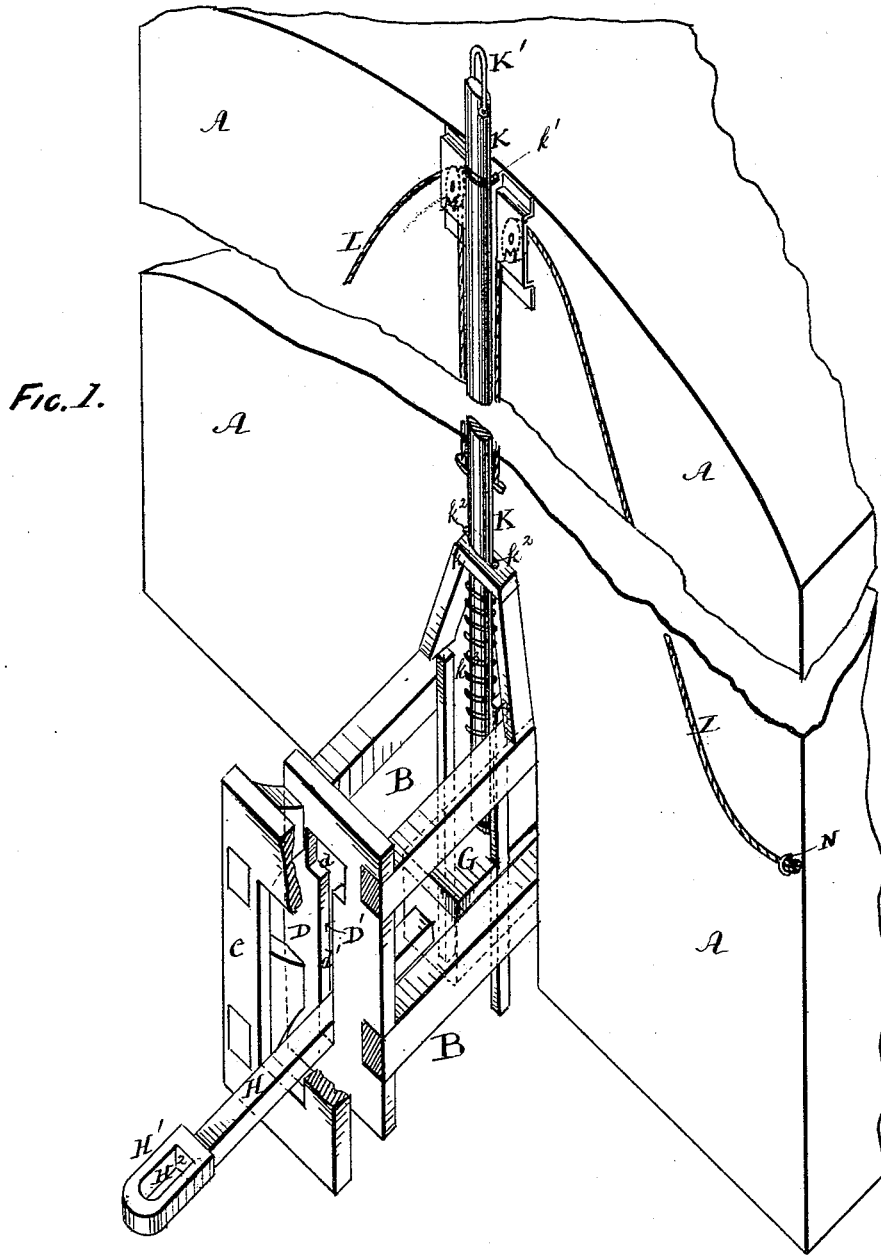


W. E. BELL.
Car-Coupling.

No. 165,529.

Patented July 13, 1875.



