

S. S. LEHMAN.

CAR COUPLING.

No. 394,584.

Patented Dec. 18, 1888.

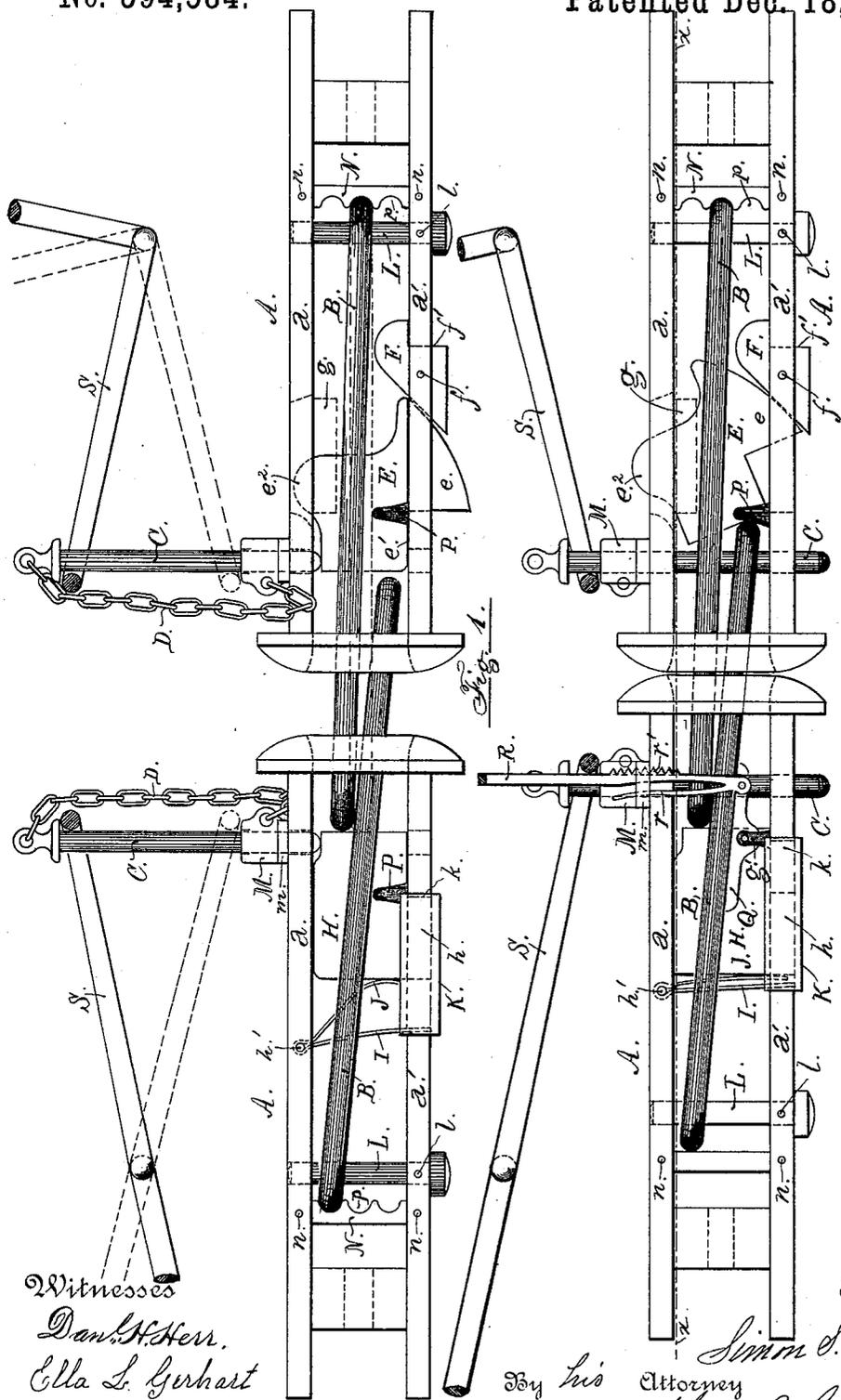


Fig. 1.

Fig. 2.

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(No Model.)

