A. F. CHANDLER.

Car-Couplings.

No. 144,954. Patented Nov. 25, 1873.

Fig. 1.

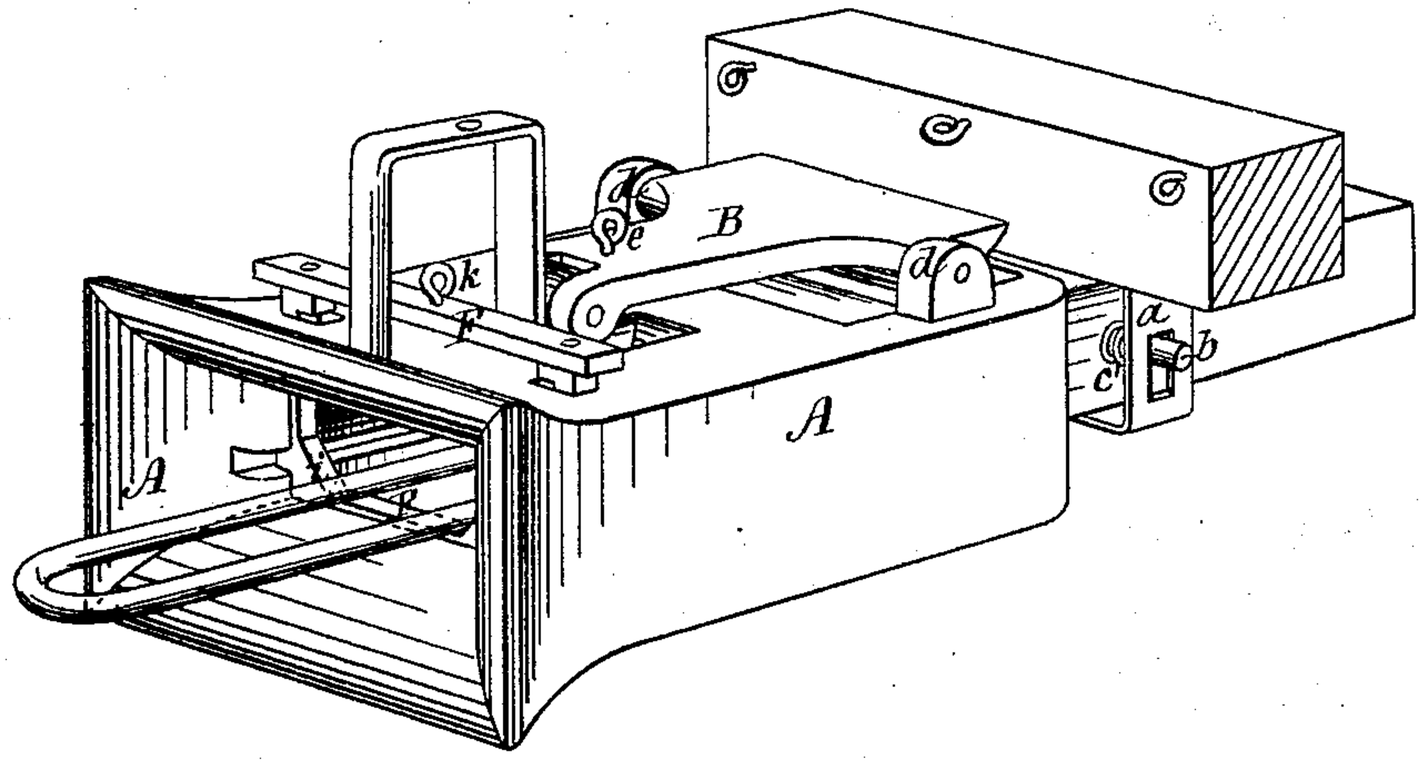


Fig. 2.

