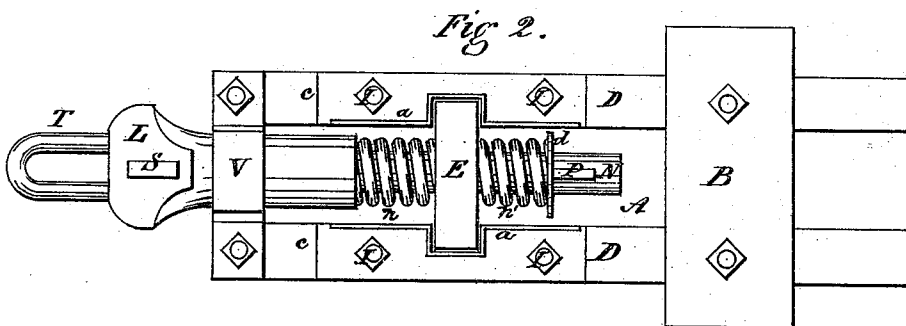
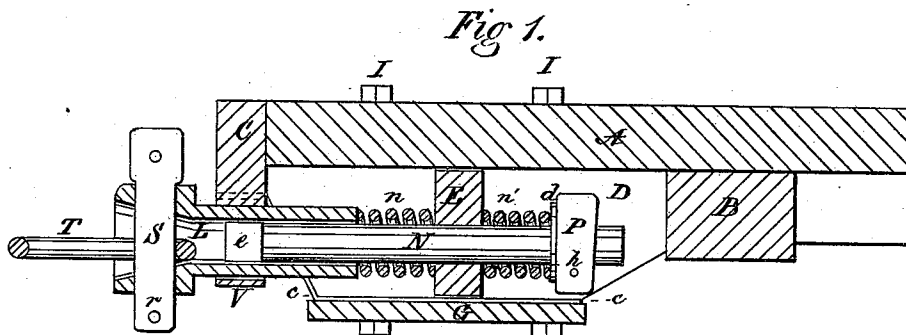


J. W. BUCKINGHAM.

CAR-COUPLING.

No. 179,156.

Patented June 27, 1876.



WITNESSES

W. B. Chaffee
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INVENTOR

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UNITED STATES PATENT OFFICE

JOHN W. BUCKINGHAM, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **179,156**, dated June 27, 1876; application filed February 15, 1876.

To all whom it may concern:

Be it known that I, JOHN W. BUCKINGHAM, of the city and county of Baltimore, in the State of Maryland, have invented an Improved Car-Coupling, of which the following is a specification:

The object of this invention is to produce a coupling at less cost, a reduced weight, and less liable to fracture than those ordinarily used; and it consists, first, in the combination of a malleable metal facing with a wooden body part, forming the cross-head guides; secondly, in the combination, with the above, of one cross-head with two springs, acting as a yielding draft and buffer.

Referring to the accompanying drawings, Figure 1 represents a central longitudinal section of a coupling constructed according to my invention. Fig. 2 is an inverted plan of the same, the bottom plate being removed.

The same letters indicate like parts in both figures.

A represents the flooring of the platform of a car. B is a cross-beam or joist to support said flooring. C is the end piece of the framework of the truck on which the car-body is built, all of which are of the ordinary form and construction. D D are the cross-head guides, which are made of hard wood grooved vertically on their inner sides, at about their mid-length, for the reception of the cross-head E. The guides D are furthermore sheathed on their inner sides and in the grooves with boiler-iron *a*, of sufficient thickness to stand the abrasion of the cross-heads. These guides are also plated on their under sides with flat bar-iron *c*, extending from their rear or inner ends outwardly to the end piece C, to which they are bolted, and against which the guides abut. A plate, G, is then secured across the bottom, binding the two guides together by bolts I, passing vertically through the plate G, bar-iron *c*, guides D, and flooring A, thus securing the whole firmly to the car. L is the ordinary coupling-head, of cast-iron, through which the ordinary draft-pin N is inserted, said pin being provided with a square head, *e*, fitting the inner end of the coupling-head L, and a cotter, *d*, supported by a flat key, P, passing vertically through its rear or inner end. This key is secured by a ring inserted in a hole, *h*, in its

lower end, by which it is prevented from accidentally working out of place. Two spiral springs, *nn'*, encircling the pin N, are arranged, the one between the coupling-head L and cross-head E, and the other between said cross-head and the cotter *d*, thus forming a yielding draft and buffer with a single cross-head. I also use a flat key, S, passing vertically through the bell-mouth of the head L, for retaining the coupling-link T, and which is prevented from being taken entirely out by a cross-pin, *r*, passing through it near its lower end, for the passage of which, through the lower side of the bell-mouth, ways are cut on each side of the slot, to admit of lifting the pin or key S until the cross-pin *r* strikes against the under side of the upper part of the bell-mouth. This head L is supported in a stirrup, V, of flat bar-iron, fitting loosely around it, and bolted to the under side of the end piece C of the frame-work of the car in the usual manner.

The same bar-iron used to support the old cast-iron cross-heads, and the same coupling-heads, draft-pin, and springs may be used in connection with this construction, so that the improvement may be easily applied to all cars in use at a very trifling cost, and to new cars its cost is considerably less than that of the old and fragile coupling as heretofore constructed. Further advantages of this construction are that, by the combination of wood and a sheathing of wrought-iron for the cross-head guides in place of solid cast-iron, over two hundred pounds weight is saved in each coupling, while such cast-iron ones are continually breaking where the cross-heads are inserted, or where the bolts pass through them, after which they are entirely useless, except to melt down, although they might have only made one trip before such fracture. By my construction of wood and iron combined a fracture is almost impossible, and its durability is therefore only limited by the time required to wear through the wrought-iron sheathing, when, by the insertion of a new sheathing at a comparatively trifling cost, the coupling is rendered very nearly, if not quite, equal to an entirely new one. Further, in the ordinary coupling, two cross-heads are used, each one (1) inch in thickness, and, in connection with one spring, these cross-heads fre-

quently break at the eye, while by my arrangement of one cross-head and two springs, I can make the former one-fourth or one-half thicker, and save from one-fourth to three-eighths of the weight of the two cross-heads now used, and have that much additional strength, as it must be borne in mind that in the use of two cross-heads one only bears the traction, and the other the concussion, while my one head bears both alternately; and by the flat construction of the coupling-pin P, it is less liable to be bent by the draft on it, and the coupling-head is not weakened so much as by the passage of the thick round pin ordinarily used.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. In a car-coupling, the combination of the wooden parts D and the wrought metallic sheathing *a*, forming the cross-head guides, substantially as set forth.

2. The combination of the cross-head E with the springs *nn'*, coupling-head L, cotter *d*, key P, and guides D, lined with wrought metal, all constructed and arranged as shown and described.

JOHN W. BUCKINGHAM.

Witnesses:

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