Witnesses:-
 Edith Brooke
 J. P. Cowl

Inventor:
 William Elphinstone Bell
 by his attorney
 Colborne Brooke

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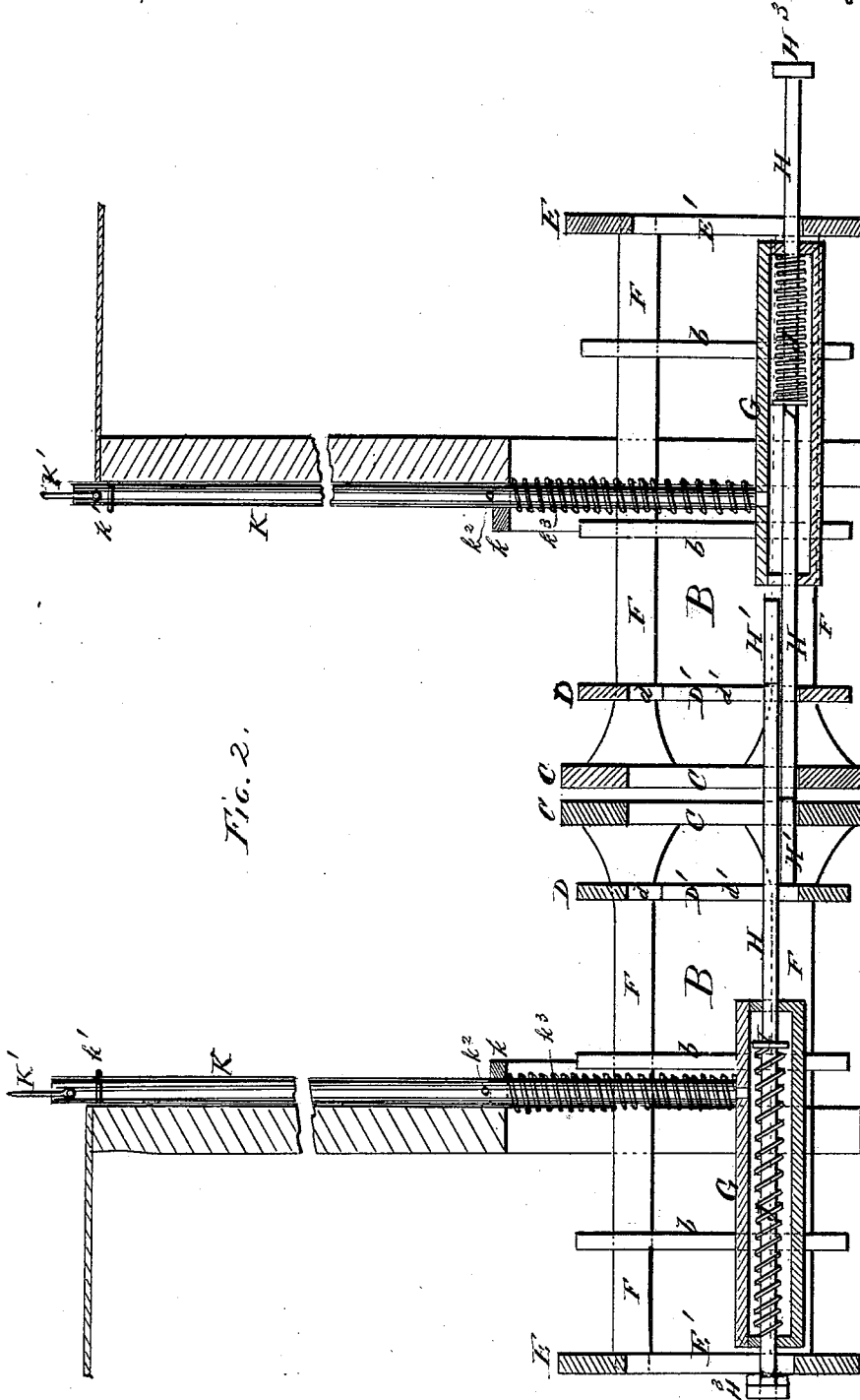


Fig. 2.

