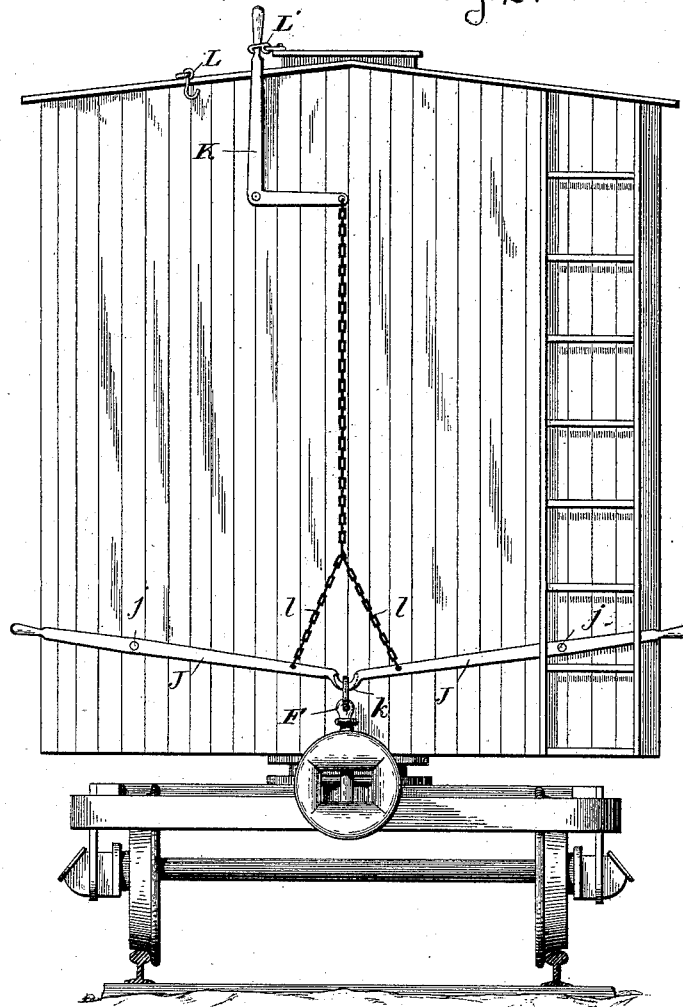
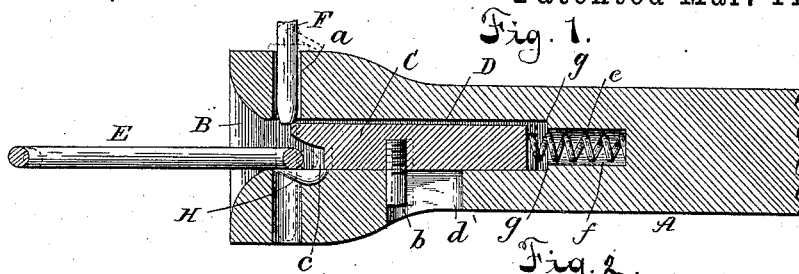


(No Model.)

D. Y. WILSON.
CAR COUPLING.

No. 423,297.

Patented Mar. 11, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID Y. WILSON, OF GUM TREE, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 423,297, dated March 11, 1890.

Application filed November 1, 1889. Serial No. 328,931. (No model.)

To all whom it may concern:

Be it known that I, DAVID Y. WILSON, a citizen of the United States, residing at Gum Tree, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers, of which the following is so full, clear, and exact description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of my improved coupler. Fig. 2 is an end view of the car provided with my coupler and an improved device to be used for uncoupling the cars from the top or side.

The object of my invention is to provide a car-coupling by the use of which the danger and inconvenience incident to the coupling of cars with the couplers now in use shall be entirely avoided.

Another object of my invention is to provide a coupling which shall be automatic and instantaneous in action when the coupling is being made.

Another object of my invention is to provide a car-coupling which will not be likely to get out of order, and one which may be operated by any railroad employé without any special instructions being given him.

The object, generally, of my invention is to provide the most simple and efficient car-coupler, and one which may be operated in the shortest possible time with the greatest degree of certainty and the least liability of injury to the operator, with the least expense of mechanical and physical force.

In the accompanying drawings, A designates the main body-piece of the draw-head, which is made preferably trumpet-shaped or cylindrical in outline. It is provided with a conical depression B in its face, and is also provided with a vertical perforation *a*, through which the pins are adapted to be dropped to make the coupling. A stop C is provided, and is adapted to move backward and forward in a rear passage-way D in the draw-head. The purpose of this stop is to impinge against the lower end of the coupling-pin and bite just enough to hold it in an elevated position against falling during the time the car is being switched previous to the coupling of

the cars together. The link E is forced against the face *c* of the stop C, the result of which will be to force the stop back a sufficient distance to allow the pin F to drop down and extend through the draw-head, and thus complete the coupling. This stop consists of a sliding block provided with a guide projection *b*, which is adapted to slide laterally through a slot *d* in the draw-head. To the rear of this stop C, I provide a coiled spring *e*, which is inserted into a recess *f* in the rear portion of the draw-head A. Each side of the open end of the perforation *f* are two shoulders *g g*, against which the rear end of the stop C abuts, which prevents, by limiting the rearward movement of said stop, the possibility of the spring *e* being broken by the force which it is expected to withstand when the stop C is forced back by the link E while the cars are being coupled.

