(No Model.)

C. ENGEL.

CAR COUPLING.

No. 405,252. Patented June 18, 1889.

Fig. 1.

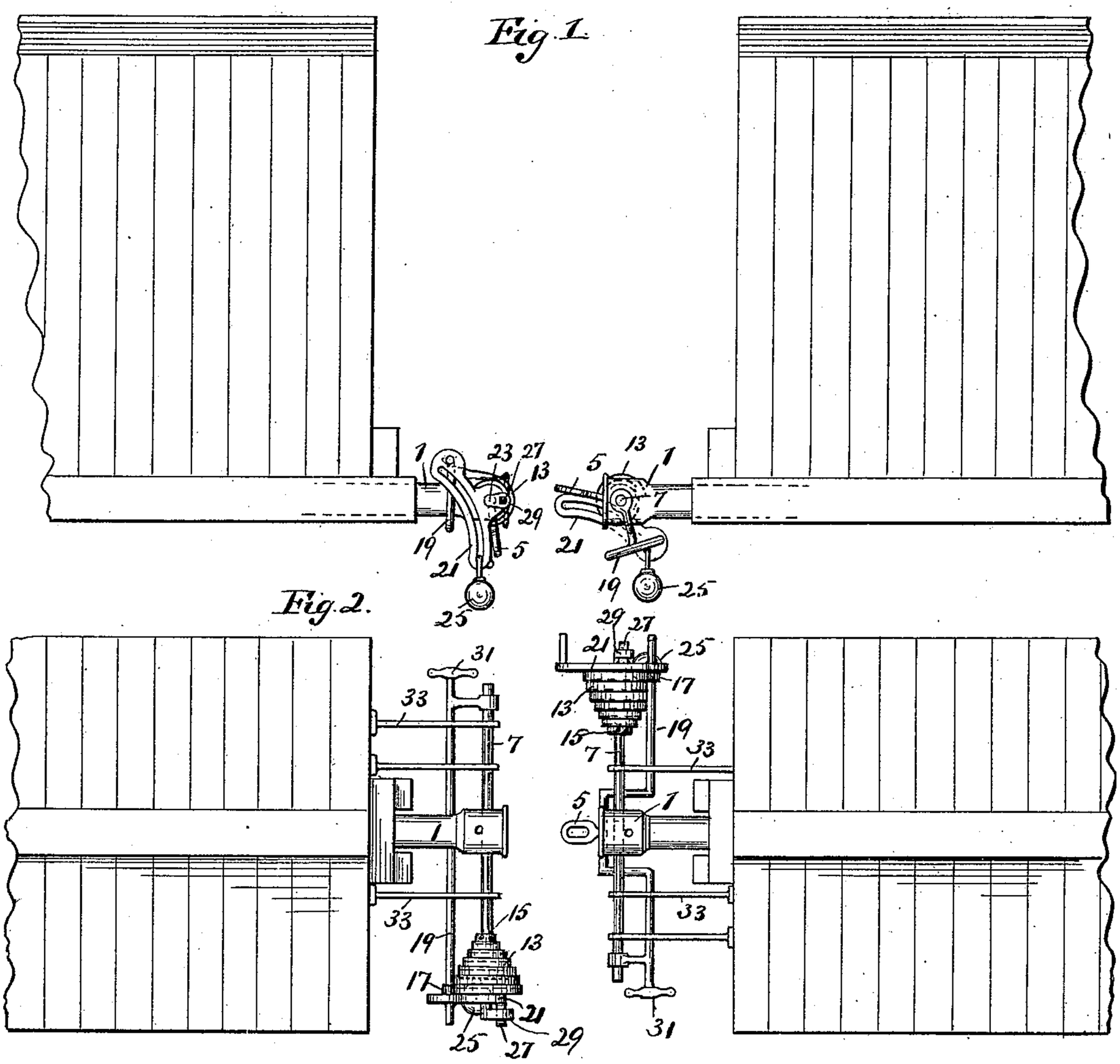


Fig. 2.

Fig. 5.

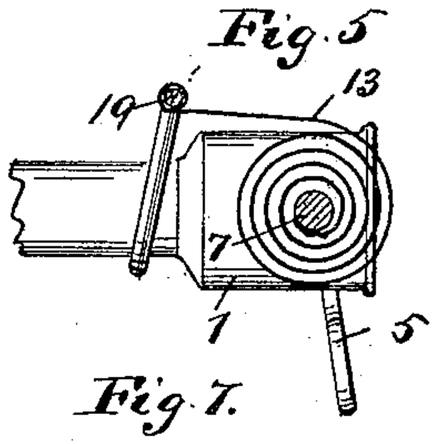
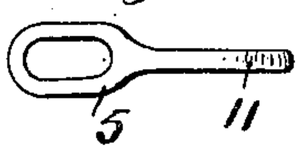


Fig. 7.



