J. LOVENGUTH.
Car-Couplings.

No. 155,531. Patented Sept. 29, 1874.

Fig: II.

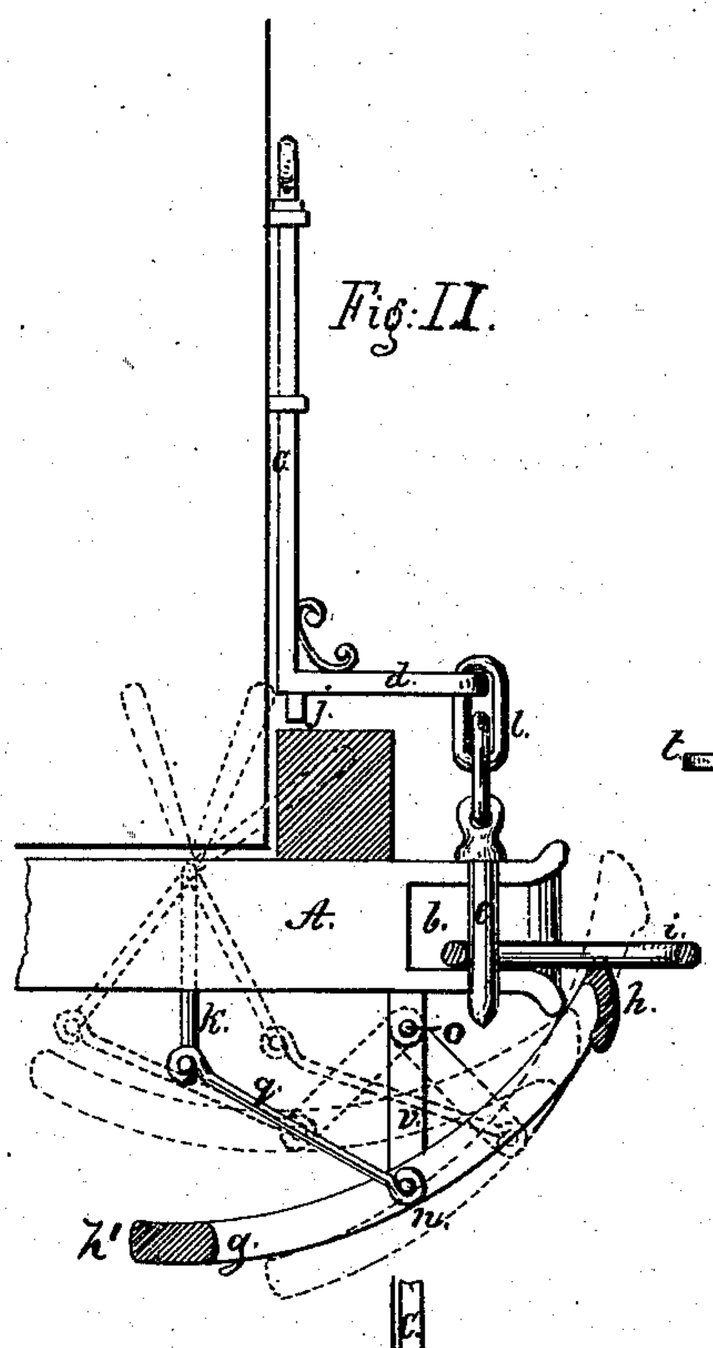



Fig: I.

