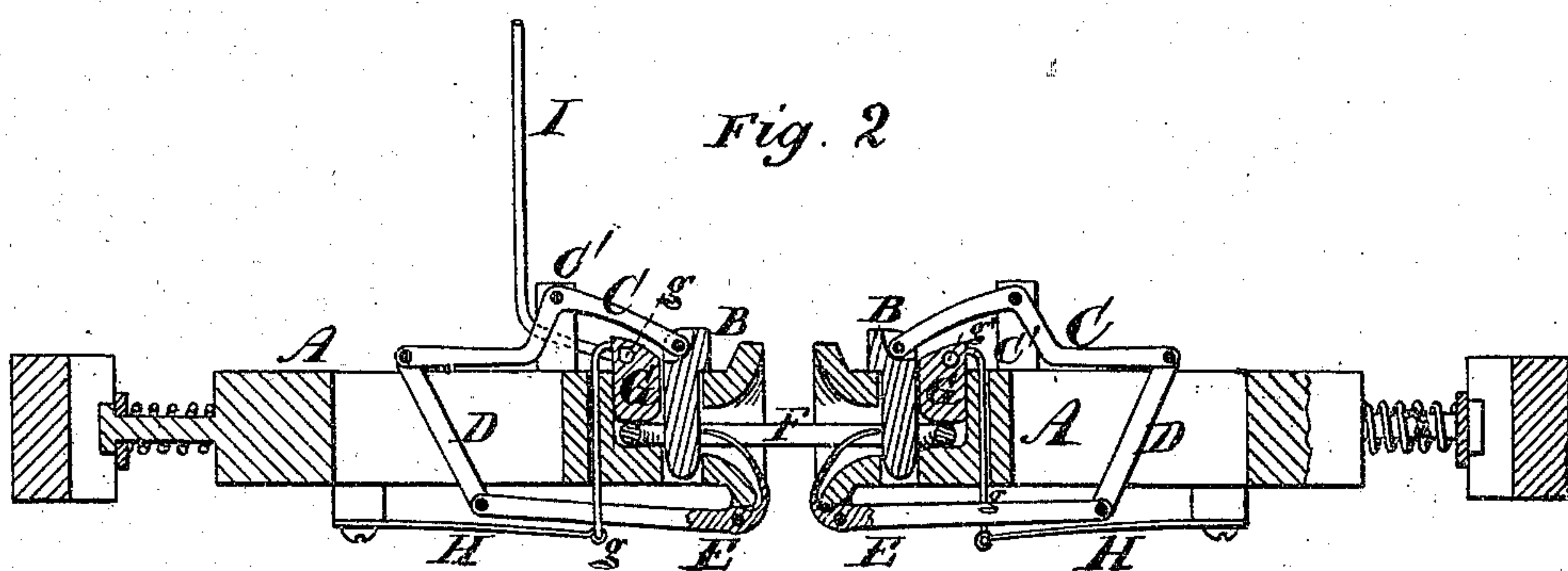
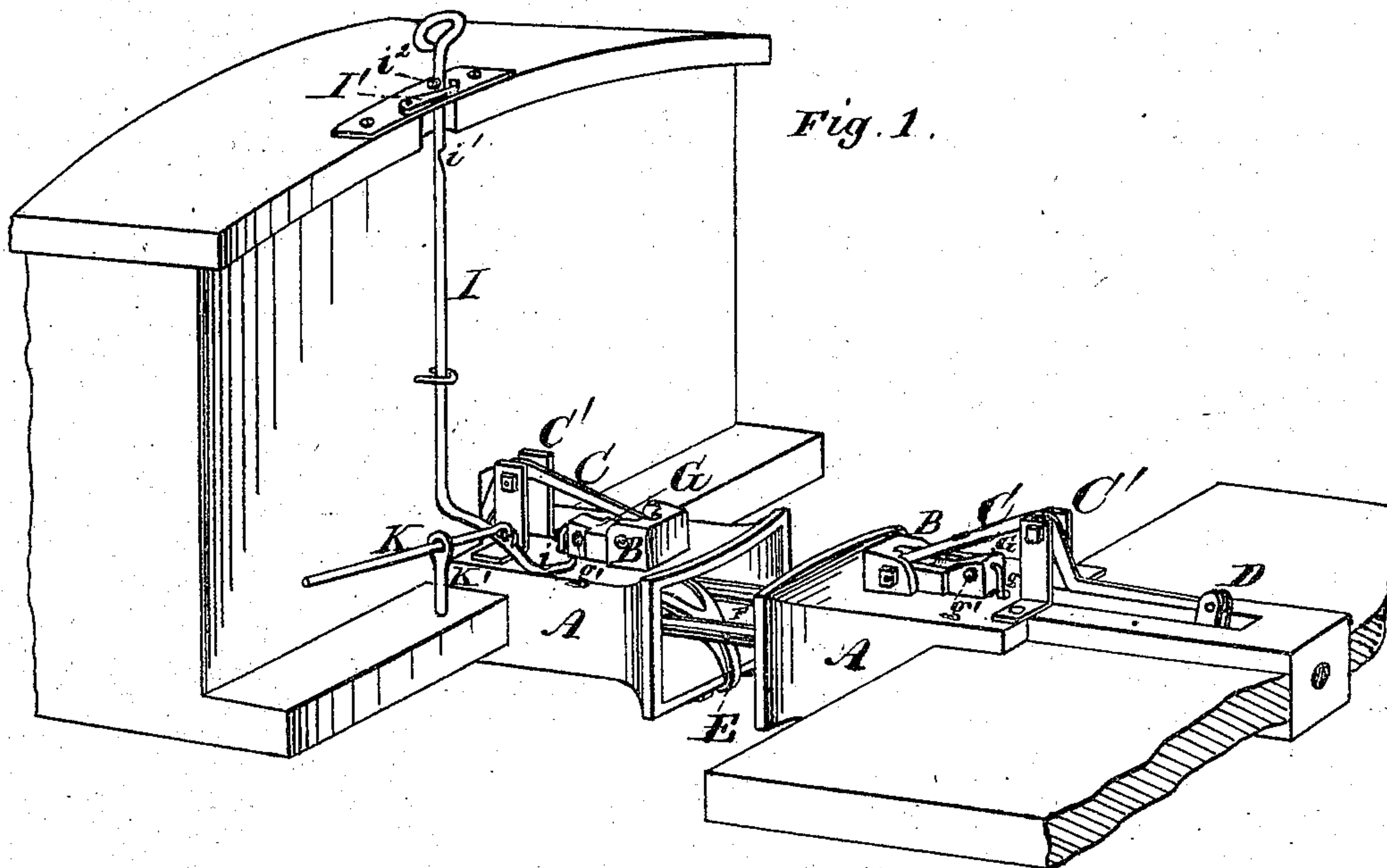