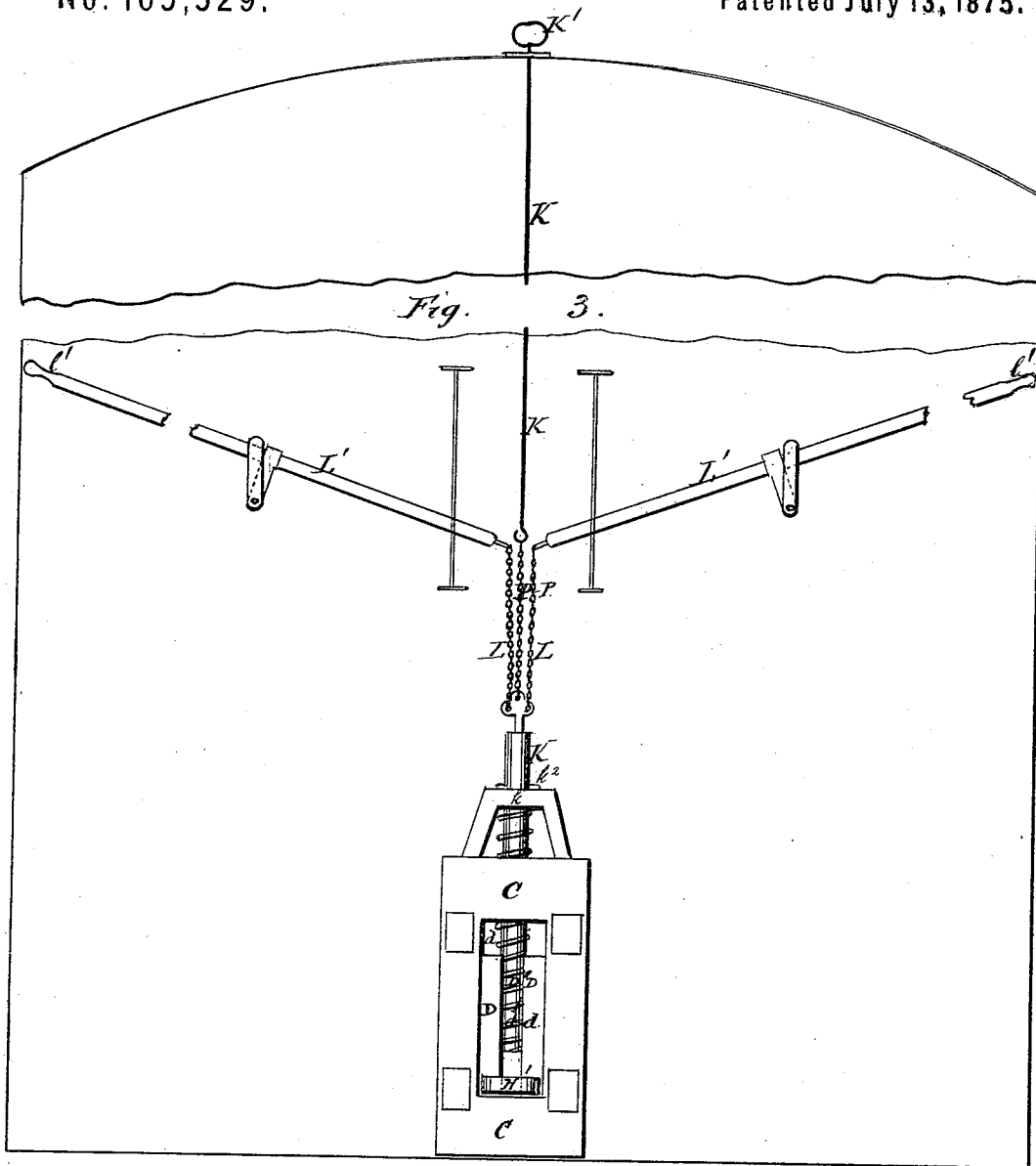
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UNITED STATES PATENT OFFICE.

WILLIAM E. BELL, OF PLATTEVILLE, WISCONSIN, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHRISTOPHER BELL, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 165,529, dated July 13, 1875; application filed May 10, 1875.

To all whom it may concern:

Be it known that I, WILLIAM ELIPHALET BELL, of Platteville, in the county of Grant and State of Wisconsin, have invented certain Improvements in Car-Couplings, of which the following is a specification:

My invention relates to improvements in the arrangement and construction of couplings particularly adapted for connecting together freight-cars on railroads, whereby the coupling and uncoupling of the cars may be readily effected from either the top or sides of the cars, without necessitating any person going, or placing any part of his body, between the cars to be coupled.

The position of the coupling-link can also be readily adjusted in order to accommodate cars having draw-heads at different heights.

The nature of my invention will be fully explained by reference to the accompanying drawings, which form part of this specification.

In the drawings, Figure 1 represents a perspective view of a portion of the end of a freight-car with my improved coupling applied thereto. Fig. 2 is a vertical section showing parts of two cars connected together with my improved coupling; and Fig. 3 is an end view of a car, showing a slight modification of my invention.

In each of the views similar letters are employed to indicate corresponding parts wherever they occur.

A represents the end frame of a freight-car, to the under carriage of which is attached, in any suitable manner, the framing B, which is, by preference, formed of three plates, C D E, connected together by rods or bars F. G is the draw-head, which, in the arrangement shown, is formed with rectangular sides and ends, and is supported with capability of vertical movement in the framing B, as hereinafter more fully explained. *b b* are guides affixed to the bars or rods F, which fit into corresponding grooves in the sides of the movable draw-head G. H is the draw-bar, which according to my invention is extended at its front end, and formed with a projection, H¹, having a loop or pin-hole, H², formed therein, while its rear end is extended backward through the draw-head G and plate E, at the