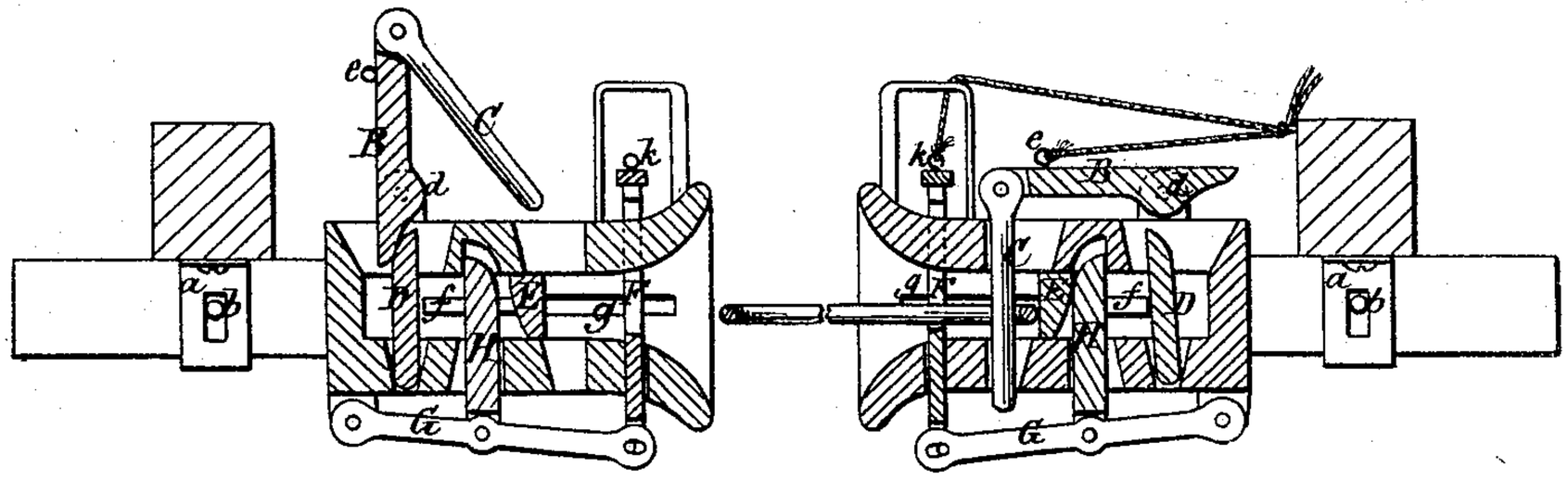
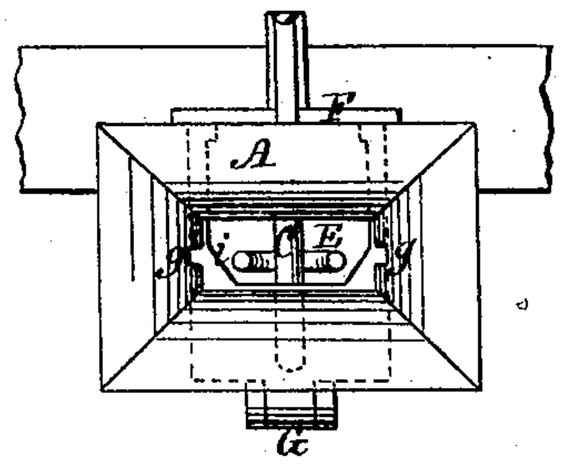


Fig. 3.

Fig. 4.



Witnesses.

A. B. Cauldwell.

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By Wm. G. Wood

His attorney

UNITED STATES PATENT OFFICE.

ALBERT F. CHANDLER, OF FALL RIVER, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **144,954**, dated November 25, 1873; application filed September 8, 1873.

To all whom it may concern:

Be it known that I, ALBERT F. CHANDLER, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Automatic Car-Couplings.

My invention relates to that class of automatic car-couplings in which the coupling-pin is attached to the outer end of a lever, pivoted to the draw-head, and which is thrown down in the act of coupling by the contact of the entering link with devices operating in connection with said lever. My invention consists in the combination, with the draw-head, of a pivoted pin-holder, a vertical lever for acting on the inner end of said holder within the draw-head, and a sliding link-block fitted to horizontal side grooves therein, and so arranged that in the act of coupling the contact of the entering-link with the sliding link-block will cause said block to operate the said vertical lever, and also so that it in turn will act upon the inner end of the pin-holder and drop the coupling-pin into proper relation with the link; also, in a novel link-guide, vertically operated within grooves in the mouth of the draw-head, and connected at its lower end with a lever pivoted to the under side of the draw-head; and in providing said lever with a vertical wedge-shaped bar, which, as the guide is elevated, passes through an opening in the under side of the draw-head, and, by contact with the sliding block therein, forces said block forward against the link, which in turn presses against the coupling-pin, and, by the guide, it causes the link to assume any desired altitude during the operation of coupling; and I do hereby declare that the following specification, taken in connection with the drawing furnished, is a correct description of a car-coupling embodying my invention.