A. L. MOYER.  
Car-Couplings.

No. 154,705.

Patented Sept. 1, 1874.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALEXANDER L. MOYER, OF SHERMAN, TEXAS.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **154,705**, dated September 1, 1874; application filed July 17, 1874.

*To all whom it may concern:*

Be it known that I, ALEXANDER L. MOYER, of Sherman, in the county of Grayson and State of Texas, have invented a certain Improvement in Car-Couplings, of which the following is a specification:

This invention relates to link-and-pin car-couplings of the kind adapted for automatic operation in the act of coupling.

My improvement consists, first, in combining with the coupling-pin a lifter, in such a manner that a link, on entering the draw-head, will strike one arm of the lifter, (which arm projects into the mouth of the draw-head from the front,) and oscillating it cause the pin to be raised to allow the link to pass behind or under it, after which the arm of the lifter becoming disengaged from the link the pin drops of its own accord, returning the lifter to its normal position. Second, the connection between the pin and the lifter is such that, in lifting the pin from above to uncouple, the lifter will be depressed at the same time to permit free exit of the link, in which respect it is distinguished from the former combination of a pin and lifter, where the lifter operated upon the pin; but the pin did not operate on the lifter, so that in uncoupling the latter had to be turned down by hand. Another essential difference between my combination and that heretofore known consists in the use of a horizontally-disposed lifter, having a curved arm extending around the end of the draw-head into its mouth. Its peculiar position or arrangement enables me to simplify the mechanism intermediate between it and the coupling-pin, and in consequence of its curved lifting-arm the cutting of a slot in the draw-head (heretofore required) is dispensed with, and the draw-head left full strength at the point where it is especially desirable. Third, in certain means for lifting the pin either from the side or top of a car, and for enabling the operator to adjust and hold the protruding end of the link in the required position for the draw-head of an approaching car, without the necessity of taking hold of the link with his hand.