rear end of which it is provided with a nut, or other suitable fastening, H³. Within the draw-head G the draw-bar H is provided with a washer or projection, I, against which a coiled or other spring, J, operates to keep the draw-bar H at all times forward, unless pressed back by the plate D of an adjoining car, as shown by Fig. 2, or by coming in contact with another car or object. K is a vertical rod connected at its lower end to the draw-head G, and provided at its upper end with a handle, K', for the purpose of raising the rod K and draw-head G from the top of the car, when required, and as hereinafter explained. This rod K is supported in bearings *k k'*, and is provided with a stop or projection, *k''*, to prevent its being drawn too far down by means of the spring *k''*, the upper end of which bears against the bearing *k*, while at the other end it rests upon the draw-head G, thereby keeping the said draw-head, as well as the bar K, down, unless raised or supported as herein described. Although I have shown a coiled spring, other forms of springs may be used. L L are cords or chains attached at one end to the rod K, and passing up over pulleys M, and downward to a loop or holder, N, into position to be readily accessible from the sides of the car, for the purpose of operating the rod K, to adjust the position of the draw-head G and bar H. The plate C is formed with a rectangular opening, C', sufficiently large to allow of the free passage of the projection H¹ of the bar H at any part, while the plate D is provided with a T-shaped opening, D', the part *d* being sufficiently large to allow of the free passage of the projection H¹, while the vertical slot *d'* is only large enough to allow of the free movement of the draw-bar H therein. The plate E has simply a vertical slot, E', just sufficiently broad to allow of the free action of the draw-bar therein.

The operation of the apparatus is as follows: When it is required to couple a pair of cars provided with my improved apparatus, it is simply necessary to raise the draw-head G, by means of either the handle K' or ropes L, to the required height to enable the projection H¹ of its draw-bar H to pass through the part *d* of the opening D' of the buffer-head or

plate D of the coupling apparatus of an adjoining car.

The projection H¹ having passed sufficiently far through the said opening *d* that the face *h'* of the projection H¹ is beyond the rear face of the plate D, the draw-head G is then lowered; the projection H¹ will then pass down at the rear of the plate D, with the bar H in the slot *d'* resting on the bar H of the adjoining car, as shown at Fig. 2, and firmly connecting the two cars together. The bar H of the adjoining car, not being raised, will have come against the plate D of the coupled car, and will be thereby depressed, as shown at Fig. 2.

When it is required to uncouple a pair of cars it is simply necessary to raise the draw-head G, so as to allow the projection H¹ to pass the opening *d*, when the cars can be readily separated.

The projection H¹ is formed with the loop or pin-hole H², in order that the said projection may be inserted into, and coupled with, cars provided with the ordinary draw-heads now in use, or with chains, links, or other connecting or hauling means.

By this arrangement it will be readily seen that the position of the draw-bar H may be readily adjusted to any height within the limit of the slots in the plates C D E, in order to couple with cars having draw-heads or connecting means at varying heights.

In the arrangement shown by Fig. 3, in place of carrying the ropes or chains L L up over pulleys M, I shorten the same, and connect them to the ends of hand-levers L' L', the ends *l' l'* of which are in a position to be operated from the sides of the car. The rod or bar K is also formed in two sections, connected by a cord or chain, P. In other respects the apparatus is constructed in a similar manner to that represented by Figs. 1 and 2.

In place of forming the framing A, a series of plates, C D E, connected together by rods or bars F, as shown, the said framing may be built up or formed in any desired manner, and the sides and top of the same may be inclosed.

The form and shape of the draw-head G and draw-bar H may also be varied, and notches or projections of any desired form affixed on the end of the draw-bar in place of the loop or hole H², in order to adapt my apparatus to couple with different kinds of draw-heads.

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

1. The combination, with a framing, A, provided with plates C D E, having slots therein, as described, of a movable draw-head, G, and draw-bar H, substantially as described.

2. The combination, with a draw-head, G, capable of vertical movement in a frame, A, as described, of a draw-bar, H, provided with an enlargement or loop, H¹, and extending through or within the said draw-head, and controlled by a spring, I, substantially as described.

3. The combination, with the frame A, having plates C D E, formed with slots, as described, and guides *b b*, of the draw-head G, draw-bar H, rod K and ropes or chains L, or ropes and chains L and levers K', substantially as set forth.

4. The combination, with a framing, A, provided with a plate or surface, D, having a T or equivalent shaped opening, D', as described, of a draw-head, G, and draw-bar H, capable of adjustment in position, substantially as and for the purposes described.

WILLIAM ELIPHALET BELL.

Witnesses:

ARCHIBALD W. BELL,
LEMUEL J. WASHBURN.