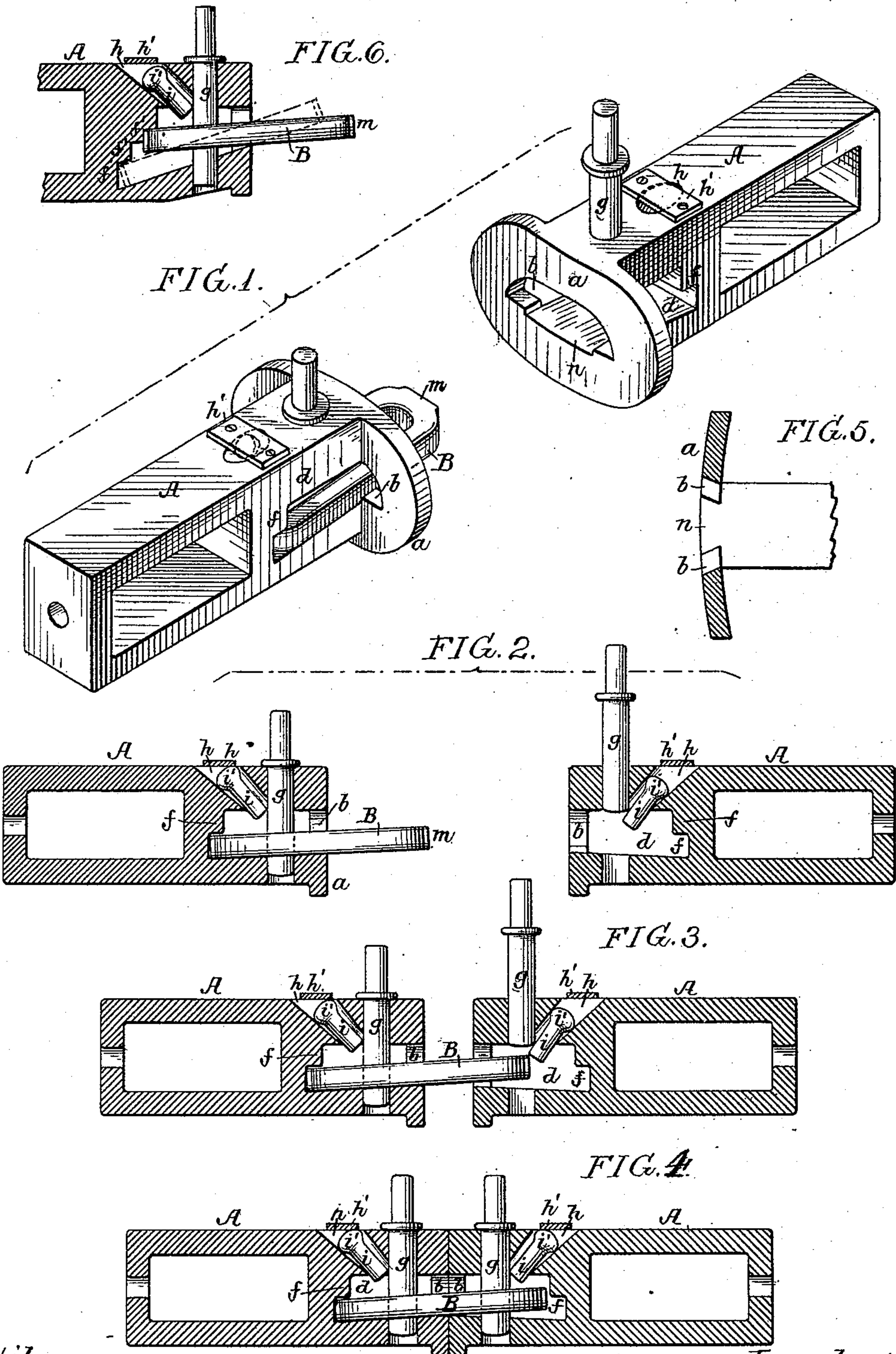


(No Model.)

E. KING & C. L. TUCH.  
CAR COUPLING.

No. 486,342.

Patented Nov. 15, 1892.



Witnesses:

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# UNITED STATES PATENT OFFICE.

EUSTACHIUS KING AND CHARLES L. TUCH, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 486,342, dated November 15, 1892.

Application filed June 24, 1892. Serial No. 437,890. (No model.)

*To all whom it may concern,*

Be it known that we, EUSTACHIUS KING and CHARLES L. TUCH, citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Car-Couplings, of which the following is a specification.

Our invention relates to automatic couplers of the link-and-pin class, the object of our invention being to so construct such a coupler that it will be extremely simple in construction and efficient in operation, each coupling-head having but one pin in addition to the ordinary coupling-pin.

