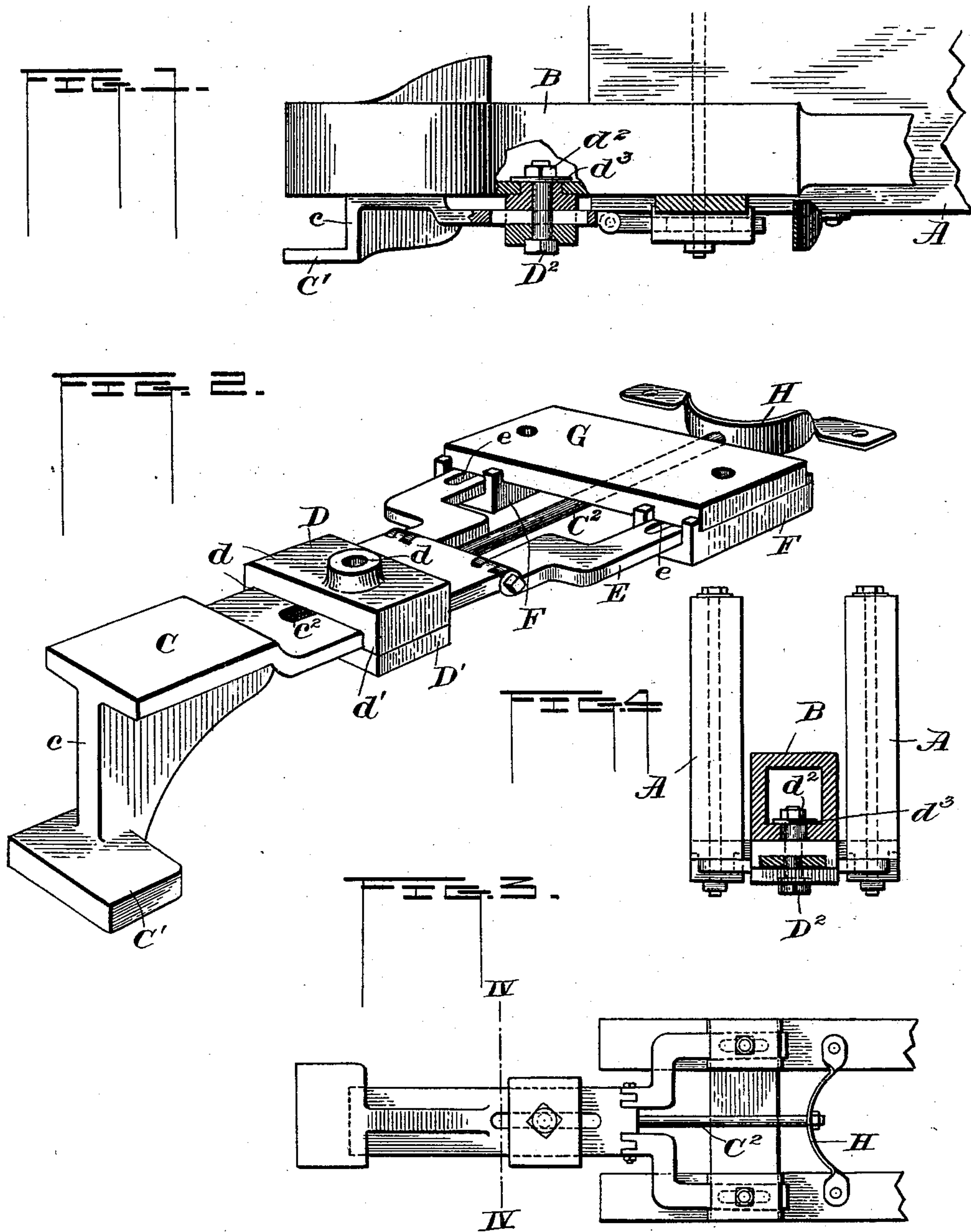


(No Model.)

J. A. MARKLEY.  
SAFETY ATTACHMENT FOR CAR COUPLINGS.

No. 521,243.

Patented June 12, 1894.



Witnesses  
*L. A. [Signature]*  
*Chas. E. Rordon*

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# UNITED STATES PATENT OFFICE.

JOHN A. MARKLEY, OF CLIFTON FORGE, VIRGINIA, ASSIGNOR OF THREE-FIFTHS TO JAMES CLIVIE CARPENTER, JOHN ARCHER ROBERTS, JOHN LESLIE DUNCAN, AND JAMES CARR KING, OF SAME PLACE.

## SAFETY ATTACHMENT FOR CAR-COUPPLINGS.

SPECIFICATION forming part of Letters Patent No. 521,243, dated June 12, 1894.

Application filed October 30, 1893. Serial No. 489,522. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. MARKLEY, a citizen of the United States, residing at Clifton Forge, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Safety Attachments for Car-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to safety attachments for car couplings, and the object is to provide an efficient device whereby, when a train is in motion, if a coupling breaks and the broken part becomes detached it may be prevented from falling upon the track so as to derail or endanger the moving train.

The invention will first be described with reference to the accompanying drawings, which form a part of this specification, and then particularly pointed out in the claims at the end of the description.

Referring to the drawings, Figure 1 represents a sectional side elevation of a safety attachment embodying my invention. Fig. 2 is a perspective view of the attachment removed from the car. Fig. 3 is a bottom plan; and Fig. 4 a cross-section taken on the line IV—IV of Fig. 3.

Similar letters of reference are used to denote similar parts in each of the several views.