Witnesses.

J. Jessen
Chas. Gaskill

Fig. 3.

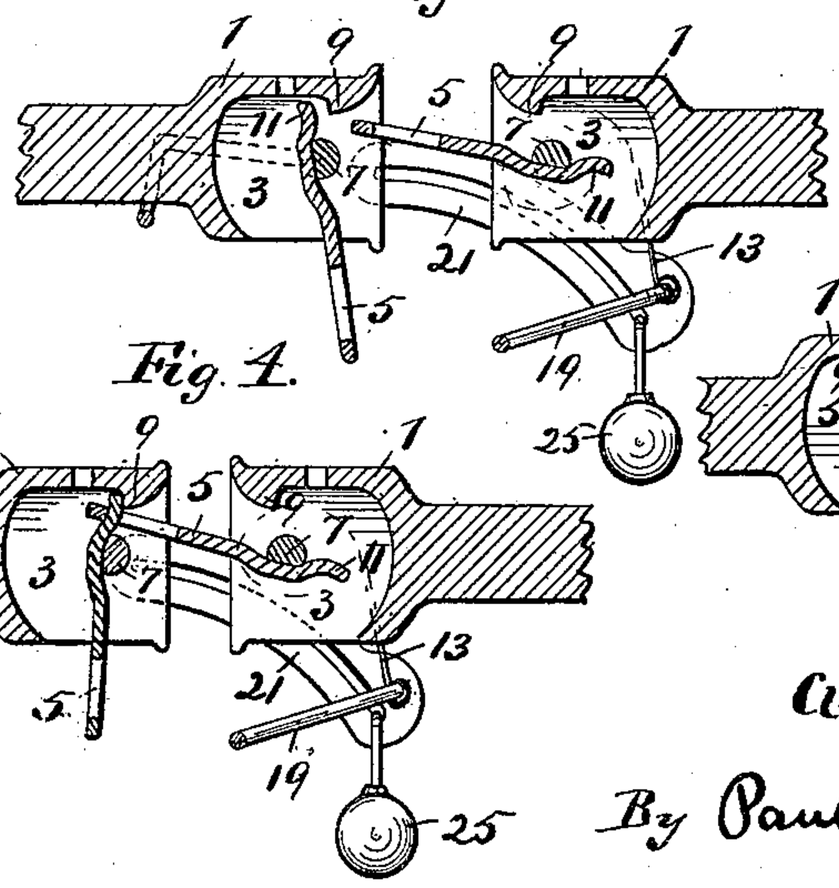
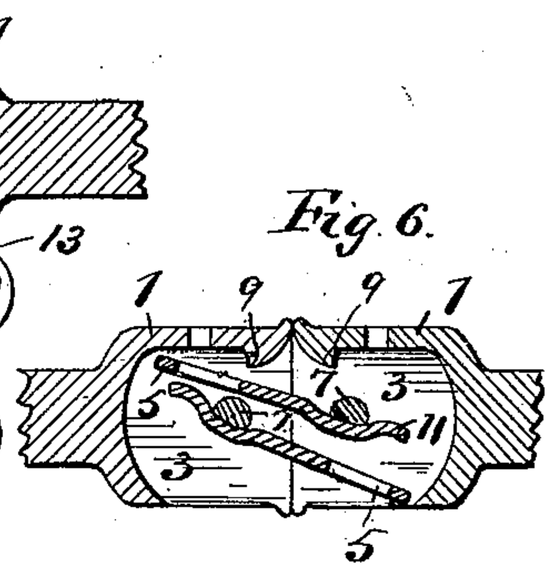


Fig. 4.

Fig. 6.



Inventor.
Clement Engel.

By Paul Sherwin atty.

UNITED STATES PATENT OFFICE.

CLEMENT ENGEL, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO IGNASE PRUNETA, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 405,252, dated June 18, 1889.

Application filed February 4, 1889. Serial No. 298,546. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT ENGEL, of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates to the couplers of ordinary freight-cars; and it consists, generally, in the construction hereinafter described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of portions of two freight-cars fitted with my improved coupler. Fig. 2 is a plan view of the same; and Figs. 3, 4, 5, 6, and 7 are details.

In the drawings, 1 is the coupler-head, of the ordinary material and dimensions. It is provided with a recess 3, in which the coupling-link 5 is pivoted by means of the rod 7, and is of proper size to receive the end of an ordinary coupling-link. The coupler-head is slotted on its under side sufficiently to allow the link 5 to hang vertically from its support, as shown in Fig. 4. On the upper side of the recess 3 the coupler-head is provided with a beveled shoulder or stop 9, against which the solid end of the link 5 strikes when in a vertical position, as shown in Fig. 4.

The link-carrying rod 7 passes horizontally through the coupler-head and is adapted to turn freely thereon, and is fitted with the devices hereinafter described.