In the drawing, Figure 1 represents a view, in perspective, of one of my improved automatic car-couplings. Fig. 2 represents the same, in longitudinal vertical section, with the pin-holder elevated. Fig. 3 represents the same with the pin-holder lowered. Fig. 4 represents the same in end view.

A denotes the draw-head, the inner end of which is supported by a strap, *a*, suspended from the car-frame. A bolt, *b*, passes through the inner end of the draw-head and the strap *a*, and spiral springs *c*, upon each end of the bolt between the strap and the shank of the head, serve, by their pressure, to keep the latter in a proper position. B denotes the pin-holder lever. It is pivoted in suitable bearings *d*, upon the draw-head, and to its outer end the coupling-pin C is attached. To an eye-bolt, *e*, fastened to the upper edge of said lever, a cord or chain, passing to a convenient portion of the car-frame, may be attached, by means of which the holder and the coupling-pin can be raised or lowered, as occasion may require. The lever B is pivoted at such a distance from its inner or rear end as will allow the said rear end, when the coupling-pin is raised, to descend through an opening in the top of the draw-head adjacent thereto. D denotes the vertical lever, by which the pin-holder B is thrown down to couple with the link. The lower end of the lever D is loosely confined within a cavity in the base of the draw-head, while its upper or free end is provided with an inclined surface corresponding with a similar surface upon the rear end of the pin-holder B. E denotes the sliding block. It is provided with two arms, *f*. Projections upon the sides of the block and the arms *f* are arranged to fit horizontal longitudinal grooves *g* in the inner sides of the draw-head, and in which the block E is caused to slide by the force of the entering-link coming in contact therewith during the operation of coupling. F denotes the link-guide. As shown in the drawing, vertical grooves are formed within the mouth of the draw-head, at the sides thereof, to which projections formed upon the edges of the guide are fitted, and in which they are arranged to slide. That horizontal portion of the guide adjacent to the link on which it rests is provided with an inclined surface, *i*, which serves to guide the link while in any desired position into the draw-head of an opposite car when coupling. To an eyebolt, *k*, upon the upper end of the guide, which passes through an opening in the top of the draw-head, a cord or chain may be attached, by which the guide can be elevated to any desired position. The lower end of the guide F is connected with a lever, G, pivoted at its inner end to the under side of the draw-head. H denotes a wedge-shaped

bar, pivoted to the lever G of the guide F. When the guide is raised the bar H passes through an opening in the under side of the draw-head. The upper end of the bar is provided with an inclined front surface, which is brought in contact with a similar rear surface upon the lower edge of the sliding block E.

In the operation of coupling with my improved coupler the pin-holding lever B is raised, as before mentioned, by means of a cord, chain, or suitable lever attached to the eyebolt *e*. The link, upon entering the mouth of the draw-head, strikes the block E, which is thereby driven along the grooves *g* until the arms *f*, coming in contact with the lever D, force its upper or free end against the inner end of the pin-holder B, which is thereby actuated, and the pin drops through an opening in the top of the draw-head into the link.

When coupling cars in which the draw-heads are not on a true horizontal line, the guide F is elevated to the required position, by which operation the lever G with the bar H is raised, and the inclined surface of the said bar coming in contact with the block forces the same toward the mouth of the draw-head, against the link, which is thereby firmly held in contact with rear side of the coupling-pin, while its outer end is led into the coupling of an opposite car.

I am aware that heretofore, in the construction of automatic couplings of the general character referred to, pivoted hook-catches have been arranged to connect with the inner end of the pin-lever, and hold the outer end of the same with the pin in an elevated position. Sliding blocks have also been employed which were arranged by the force of the entering-link to free the catches from the pin-lever, and thereby allow the pin to fall within the link and complete the coupling operation.

In my invention I have dispensed with the employment of all catches, and have so arranged the pivoted lever within the coupling-head that when forced by the sliding block its contact with the pin-holding lever will be sufficient to lower the coupling-pin when the cars are brought together.

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

1. The draw-head A, pivoted pin-holder B, lever D, and sliding block E *f*, combined to operate substantially as and for the purpose described.

2. The vertically-operating link-guide F, the lever G, and wedge-shaped bar H, in combination with the sliding block E and the draw-head of a car-coupling, substantially as and for the purpose described.

ALBERT F. CHANDLER.

Witnesses:

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