A, A, may denote the stringers or draft beams extending longitudinally of the car and secured to the bottom thereof and between which is fitted the draw-bar B, having the usual coupling-hook at the forward end thereof, and yieldingly connected with the car at its rear end in any proper manner, after the manner of attaching draw-bars in common practice. Below the draw-bar B, is placed a sliding bar C, the front end of which may be formed or provided with a pendent vertically disposed portion or flange  $c$ , carrying a horizontal guard-plate  $C'$ , for a purpose to be described. The bar C, is adapted to slide longitudinally through a stationary guide or coupling block, which may consist of two separable parts D, D', the upper one

D, being provided with an apertured boss  $d$ , and pendent side flanges  $d'$ , which overlap the edges of the plate C, and rest upon the lower plate D', so as to provide between such plates an opening of sufficient width to receive and guide the bar C. Said bar C, is provided with a longitudinal slot  $c^2$ , which receives a bolt D<sup>2</sup>, which passes through said slot, through the plates D, D', and up through the boss  $d$ , which latter is fitted in an opening provided therefor in the body of the draw-bar B, and said bolt has on its free end a nut  $d^2$ , between which and the upper surface of said draw-bar may be placed a metallic plate or washer  $d^3$ , so as to confine the boss  $d$  in said opening, thus providing a swivel-joint connection between the sliding plate and said draw-bar. To steady and guide the sliding bar C, in its movements, and at the same time to brace said bar laterally while permitting sufficient flexure thereof to adapt it to accommodate itself to the rising and falling movements of the draw-bar in use, the bar C, is hinged at its rear end to guide-bars E, E, which are arranged to slide longitudinally in suitable guides F, secured to the cross-plate G. Said plate G, may be bolted to the under sides of the stringers A, A, and the bolts securing said cross-plate may pass through the guide-blocks F, and through longitudinal slots  $e$ , in said guide-bars E, up through said stringers, and said bolts are provided with suitable nuts on their lower ends to permit either or both plates to be readily removed for renewal or repairs, in case of injury to or breakage of any of the parts. At its rear end and between the guide-bars E, the sliding bar C, is provided with a rearward extension or rod C<sup>3</sup>, the rear end of which is secured preferably to a bow-spring H, the ends of which may be bolted to the under sides of the stringers A. By these means the sliding bar carrying the horizontal guard-plate is adapted to yield sufficiently in coupling the cars and under other requirements in use, to prevent breakage when pressure is exerted against its forward end, and when the pressure is relieved the spring will force the bar forward into such position as to sustain the guard-plate normally beneath



the coupling or coupling-hook, so that in case of breakage, the broken part will drop down and rest securely on the guard-plate without danger of falling upon the track; being held  
 5 against lateral displacement by its connection with the other parts of the coupling; and to remove it the opposite or companion coupling-hook must first be disconnected. The sliding bar is also adapted to yield or flex ver-  
 10 tically sufficiently to accommodate itself to the movements of the draw-bar B, to which it is attached; the hinged connection thereof with the guide-bars E, and the rearward extension or rod C<sup>2</sup>, and spring H, permitting  
 15 vertical and longitudinal movement of said bar and the guard-plate carried thereby.

It will be understood, of course, that in practice the parts thus described will be duplicated upon the cars to be coupled together,  
 20 that is, one attachment will be provided for each car underneath the coupling section or hook attached to or carried by such car; and when the two horizontal guard-plates of the attachments are brought together, a table or  
 25 platform will be provided beneath the coupling-hooks and flexibly sustained thereunder so as to readily catch and hold any portion of the coupling which may become detached or broken and drop thereon.

30 This attachment is adapted for general application to cars having couplings of the Janney or any other type, and may be easily attached and readily removed when desired without interfering with the usual coupling  
 35 devices.

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

1. In combination with the draw-bar, the  
 40 longitudinally sliding bar carrying a guard-plate at its front end, the spring adapted to yieldingly resist the rearward movement of said bar and guard-plate, and the guide-bars hinged to said sliding bar, one upon either  
 45 side thereof, substantially as described.

2. In combination with the draw-bar, the longitudinally sliding bar secured thereto and provided with a guard-plate at its front end, the guide bars hinged to said sliding bar, and the spring secured to a rearward  
 50 extension or rod projecting from said sliding bar so as to yieldingly sustain the guard-plate in normal position, substantially as described.

3. In combination with the draw-bar, the  
 55 longitudinally slotted spring-pressed sliding bar carrying a guard-plate at its front end, the coupling block and guide for said bar having the apertured boss thereon, the bolt passing through said coupling block and boss  
 60 into said draw-bar and provided with a nut on its screw-threaded end, and a washer interposed between said nut and boss, whereby a swivel joint connection is formed between  
 65 said sliding bar and draw-bar, substantially as described.

4. A safety attachment for car couplings, comprising the longitudinally sliding bar, the guard plate supported thereby, the hinged  
 70 guide-bars, the intermediate rearwardly projecting rod, the spring to which said rod is secured, and the coupling block swiveled to said draw-bar, substantially as described.

5. A safety attachment for car couplings, comprising the longitudinally slotted sliding  
 75 bar carrying the guard-plate, the longitudinally slotted sliding guide-bars hinged to said sliding bar, the spring, the rod connecting said sliding bar and spring, the stationary coupling block serving as a guide and sup-  
 80 port for said sliding bar and swiveled to said draw-bar, and the guides for said guide-bars, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. MARKLEY.

Witnesses:

CHAS. E. RIORDON,  
 C. A. NEALE.