2 Sheets—Sheet 2.

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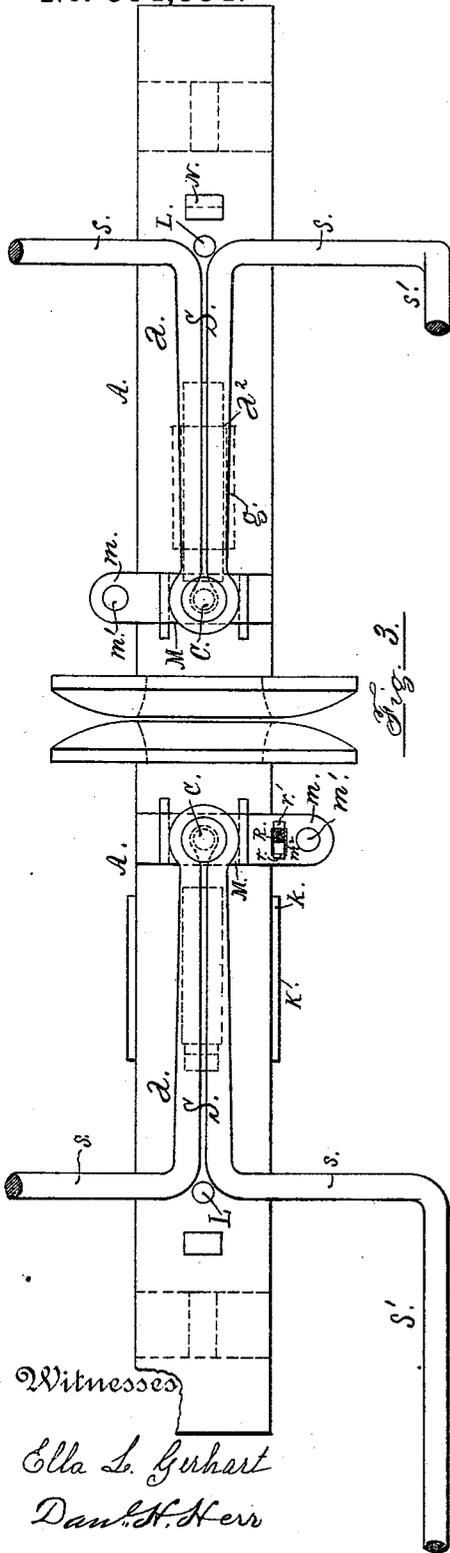


Fig. 3.

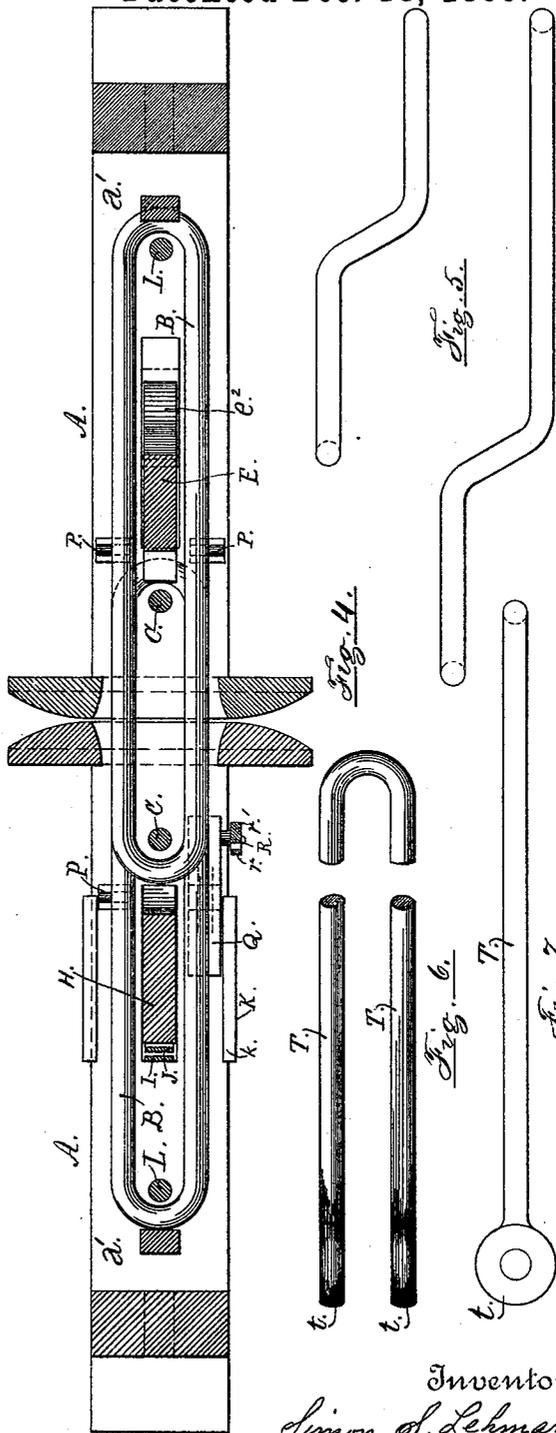


Fig. 4.