In the accompanying drawings, Figure 1 is a perspective view representing a pair of coupling-heads constructed in accordance with our invention. Figs. 2, 3, and 4 are sectional views illustrating the successive stages of the coupling operation. Fig. 5 is a plan view of part of one of the heads, and Fig. 6 is a sectional view illustrating a special feature of the invention.

A represents a draw-head which is intended to be supported upon the car and connected to the draw-bar in any suitable manner, the front end of the draw-head having the usual expanded bumper *a*, in which is an opening *b* for the reception of the link, there being in the rear of this opening a chamber *d*, with inclined bottom on which the link is supported, said chamber having at the rear end a shoulder *f* for bearing upon the top of the link at the inner end, and thus insuring the maintenance of the projecting portion of the link in the proper position.

In the top and bottom of the draw-head are openings for the reception of the coupling-pin *g*, and immediately in the rear of the opening in the top of the head is an inclined opening *h*, in which is adapted to slide a supporting-pin *i*, provided at the upper end with an enlarged and rounded head *i'*, the opening *h* being gradually contracted in size from the top toward the bottom or being provided with a suitable shoulder above the bottom, so that while the pin *i* cannot drop from said opening *h*, owing to its enlarged head *i'*, it can descend in the opening sufficiently to cause the lower end of the pin to project beneath

the coupling-pin *g* when the latter is elevated, as shown at the right-hand side of Figs. 1, 2, and 3, and thus support said coupling-pin in the elevated position, the pin *i*, however, being free to rise in the opening *h* when pressure is exerted upon its lower end, the rise of the pin in said opening *h* releasing the coupling-pin and permitting the same to drop across the chamber *d*. Undue rise of the pin *i* in the opening *h* is prevented by means of a strap or bar *h'*, extending across the top of said opening.

In effecting the coupling the link B is first adjusted in one head so that its inner end will engage with the shoulder *f*, and the pin *g* of said head is allowed to drop, as shown at the left-hand side of each of the figures of the drawings. The link then projects to a considerable extent in front of the head to which it is secured, so that when the cars approach each other the forward end of said link will enter the chamber *d* of the other head and will strike the lower end of the supporting-pin *i*, as shown in Fig. 3, and force said pin upward in the opening *h* until the pin *g* is released and drops through the link to effect the coupling, as shown in Fig. 4. In order to uncouple the cars, the pin *g* of either head is raised, and the pin *i* of said head will then drop sufficiently to support said pin *g* in the elevated position until the link is withdrawn, the rounded head or enlargement *i'* of the pin *i* permitting the latter to trip or rise slightly if it is struck by the link on the withdrawal of the same. The link is preferably provided at each end with a squared or flattened portion *m*, with sharp corners at top and bottom, so as to insure a more effective action upon the pin *i* than would be possible if the link was rounded at the end, and in the bottom of the opening *b* in the bumper end of the draw-head is a recess *n*, which is flared laterally, as shown in Fig. 5, so as to permit the projecting end of the link to be moved to right or left to a certain extent in order to properly effect the coupling when the cars are on a curve.

In some cases it may be advisable to provide the coupling-head with a series of steps or shoulders at the rear of the chamber *d*, as shown, for instance, at *f'* in Fig. 6, so as to pro-



vide for the adjustment of the link B at different angles in order to effect the coupling of cars of different heights.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. A car-coupling head having a link-support, openings for the guidance of the coupling-pin, and a supporting-pin guided in an inclined opening in the rear of the coupling-pin, said supporting-pin having an enlarged head and said inclined opening being tapered or shouldered, so as to restrict the downward movement of the supporting-pin by engagement with said head, substantially as specified.

2. A car-coupling head having a link-support, guides for the coupling-pin, and a supporting-pin guided in an inclined opening in the rear of the coupling-pin, said supporting-pin having an enlarged and rounded head, so that the supporting-pin is free both to rise and fall in its guide-opening and is also free to swing upward at the lower end when struck by the link which is being withdrawn from the head, substantially as specified.

3. A car-coupling head having a link-support inclined upwardly from the inner to the outer end, guides for the coupling-pin, and a supporting-pin traveling in an upwardly-in-

clined course at the rear of the coupling-pin, substantially as specified.

4. The combination of the coupling-head having a link-support, guides for the coupling-pin, and an upwardly-inclined guide for a supporting-pin, with a link having squared or flattened portions at the ends for striking and moving upward and rearward the lower end of the supporting-pin, said squared or flattened ends having sharp corners at top and bottom, substantially as specified.

5. A car-coupling head having a link-support with laterally-flaring recess at the front end, guides for the coupling-pin, and a supporting-pin traveling in an upwardly-inclined course at the rear of said coupling-pin and serving to retain the latter in the elevated position until struck and moved out of the way by an entering link, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

EUSTACHIUS KING.  
CHAS. L. TUCH.

Witnesses:

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