J. RITTY.
Car-Coupling.

No. 204,997. Patented June 18, 1878.

Fig. 1.

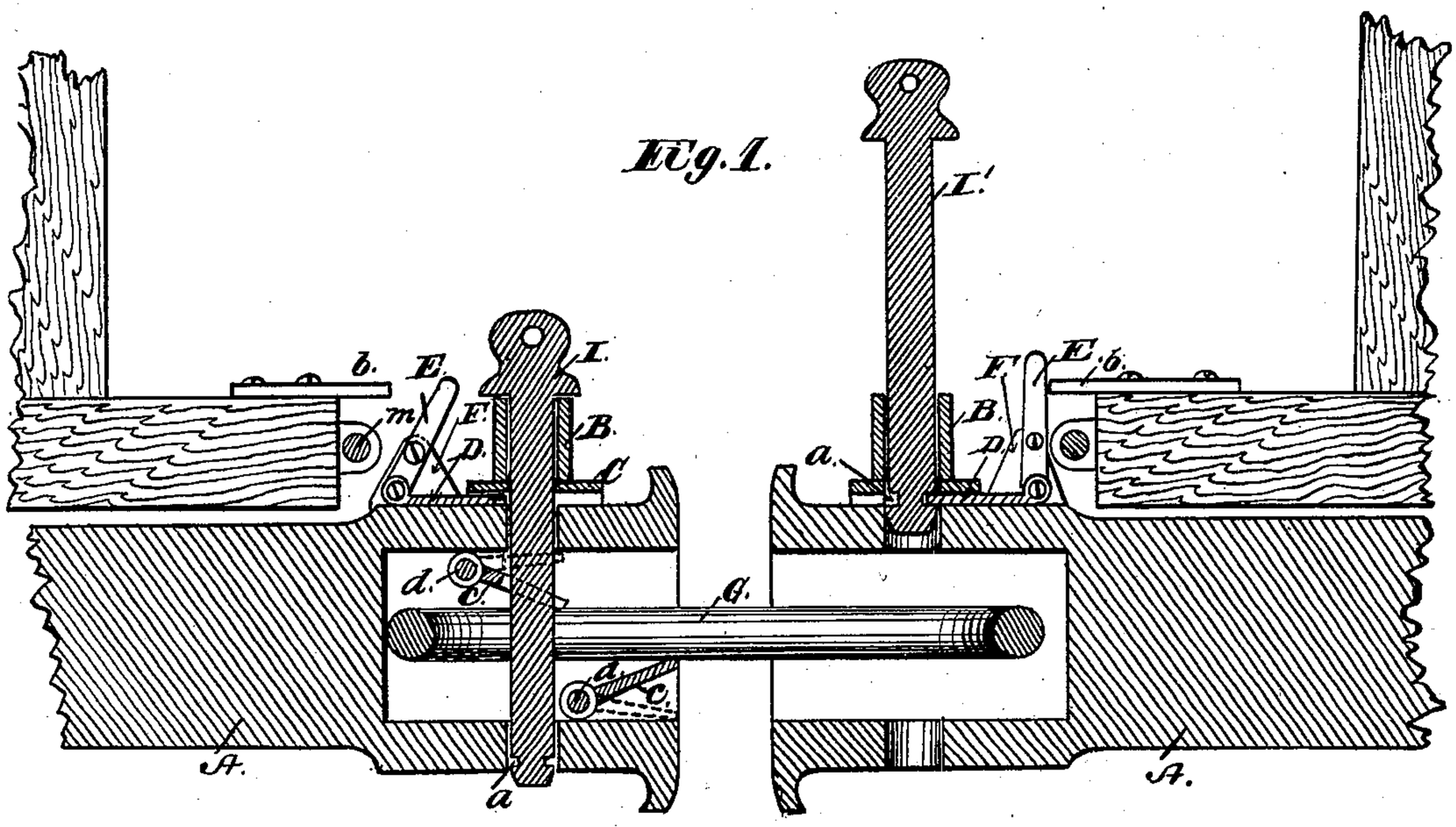
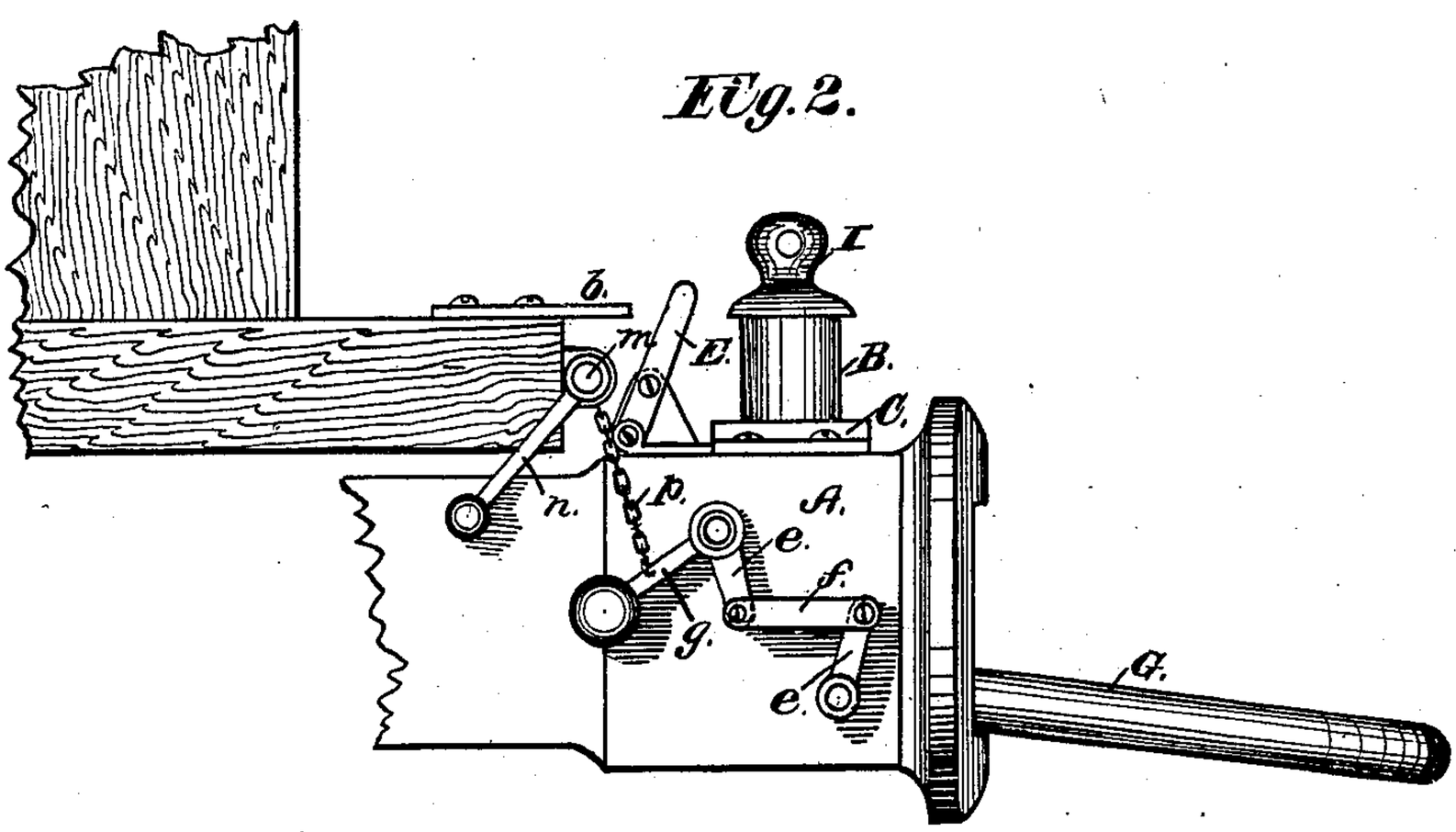