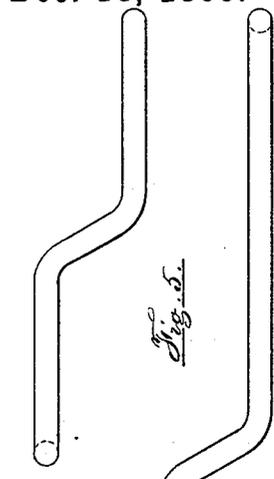


Fig. 5.

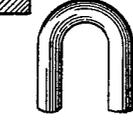


Fig. 6.

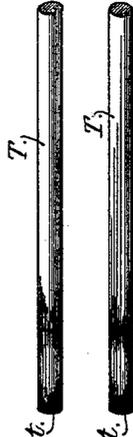


Fig. 7.

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UNITED STATES PATENT OFFICE.

SIMON S. LEHMAN, OF MARTICVILLE, ASSIGNOR OF ONE-HALF TO CHRISTIAN K. HERR, OF WEST LAMPETER, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 394,584, dated December 18, 1888.

Application filed February 28, 1888. Serial No. 265,553. (No model.)

To all whom it may concern:

Be it known that I, SIMON S. LEHMAN, a citizen of the United States, residing in Marticville, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Car-Couplers, of which the following is a specification.

My invention relates to improvements in that class of car-couplings in which, as two cars come together, the entrance of the coupling-link of one car into the draw-head of the other causes the dropping of the coupling-pin and the coupling of the cars.

These improvements consist, first, in the peculiar device by which the coupling-pin is held in position to drop and engage the link; second, in the manner in which said pin is dropped, and, third, in the way in which the outer extremity of the link is elevated or depressed and so held in order to couple with a car of different elevation.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my coupler, the pins being elevated preparatory to being brought into engagement with the link. Fig. 2 is a similar view showing the position of the parts after the pins have been dropped, the chains being removed, and also illustrating one way of elevating and depressing the outer ends of the links. Fig. 3 is a top or plan view of the parts in position, as shown in Fig. 2. Fig. 4 is a longitudinal horizontal section through Fig. 2; and Figs. 5, 6, and 7 are views of variously-shaped links intended to be specially used, as hereinafter explained.

Similar letters indicate like parts throughout the several views.

In the drawings, A represents the draw-head; C, the pins; D, the chains connecting them with the draw-head, and B the links. In the draw-head behind the pin (shown on the right side of Figs. 1, 2, 3, and 4) there is a longitudinally-sliding block, E, located. This block has a curved or sloping lip, *e*, which, while the pin is removed out of the draw-head, projects downward through a slot in the bottom plate, *a'*, of said draw-head, the body of the block resting on the same plate in front of the slot, as shown at *e'*, Fig. 1. Another lip, *e²*, projects upward and is received by

the slot *a²* in the upper plate, *a*. Immediately back of the lip *e* there is a bearing-block, F, secured in the slot of the bottom plate, *a'*, by the removable pin *f*. This bearing-block has a shoulder, *f'*, formed at its rear end, which engages the end of the slot in which it rests, its front face affording a bearing for the curved face of the sliding block E. When in the position just described, the front end of the block extends forward beneath the pin-hole in the top plate of the draw-head and supports the said pin when it is inserted in the hole preparatory to being brought into engagement with the link of an adjoining car. As a coupling-link enters the draw-head, it forces the block E backward up the incline of block F, permitting the coupling-pin to drop and engage therewith. Upon the withdrawal of the link and pin the sliding block resumes its original position.

In case the draw-head is located so near the bottom of the car as to prevent the upper lip, *e'*, from being protruded through the top plate when the sliding block is forced back, that lip and the top of the block are reduced in height and are embraced between two downwardly-projecting guides, *g*, on the under side of the top plate, as shown by dotted lines on the right side of Figs. 1, 2, and 3.