By means of my improvements the act of coupling or uncoupling may be performed without the operator passing between the bodies of the cars. The coupler-link is rigidly secured to this rod and turns with it. The link is preferably constructed of the form shown in the drawings, with one end 11 made solid and projecting but a short distance from the rod 7, while the longer end constitutes the link. Upon one end of the rod 7, preferably on the right-hand side of the car, is secured a helical spring 13, its inner end being secured at 15 to the rod 7, while its outer end 17 engages the bell-shaped rod 19, the outer coil of the spring pressing against the slotted bar 21. The bar 21 is loosely secured at 23 upon the rod 7, and is adapted to be turned and to slide upon it against the tension of the spring 13, as hereinafter described. The bar 21 is provided with the slidable weight 25, which is adapted to slide in said slot from one end to the other of the bar in the operation of coupling or uncoupling. The bar 21 is also provided with the spur or catch 27, which is adapted to engage a stop 29, rigidly secured to the other end of the rod 19. The bail-shaped rod 19 has one end secured to the bar 21, and engages with the outer end 17 of the spring 13, and extends under the coupler-head to the opposite side of the car, where it is pivotally joined to the opposite end of the rod 7, upon which it freely slides and turns. The rod 19 is preferably fitted with the handle 31 at its extremity opposite from the spring, by means of which it can be turned and slid upon the rod 7 in the operation of coupling or uncoupling. The bar 21 is also preferably fitted with suitable handles, by which it can be operated in a similar manner. The spring 13 presses the bar 21 outwardly, and tends to keep the spur 27 in engagement with the stop 29, while the end of the spring 13 tends to lift the rod 19, with which it is engaged, against the resistance of the spur when engaged with 29.

I prefer to place upon my improved coupler safety-guards 33, which are preferably rods loosely attached to the rod 7, and extending thence underneath the car-body, where they are held loosely in proper supports. These guards are for the protection of any one who should accidentally fall from above between the cars and would prevent him from being thrown beneath the car-wheels. These may be of any suitable material, form, or number.

The operation of the coupler is as follows: To perform the act of coupling, the weight 25 on one of the couplers, as shown in the left-hand coupler of Fig. 1, is slipped to the forward end of the bar 21, so as to depress it to the position shown in Fig. 1, the spur 27 being in engagement with the stop 29, thus turning the rod 7. This brings the link attached to the rod into a vertical position, as shown. The opposite coupler is arranged in the opposite position, the weight 25 being moved to the rear end of the bar 21, whereby the rod 7 is turned and the link 5 thrown upward into a horizontal position, so that as the coupler-

heads approach each other it enters the opposite coupler-head, as shown in Fig. 3. The end of the link as it enters strikes against the solid end of the other link, pressing it backward against the resistance of the weight 25 until it slips over the end 11 and engages with it and the links are in the position shown in Fig. 4.

The act of uncoupling is accomplished as follows: The coupler-heads being brought together, as shown in Fig. 6, the horizontal link is thereby passed into the opposite head, so as to allow the solid end of the other link to move freely out of it. By means of the handles on either side the rod 19, carrying the bar 27, is pushed laterally against the pressure of the spring 13 until the spur 27 slips out of engagement with the stop 29, when the spring 13 turns the rod 7, so as to throw the link into a horizontal position and out of engagement with the other link. By shifting the weight 25 to the opposite end of the bar 21 the spur 27 is turned back until it again engages the stop 29, when the coupler may be placed in position, as above described, for coupling.

By means of my improved coupler cars may be coupled and uncoupled from either side without the operator passing between the car-bodies. Cars fitted with this coupler may also be used with cars fitted with the ordinary links and pins, since my improved coupler-link will fit into the ordinary coupler-head and receive the pin; or the ordinary link can be passed into and secured in my improved coupler-head.

I claim as my invention—

1. The combination, with a railway-car, of the coupler-head 1, having the recess 3 and the stop 9, the rod 7, turning freely in said coupler-head and provided with the link 5, the helical spring 13, having its inner coil rigidly secured to said rod 7 and its outer coil engaging the rod 19, the slotted bar 21, adapted to slide and to turn on said rod 7 against the tension of said spring and provided with the slidable weight 25 and the spur 27, adapted to engage the stop 29, and the rod 19, joined rigidly at one end to the bar 21 and secured loosely at its other end to the rod 7, substantially as described.

2. In a car-coupler, the combination, with a coupler-head having the stop 9, of the coupling-link 5, having the solid end 11, pivotally secured in said head, and the rod 7, rigidly secured to said link and serving as its pivot, and having suitable handles, by means of which it may be turned in said coupler-head, so as to elevate or depress said link, and the slidable weight 25 to hold the link in such position, substantially as described.

In testimony whereof I have hereunto set my hand this 24th day of January, 1889.

CLEMENT ENGEL.

In presence of—

C. M. WHITE,

T. D. MERWIN.