The draw-head proper is higher at the bottom of the immediate opening of the mouth than at the rear of the bottom of the main opening into the face of the draw-head. In other words, a depression H is formed in the bottom of the rear portion of the opening I in the mouth of the draw-head. This depression H allows the link by its gravity to drop down into this depression when cars of unequal height are coupled together, and when the train is being drawn over uneven road-beds and around curves this will give the link sufficient play to prevent binding and consequent bending of the link at the mouth of the opening I.

In Fig. 2 I show two hand-levers J J, pivoted at *j j* and provided with hooks *k*, which engage with the pin either directly or by means of a link-connection in such a manner that by pressing down on the levers at their outer free ends the pin F will be raised a sufficient distance to undo the coupling. Two links *l l* are secured to the levers J J between the pivotal points of the levers and the hooks *k*, and to their upper ends is secured a chain, which is operated by a bell-crank K, which is provided with a hook L to lock it in position when the coupling is unfastened, and a second hook L' to lock it in position when the coupling is made.

It will be observed that the depression H, connecting the opening B and passage-way

D of the draw-head, is constructed with an inclined bottom and rearward-curved rear end, and that it is deepest at its point of junction with said passage-way. It thus conforms
 5 to the shape of the link, and affords bearing-surface for said link (when cars of unequal height are coupled together) largely in excess of that which is afforded by a semicircular depression. It will also be observed that the
 10 stop engages but a corner of the coupling-pin in supporting the latter, instead of extending entirely beneath the same. By this means the coupling of the cars is rendered instantaneous and can be accomplished by a comparatively-slight pressure applied to the front
 15 end of said stop. These features are important and will be appreciated by those persons familiar with this class of invention.

From the foregoing it will be readily understood that the operation of this coupling
 20 will be positive and in the main reliable. By reason of the trumpet-shaped opening it will be readily understood that the link will follow the inclined edge of the opening of the
 25 draw-head, and will readily slide back into the draw-head a sufficient distance to effectually make the coupling.

Having now described the objects, uses, and advantages of my invention, and having
 30 set forth a preferred method of construction, what I believe to be new, and what I desire to secure by Letters Patent of the United States, is—

1. In an automatic car-coupler, a draw-head
 35 having a vertical slot for the passage of a coupling-pin, an opening in its face to receive the link, a passage-way back of said opening, a depression connecting said opening and passage-way, said depression having
 40 an inclined bottom and deepest at its point of junction with said passage-way, and a recess back of said passage-way and communicating therewith, said recess being of less diameter than said passage-way to form shoulders
 45 at its front end, in combination with a stop operating in said passage-way, a spring located in said recess and tending to keep said stop in its foremost position, said spring
 50 being protected by the shoulders at the front end of said recess, limiting the rearward movement of said stop, and a coupling-pin passing through the vertical perforation in the draw-head and held in its elevated position when
 55 the cars are uncoupled by said stop, all substantially as shown and described.

2. In an automatic car-coupler, a draw-head

having a vertical perforation for the passage of a coupling-pin, an opening in its front face, a passage-way back of said opening, a
 60 depression connecting said passage-way and opening, said depression having an inclined bottom and deepest at its point of junction with the passage-way, and a recess back of said passage-way of a diameter less than that
 65 of the passage-way, in combination with an elongated stop operating within predetermined limits in said passage-way and having a recess in its bottom front end to receive the end of a link, a spring located within said recess and tending to keep said stop in its foremost
 70 position, said spring protected when the cars are being coupled by the shoulders at the front end of its recess, and a coupling-pin extending through the vertical perforation in the draw-head and supported in an elevated
 75 position when the cars are uncoupled by the engagement at its lower portion with the extremity of said stop, all substantially as shown and described.

3. In an automatic car-coupler, a draw-head
 80 having a conical opening B in its face, a vertical perforation *a*, a passage-way D, a recess *f* of less diameter than said passage-way D, an opening *d* in its lower end, and a depression connecting the opening B and passage-way D, said depression having an inclined
 85 bottom and outward-curved rear end and deepest at its point of junction with said passage-way, in combination with a stop operating in said passage-way and having its rearward movement limited by the shoulders
 90 at the rear end of the passage-way, a guide projection extending into the opening *b* from said stop and acting in conjunction with the front wall of said opening to limit the forward
 95 movement of the stop, a spring located within the recess *f* and tending to keep said stop in its foremost position, said spring being protected by the shoulders at the front end of the recess *f*, and a coupling-pin passing
 100 through the perforation *a* of the draw-head and supported in an elevated position when the cars are uncoupled by the engagement with one of its lower corners of the extremity of said stop, all substantially as shown and de-
 105 scribed.

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

DAVID Y. WILSON.

Witnesses:

EFFIE L. WADE,
 CHAS. E. BARBER.