On the left side of Figs. 1, 2, 3, and 4 is shown a modified form of sliding block, the object of which is the same as of that just described. This block H slides horizontally and has a shoulder, *h*, projecting downward into the longitudinal slot in the bottom plate and its upper edge sliding in a groove in the under side of the top plate of the draw-head. It is projected forward by a spring pivoted at *h'* in the top plate, one arm, I, extending downward and resting against the rear end of the slot in the bottom plate, and the other, J, extending forward and downward and bearing against the back of the block. This block is retained in place by a slide, K, passing under the bottom of the draw-head and having edges *k*, bent so as to form grooves which embrace the edges of the bottom plate. In both cases the inner end of each link is engaged by the pin L in the back of the draw-head to which it belongs, as shown, the pin being upheld by the removable transverse pin *l*. By thus connecting

the link with the draw-head to which it belongs it is prevented from being lost and is always held in position for coupling without interfering with the action of the sliding block E.

The links are put in place in the draw-heads or removed therefrom by withdrawing the pins *l* and removing the pins L, and in the case illustrated on the right of the figures by taking out the pin *f* of the block F, which permits the blocks F and E also to be taken out, while in the case illustrated on the left of the figures the backward movement of the slide K permits the removal of the block H.

In order that the coupling-pins C may fall vertically when dropping to place and engage the openings intended to receive them in the bottom plates of the draw-head, there is a frame or arch, M, attached to each draw-head above the pin-openings therein, and having a hole in it to correspond with the said openings in the draw-head plates. The head of the pin is secured to the frame by a chain, D, and the base of said frame has an arm, *m*, projecting beyond the side of the draw-head, having an opening, *m'*, through it in which to carry the pin when not in use.

Back of the pin L there is a post, N, secured by removable pins *n n*, having a series of recesses, *p*, in its front face, adapted to receive the end of the link, while beneath the position occupied by the link when thrust back into the draw-head and somewhat in front of the middle of the pin when in that position there are balance-lugs P fixed on each side of the bottom plate. When the link is moved back by the train-man, it is balanced on these lugs and the inner end thrust into either one of the series of recesses *p*, as it may be desirable to throw the outer end of the link into position to engage the draw-head of the car it is to couple with.

On the left side of Fig. 2 is shown another way of varying the elevation of the outer end of the link and holding it in position. This device consists of a rocker, Q, pivoted between standards *g'*. To one end there is pivoted a spring-handle, R *r*, which passes upward through a slot, *m*², in the arm *m* of the frame M. It is composed of two arms, one, R, being rigid and having teeth *r'* on one edge, which are adapted to mesh with a rack in the end of the slot *m*², and the other, *r*, formed of spring metal, the upper end of which bears against the opposite end of the slot *m*². A rocker is placed on but one side of the draw-head, and the link rests upon it, and a balance-lug similar to that already described on the opposite side of said draw-head. The elevation of the ends of the link is varied by pushing back the arm R, so as to

free it from the rack, and then raising or depressing the same to throw the link into the desired position, and then again putting it into engagement with the rack.

The pins are raised to uncouple the cars by levers S, the center portions of which project forward over the draw-head and are provided with openings, through which the pins pass. The head of the pin rests upon the metal surrounding the openings. The portions *s* of the levers extend from the center of the car to the outer edge thereof, where they are supplied with handles *s'*, by which the center portions are raised or lowered. The handles as used for passenger-cars rise vertically when the parts S are resting on the draw-head, while those used with freight-cars extend horizontally along the side of the same.

Fig. 5 illustrates several kinds of links used with my invention when cars of greatly varying height are to be coupled together.

Figs. 6 and 7 show a top and side view, respectively, of another form of link, in which the inner end of each arm T T is furnished with an eye, *t*. This link is used when the box is closed at the bottom and the pin L cannot be removed. With this link a horizontal pin is used, it being passed through the eyes *t* back of the vertical pin L, against which it bears.

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

1. In a car-coupling, the combination, with the draw-head, of the sliding block E, means for pushing and holding the same forward under the pin-hole through which the pin C passes, the coupling-pin C, and the pin L, located back of the said block E to hold the coupling-link in the draw-head, substantially as specified.

2. The combination, with the draw-head, of the sliding block E, a device for pushing and holding the same forward under the hole through which the coupling-pin passes, the coupling-pin, and the coupling-link secured in the draw-head behind the said sliding block, substantially as and for the purpose specified.

3. The combination, with the coupling-link, of a rocker, Q, pivoted in the draw-head to regulate the position of said coupling-link, a handle pivoted to the rocker and passing upward through a slot in the arm *m*, the handle being provided with teeth adapted to mesh with a rack in said slot, and a spring for keeping the handle in engagement with the rack, substantially as and for the purpose specified.

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