In the annexed drawings, Figure 1 is a perspective view of the draw-heads of two cars coupled together, showing the platform only of one of the cars and the entire end of the

other, with the means for raising the pin and tilting the link. Fig. 2 is an axial section in a vertical plane of two of my improved couplings coupled together.

The same letters of reference are used in both figures in the designation of identical parts.

The draw-heads A are yieldingly connected to the frame-work of the car in the customary manner, and have flaring-mouths leading to shallow cavities for the reception of the link. The coupling-pin B, being preferably made rectangular in cross-section, somewhat elongated in the direction of the draft, for the sake of greater strength, and passing through suitable apertures in the top and bottom walls of the draw-head, is with its head pivoted to the forward arm of a lever, C, which is fulcrumed between standards C' on the draw-head back of the pin. The rear arm of this lever is connected by a descending link, D, passing through a suitable slot in the draw-head to the long rearwardly-projecting arm of the lifter E, which is pivoted to lugs on the under side of the head around the mouth of the draw-head. The short arm of the lifter is curved around into the mouth of the draw-head, terminating in a fork, through which the coupling-pin passes. When the coupling-pin is down, this curved arm of the lifter stands up in front of the link-cavity, so that it will be struck by an entering-link, and as it is being depressed thereby the long arm of the lifter gives, through the link D, a quick oscillation to the lever C, which, in turn, promptly lifts the pin, so that the link may pass under and behind it. As soon as the end of the link has passed beyond the line of the pin, it also passes the forked end of the curved arm of the lifter, and the pin descends, returning the lifter to its first position, with its curved arm projecting up through the slot of the link. When the pin is raised its full height, the forked end of the curved arm of the lifter lies close against the bottom of the link-cavity, so that the link can be withdrawn without hooking onto or otherwise engaging said arm. The link F, which I re-enforce at the ends where it is subjected to great wear, is maintained in a position approximately horizontal by a presser or holder, G, which is arranged



directly behind the coupling-pin in a slot in the draw-head, in which it can play up and down. This holder is supported by its fixed pendent arm *g*, upon the free end of a spring, *II*, which sustains it in such a manner that its lower end will be just sufficiently raised above the bottom of the link-cavity that an entering link will readily pass under it by slightly lifting it. The tension of the spring must be adequate to hold the link thus pressed down by the holder *G* in a horizontal position. The lower end of the holder is rounded or beveled to facilitate the passage of the link under it. The coupling-pin can be raised to disengage the link by means of a rod, *I*, sliding in suitable guides, and reaching to the top of the car, (the car represented being a freight-car.) Its lower bent end has a laterally-projecting arm, *i*, capable of reaching under the forward arm of lever *C*, by engaging which, and lifting the rod, the coupling-pin may be lifted. Thus drawn up the rod may be locked by a latch, *I'*, engaging a notch, *i'*. Its descent is stopped by a transverse pin, *i''*, above the upper guide. The end of arm *i* of this rod may also be readily inserted in an aperture, *g'*, in the head of holder *G*, and the latter either lifted or depressed for the purpose of tilting the link to adapt its protruding end to enter the draw-head of a car either higher or lower than the one on which it is carried. A rod, *K*, passing

through the eye of a standard, *K'*, mounted on the platform of the car, and reaching outward to near the side thereof, so that a person standing on the side of the track can reach and operate it, is linked to the lower end of rod *I*, and thus the latter may be manipulated either from the top or the side of the car in performing the operations ascribed to it. The rod *K* slides in the eye of the standard *K'* in bringing the arm *i* of rod *I* into position, and also serves as a fulcrum in moving rod *I* through rod *K*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The coupling-pin and lever *C*, in combination with the link *D* and the horizontally-disposed lifter *E*, having a curved lifting-arm, all substantially as and for the purpose specified.

2. The combination of the lifting-rod *I* and rod *K* and standard *K'*, adapted for lifting the pin, and operating the spring-holder *G* both from the top and the side of the car, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

A. L. MOYER.

Witnesses:

D. P. HOLLOWAY,

B. EDW. J. ELLIS.