

H. KRÜGER, Jr.  
Street Car-Coupling.

No. 166,533.

Patented Aug. 10, 1875.

Fig: 1.

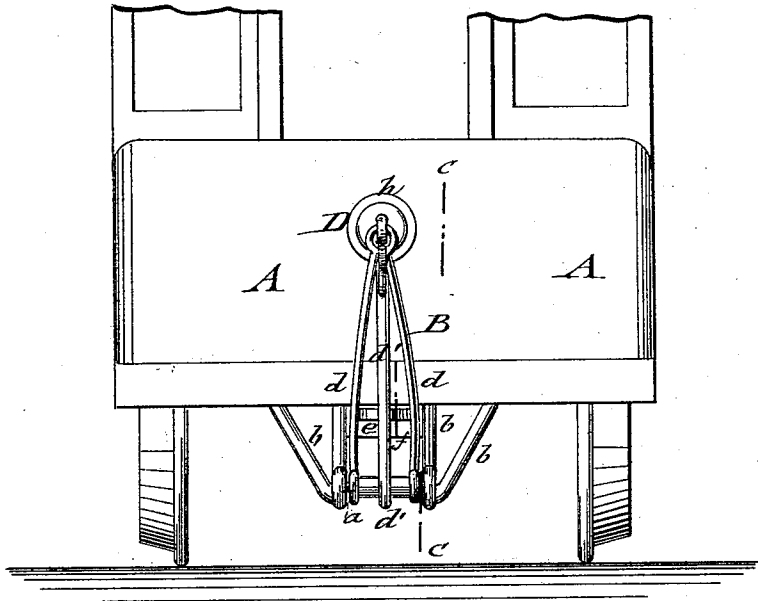
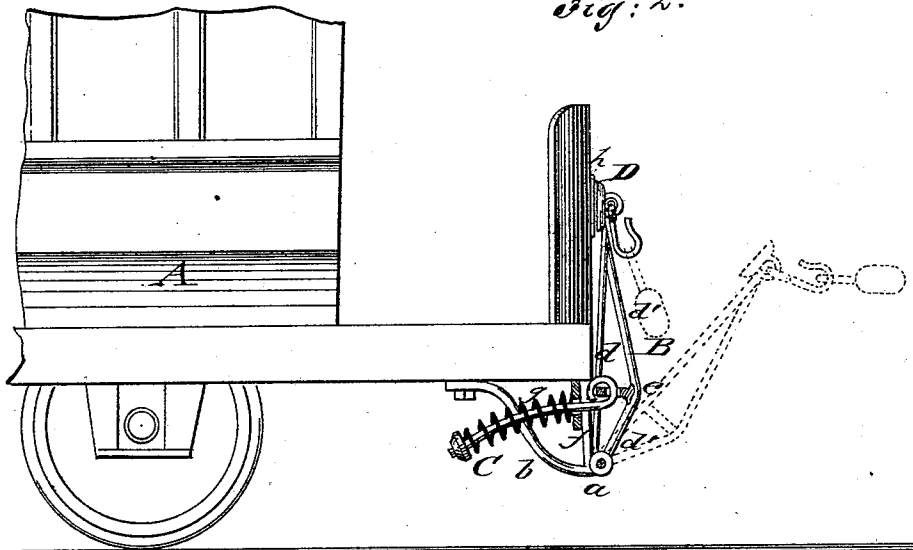


Fig: 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HEINRICH KRÜGER, JR., OF NEW YORK, N. Y.

## IMPROVEMENT IN STREET-CAR COUPLINGS.

Specification forming part of Letters Patent No. **166,533**, dated August 10, 1875; application filed June 19, 1875.

*To all whom it may concern:*

Be it known that I, HEINRICH KRÜGER, Jr., of the city, county, and State of New York, have invented a new and Improved Coupling for Horse-Cars, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front elevation of a car dash-board with my improved coupling-hook; and Fig. 2, a vertical transverse section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to a coupling-hook for street-cars, by which the draft-bar and single-tree are supported at such height that the injuring or entangling of the legs of the horses on the stopping of the car is prevented without changing the point and direction of draft.

The invention consists of a braced and spring-acted lever that is pivoted to supports of the car-bottom frame, and carried up against the dash-board, so that the coupling-hook and draft-bar are raised with the same while being lowered by the strain thereon.

In the drawing, A represents a street horse-car of the usual construction, to the bottom frame of which is applied a swinging lever, B, that is pivoted to a cross-pin, *a*, secured to rigidly-braced supports *b*. The swinging lever B is made of V-shaped legs *d*, that are braced by a third central stiffening-piece, *d'*, and a lateral triangular piece, *e*. A curved arm, C, is pivoted to the triangular brace-piece *e* of lever B, and passed through a guard-plate, *f*, attached to supports *b*. A strong spiral spring, *g*, is applied to arm C, between the guard-plate *f* and the rear head of curved arm C, so that the swinging lever B is forced against the dash-board, its end being at suitable height above the bottom frame of the car. A face-disk, D, of the lever B is carried against a strengthening face-plate, *h*, of the dash-board, to give a broad contact therewith

when the spring forces the lever up, the coupling-hook E being secured to an eye at the upper end of lever B. The draft-bar is hung to the coupling-hook, and supported by the higher position of the same at greater height above the feet of the horses than in the present coupling at or below the level of the car. The action of the spring on the lever causes the automatic raising of draft-bar and single-trees on the stopping of the cars, so that thereby the weight and strain of the same on the horses is taken off, and also the draft-bar placed at such a height as not to interfere with the hind feet of the horses, which causes at present frequent accidents and delays. The starting of the car is also made easier, as the spring-acted lever transfers gradually the strain to the car, while the strain draws the lever in downward direction, so as to approach the direction of draft, and throw the draft-bar into nearly the same height as with the common coupling in use.

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

1. A spring-retracted lever, fulcrumed at *a*, and having pivoted hook at upper end, to serve on horse-cars as a draw-bar that will automatically be taken out of the way of the horses' feet as soon as a stoppage is made.

2. The combination of the braced and pivoted lever with rear-extending and spring-acted arm pivoted thereto, and a perforated retaining guard-plate of the car-bottom frame, substantially as shown and specified.

3. The swinging and spring-acted lever, having broad contact-plate at upper end to rest against dash-board, substantially as described.

HEINRICH KRÜGER, JR.

Witnesses:

PAUL GOEPEL,  
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