus automatically coupling the cars together. The spring 10 will yield to permit either pivoted hook to rise, and will at once press it down again into engagement with the hook on the other car. As the cars come together, the bumper-springs 7 will give and permit the casings 3 of the two cars to slide backward, thus preventing any abrupt jar or shock.

At each end of the car is mounted in bearings 12 a shaft 11, which is formed at each end with a crank-handle for convenience in turning it, these handles projecting at the sides of the car. To the center of the shaft 11 is secured a short chain 13, the lower end of which is connected to the pivoted coupling-hook at that end of the car. It will now be seen that in order to uncouple two cars provided with my invention it is only necessary to turn the end handle of the shaft, which is connected to the upper coupling-hook, thus turning the chain 13 around the shaft and raising the free end of the pivoted hook against the pressure of its spring 10 until it is clear of the hook on the other car, when the cars can move freely apart, the coupling being then open. On releasing the handle of the shaft 11 the spring 10 presses the coupling-hook down into its normal position.

To hold the pivoted coupling-hook so that the cars will not couple together, which is desirable at times when the cars are on a siding and at other times, I secure the short chains 14 to the sides of the car at the upper ends of the same, each of these chains having at its lower end a ring 15, and when the end cranked handles of the shaft 11 are raised one of the rings 15 can be caught over one of the said handles, thus holding the pivoted locking-hook in its raised position until that particular chain is freed from the end of the shaft 11. The cars can also be coupled from the top through a chain 16, which runs from the coupling-hook up to a shaft 17, which is transversely mounted near the top of the car under the end of the track-board, each end of this shaft being formed or provided with a

handle-lever 18. To uncouple the cars from the top, it is only necessary to draw back one of the handle-levers 18, pressing its cranked end downward, when the upper pivoted coupling-hook will be raised until it is clear of the hook on the other car, and when the cranked end of the handle-lever is thus pressed down an iron turn-button 19 can be turned over it, and thus hold the pivoted coupling-hook in its raised position and prevent the cars from coupling together until this turn-button is turned around the free end of the handle-lever.

To enable a car provided with my coupler to be coupled to a car provided with the ordinary draw-head for the common link-and-pin coupling, I employ the peculiarly-constructed link 20, which has an arrow-head at one end to adapt it to engage with the pivoted hook 8, and has its other end formed with an opening 21, through which the common pin of an ordinary link-and-pin coupling can pass.

When a car provided with my coupling is to be coupled with another having the common link-and-pin coupling, the hook 20 is engaged with the coupling-hook 8, with the straight end of the hook 20 projecting out from the car, and when the two cars come together this straight end will enter the draw-head of the other car, when the coupling-pin is dropped through it.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood.

It will be seen that my new and improved car-coupler is very simple, strong, and durable in its construction, being devoid of all complicated parts and mechanism, and that it is extremely convenient and effective in its operation. The U-shaped casings 3 protect the outer end of the coupling-hooks from injury or breakage. The pivoted spring-actuated hooks can be raised by means of the shafts 11 to couple at any height.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-coupler, the combination of the spring-actuated coupling-hooks pivoted at their inner ends and formed at their outer ends with the arrow-heads, and the sliding spring-actuated U-shaped protecting-casings 3, extending around the coupling-hooks, substantially as set forth.

2. In a car-coupler, the combination of the coupling-hooks 8, pivoted at their inner ends and formed at their outer ends with the arrow-heads, the springs 10, arranged as specified, the U-shaped protecting-casings 3, extending around the outer ends of the coupling-hooks, the sliding rods 4, secured at their outer ends to the casings 3, and the bumper-springs 7, encircling said rods, substantially as set forth.

3. In a car-coupling, the combination of the U-shaped bracket 2, the pivoted coupling-hook 8, formed with the arrow-head at its outer end, the spring arranged as specified, the shaft 11, having the end handles, the chain 9, connecting said shaft with the pivoted coupling-hook, the U-shaped casing 3, the sliding rods 4, secured at their outer ends to the casing 3, and the bumper-springs 7, encircling said rods, substantially as set forth.

4. In a car-coupler, the combination, with the pivoted spring-actuated coupling-hook, of the shaft 17, mounted transversely in bearings at the upper ends of the car end and provided with the end levers 18, having the cranked free ends, the chain 16, connecting said shaft with the pivoted coupling-hook, and the iron turn-button 19, pivoted to the top of the car to engage with the depressed end of the handle-levers 18, substantially as set forth.

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

JOEL DAVIS HALL.

Witnesses:
EMMETT MORGAN,
M. C. EDWARDS.