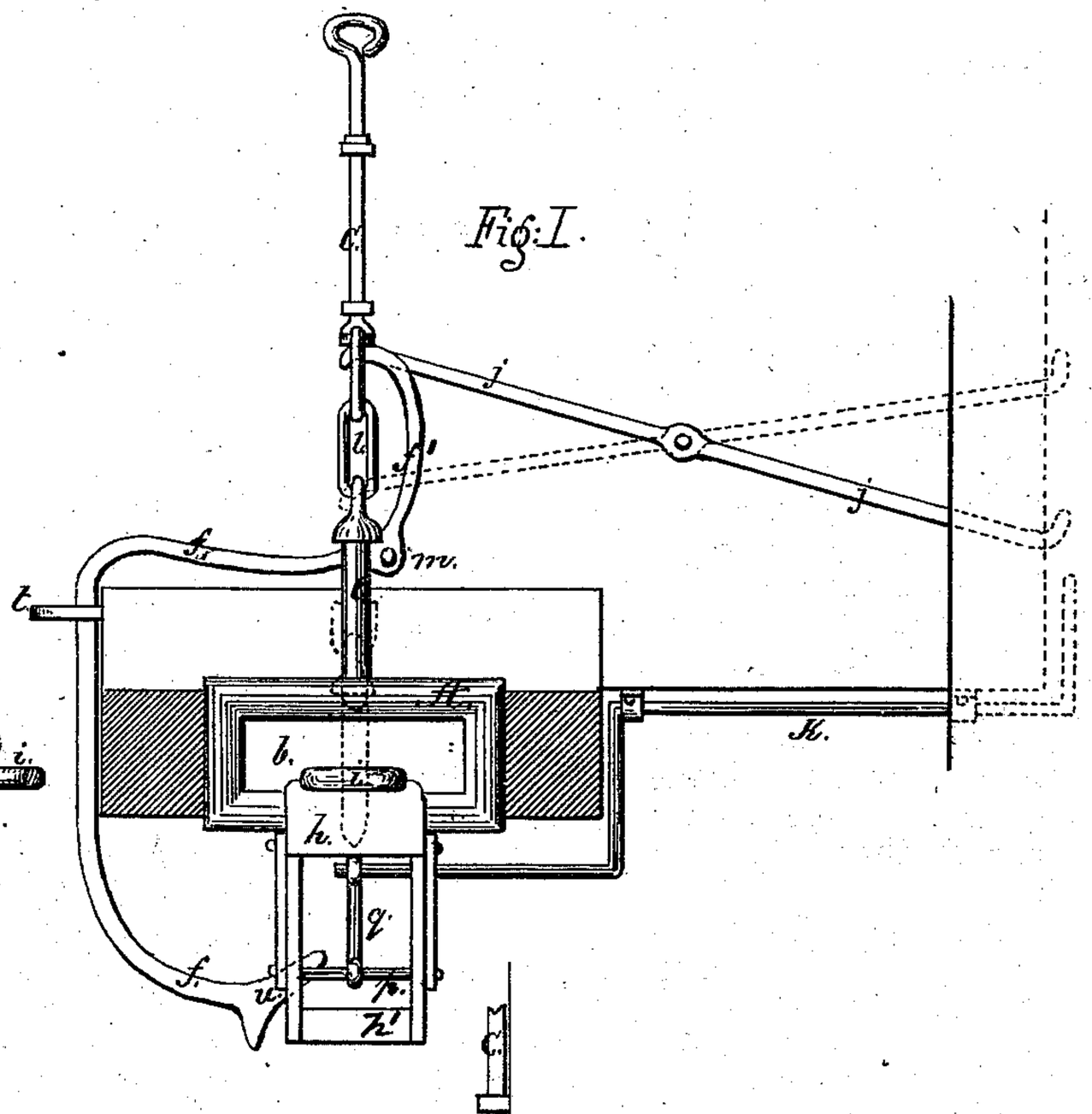



Fig: IV.