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN RITTY, OF DAYTON, OHIO.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **204,997,** dated June 18, 1878; application filed May 27, 1878.

To all whom it may concern:

Be it known that I, JOHN RITTY, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of car-couplings which employ ordinary links and coupling-pins with recessed draw-heads; and my object is to produce an improved automatic coupling which shall combine simplicity with strength and efficiency.

The novelty of my invention consists, first, in the construction and application of an automatic coupling-pin-dropping device, consisting, essentially, of a latch which holds the pin up, and a lever attached to the latch, which, when the cars come together and strike each other, causes the latch to be withdrawn and allows the pin to drop; second, in the application to the draw-head of two wings or crank-arms, working together, and so arranged as to raise or lower the link, or hold it at different inclinations in order to couple cars of varying heights, and in other details, as will be herewith set forth and specifically claimed.

In the accompanying drawings, Figure 1 is a central longitudinal sectional view in elevation, showing the construction and application of my improved coupling. Fig. 2 is a side elevation of a draw-head provided with my improved devices.

Corresponding letters of reference indicate like parts in both the figures.

A A are two recessed draw-heads. Over the openings through which the coupling-pins pass I place short collars or sleeves B, supported upon recessed plates C. These collars are open at both ends, and their bore is of the same size and coincident with the coupling-pin holes. In the recesses of the plates C are latch-plates D, whose rear ends are pivoted to levers E, of the shape indicated. These latter are pivoted at their middle to standards F, of any suitable construction, which project from the upper side of the draw-heads, as seen. G is the link, of ordinary construction; and I I′, the coupling-pins, which have, near their lower ends, circumferential slots or grooves *a*, as seen in Fig. 1.

The automatic coupling is effected in the following manner: The pin I′ is drawn up until the latch D can enter the groove *a* and hold it suspended, as seen in Fig. 1. The link is secured in the draw-head of the adjacent car, and when the draw-heads approach each other and come in contact, a projecting plate, *b*, or the platform of the car, as the case may be, comes in contact with the lever E and withdraws the latch, whereupon the pin, being no longer supported, falls through the link and effects the coupling.

The purpose of the collar B is to give the pin a longer bearing than ordinary, to insure its falling straight and entering the lower socket-hole.

To insure a more successful and automatic coupling, I secure in the draw-head, above and below, on each side of the coupling-pin, a flat rectangular plate or wing, *c*, which is as wide as the recess, and is pivoted at one edge by trunnions *d*, or a short shaft, which extends through one side of the draw-head, and has keyed upon the projecting end an arm, *e*. These arms, as seen in Fig. 2, are connected by a pivoted link, *f*, and from the upper projecting trunnion or shaft a weighted arm, *g*, extends, as represented.

By this construction and arrangement it is seen that the wings *c* are connected, so that the movement of one effects a like movement, but in an opposite direction, of the other; and the weight upon the arm *g* is sufficient to hold them in the positions indicated by the dotted lines in Fig. 1, where they are out of the way. The upper of the plates *c*, which is in the rear of the coupling-pin, is slotted transversely from its forward edge, so as to encompass the coupling-pin, which would otherwise prevent its vibration. When the link is in position and held by the coupling-pin, it ordinarily hangs down, as seen in Fig. 2, and it is frequently necessary to raise it to insure its entering the opposite draw-head. By turning the wings upon their pivots the lower forward one ascends and the upper rear one descends, and in so doing they raise the link and support it at any desired inclination, as seen in Fig. 1.

As a convenient means for operating the wings *c*, I journal in suitable bearings upon

the edge of the platform a shaft, *m*, having upon each projecting end, at the side of the car, a crank, *n*, and I connect this shaft or roller to the arm *g* by a chain, *p*, so that by turning the crank the chain would be wound upon the roller. This would adjust the wings in a simple and convenient manner, and prevent the necessity of the brakeman going between the cars.

To render the device more perfect, a ratchet and pawl might be applied to the shaft *m* to hold it in any desired adjustment.

Instead of employing the arms and links to operate the wings simultaneously, segmental gears might be keyed upon each trunnion, so as to mesh with each other and cause the uniform vibration of both wings.

Instead of flat wings, iron rods bent in the form of double cranks might be journaled in the draw-heads, and be operated similar to the wings, to adjust the links.

Having thus fully described my invention, I claim—

1. The combination, with a coupling-pin grooved at its lower end, of a latch and lever pivoted upon the draw-head, whereby, when the opposite draw-heads come in contact, the lever is moved by the platform or projecting plate, and causes the disengagement of the latch and pin, substantially as and for the purpose specified.

2. The combination, with a recessed draw-head and coupling-link, of two pivoted wings, *c*, or their equivalents, connected by links or gearing, so as to move simultaneously, whereby the links may be raised or lowered, or held at any desired inclination, as set forth.

3. The combination of the wings or their equivalents, *c*, by means of suitable connecting mechanism, with the roller-shaft *m*, provided with cranks *n* at the sides of the car, whereby the adjustment of the links can be effected without going between the cars, as set forth.

Witness my hand this 21st day of May, A. D. 1878.

JOHN RITTY.

Witnesses:

P. H. GUNCKEL,

CHAS M. PECK.