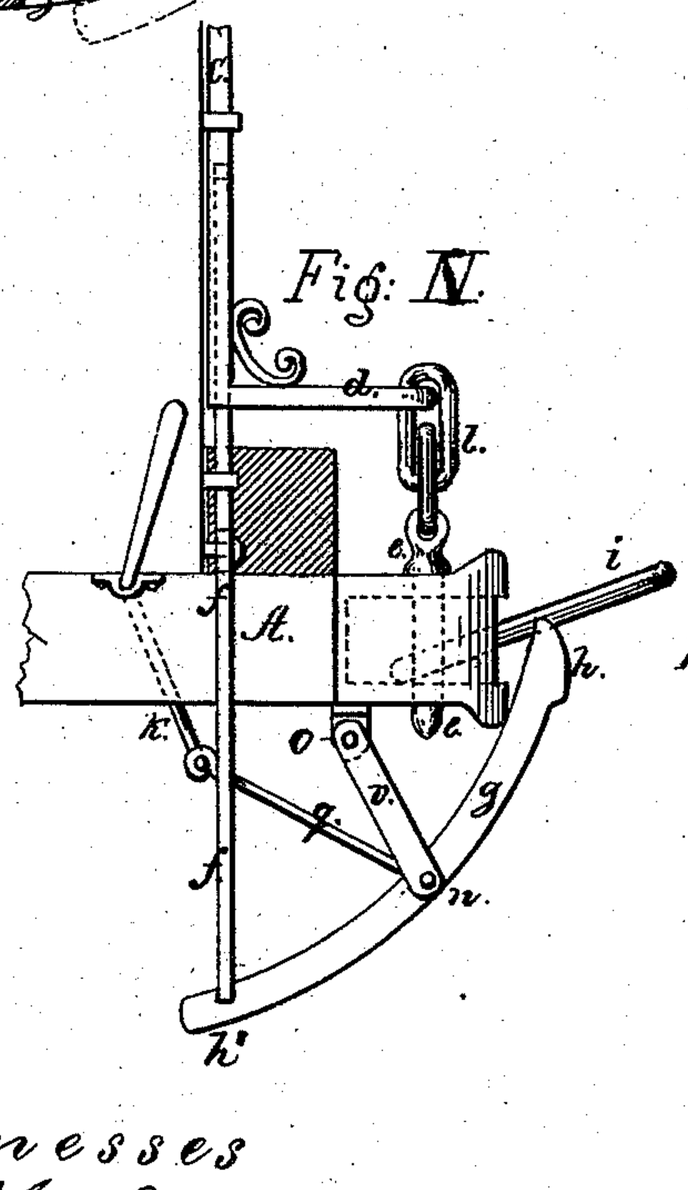
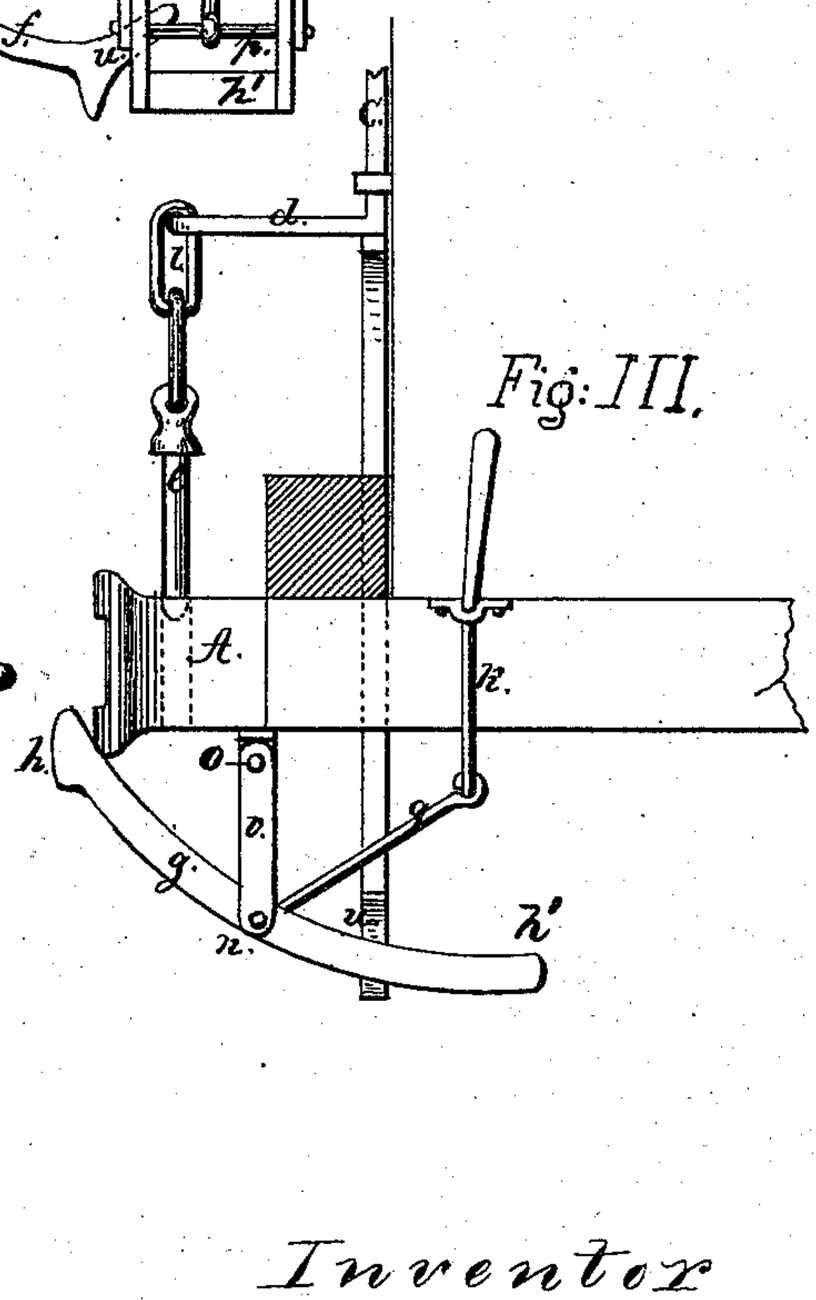



Fig: III.




Witnesses
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# UNITED STATES PATENT OFFICE.

JOHN LOVENGUTH, OF BLOOMINGTON, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN F. GOWDY, OF SAME PLACE.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **155,531**, dated September 29, 1874; application filed April 4, 1874.

*To all whom it may concern:*

Be it known that I, JOHN LOVENGUTH, of Bloomington, in the county of McLean and in the State of Illinois, have invented certain new and useful Improvements in Car-Couplings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of my invention is to couple and uncouple railroad-cars without rendering it necessary for any person to go between the cars to lift or guide the link or pin either in coupling or uncoupling; and to this end the nature of my invention consists in the construction and arrangement of certain devices, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front view of my invention, and Figs. 2, 3, and 4 are side views of the same, showing the devices in various positions.

A represents the usual flaring-mouthed bumper now in common use. *i* is the coupling-link, and *e* the coupling-pin, constructed in the ordinary manner. *c* is a perpendicular rod, held in place on the front of the car by means of suitable staples, through which it readily works. At the lower end of this projects a horizontal arm, *d*, by which the pin *e* is suspended from a chain, *l*, when it is desired to lift the pin. *f* represents a bar, pivoted at *m* to the front of the car, one end, *f'*, extending upward, as shown, and the main part of the bar extends outward for a suitable distance, then downward until it gets a certain distance below the bottom of the bumper, where it is bent inward under the same. The bar *f* plays readily on the bolt *m*, and is kept in place, with sufficient latitude of motion, by a long staple, *t*, which is also made fast to or through the front of the car. The end or arm *f'* of the bar *f* above the bolt or pivot *m* is intended to support the arm *d* and rod *c* when it is desired to suspend the pin *e* either to couple or uncouple the cars. This arm *f'* is curved two ways: First, in the direction of the first right angle of the bar; and, secondly, toward the front or from the car. The first curve aids the gravity of the bar and assists thereby in bringing it readily to its place under the arm *d*. The second curve brings the upper end of it forward so as to catch and hold the arm *d*. The lower end of the bar *f* is made in the form of an acute angle, having both of its sides curved, as shown at *u*. Against the lower side of this acute angle the back and upper part of the link-guide, hereinafter described, strikes, whereby this end of the bar is raised, throwing the arm *f'* out from under the arm *d*, and allows the pin to drop. *g* represents the link-guide, the front end, *h*, of which is made wide, and the rear end, *h'*, heavy or weighted. The sides of the guide are raised in front, to prevent the link *i* from sliding off from it sidewise, as shown in Fig. 1. The link-guide *g* is suspended from the bumper by arms *v v*, one on each side, by means of the joints *n* and *o*. *j* is a lever, extending from under the arm *d* to the side of the car, it being pivoted to the front of the car, and is used by a person standing by the side of the car to raise the arm *d*, the short arm of the lever being between the bolt on which it works and said arm *d*. The heavy rear end *h'* of link-guide forces, by its gravity, the front end *h* forward and upward, so that it may support the outer end of the link.

As all cars are not of the same height, and their bumpers do not stand on the same plane, the angular lever *k* is operated by a man standing by the side of the car, whose link is to enter the bumper on the next car, to raise or depress the entering end of the link as the bumper may be higher or lower than the bumper containing the link. The lever *k* is connected to a bar, *p*, in the link-guide, by a pivoted rod, *q*.

To operate my invention, a man may stand on the top of the car and raise the rod *c* till the arm *d* is caught and held by the upper

end *f'* of the bent bar *f*, or it may be raised by a man at the side of the car by the use of the lever *j*. The approaching car to be coupled bears the link in its bumper. When its bumper strikes the link-guide on the standing car, the forward end of the link has passed the pin-hole in the bumper of the standing car. The action of the bumper of the approaching car against the link-guide on the standing car causes the lower and back part *h'* of the link-guide to act against the lower end *u* of the bent bar *f*, which throws the part *f'* of said bar from under the arm *d*, and causes the pin to drop into its place, which completes the coupling.

To uncouple, the pin may be raised by a man on top of the car by lifting the rod *c*, or by a man at the side of the car by using the lever *j*. In both cases the arm *f'* of the bar *f* will catch and hold the arm *d*, to which the pin is suspended.

If the link is in the standing car, the pin in the bumper of the approaching car will be raised, as above described; and if the bumpers are of irregular heights, a man by the side of the standing car will, by the use of the lever *k*, adjust the outer end of the link so that it will enter the bumper of the approaching car, when the action above described will cause the pin to drop, when the coupling is complete.

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

1. The combination of the swinging link-guide *g*, suspended by means of the arms *v v*, the bent bar *f*, and the rod *c*, with arm *d*, all constructed substantially as and for the purposes set forth.

2. The angular lever *k*, in combination with the swinging link-guide *g*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of February, 1874.

JOHN LOVENGUTH.

Witnesses:
W. M. HATCH,
R. G. LAMBERT.