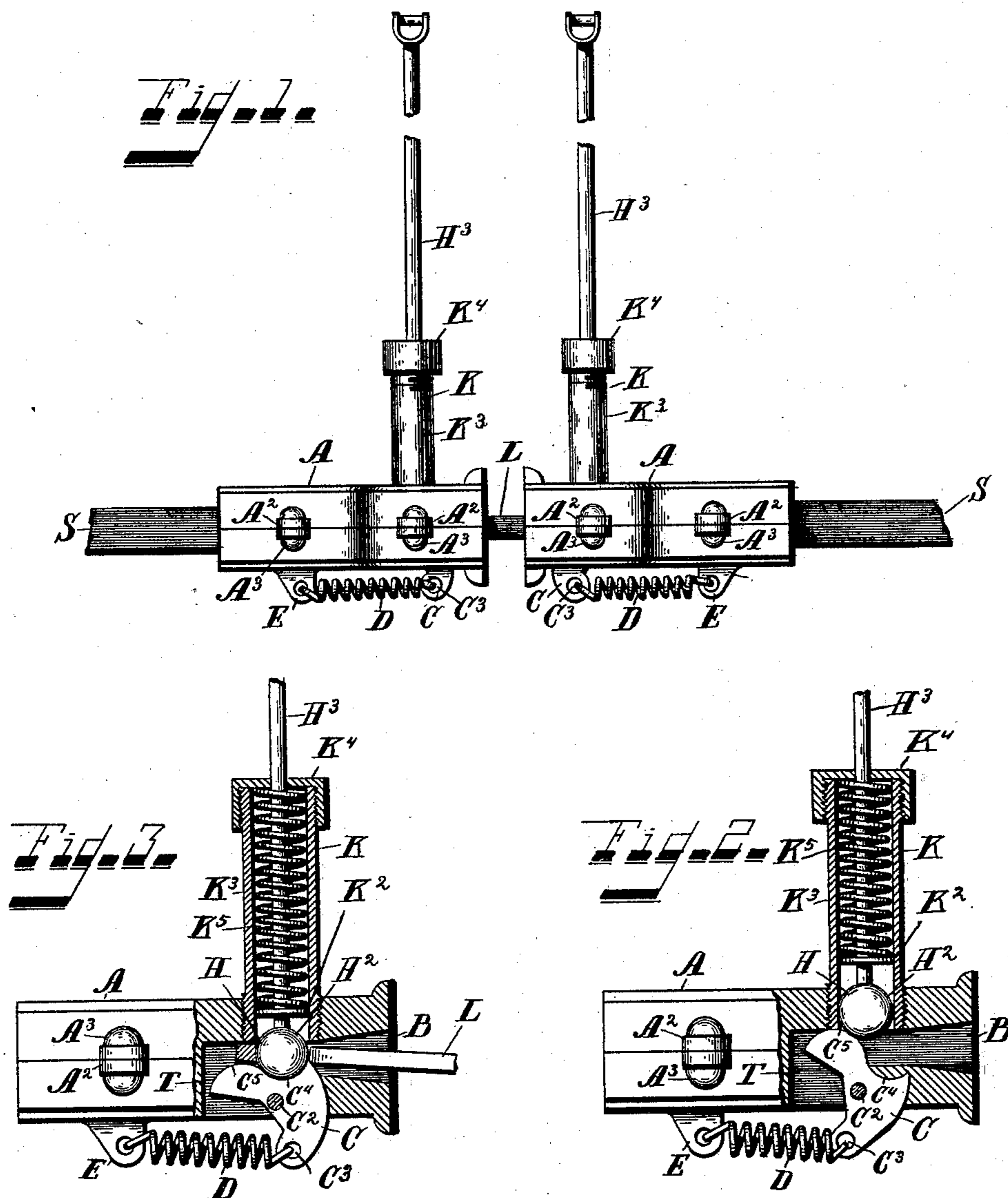


(No Model.)

J. BAMART.  
CAR COUPLING.

No. 580,633.

Patented Apr. 13, 1897.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 580,633, dated April 13, 1897.

Application filed December 7, 1896. Serial No. 614,722. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BAMART, a citizen of the United States, and a resident of the city of Lawrenceburg, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use, conjointly or otherwise, will be apparent from the following description and claims.

In the accompanying drawings, making a part of this description and in which similar letters of reference indicate corresponding parts, Figure 1 is a side elevation of two complementary and similar car-couplers united by a link or connecting-rod as in practice and illustrating my invention. Fig. 2 represents a vertical longitudinal central section of the car-coupler and showing the position of the parts of the coupler when the latter is out of use. Fig. 3 is a vertical longitudinal central section of the car-coupler and showing the position of the parts of the coupler when the latter is in use and coupled to another car.

I will now proceed to particularly describe my invention.

A indicates the coupler head or box, constructed, preferably, in two halves united by bolts. The rear portion of the coupler-head is suitably connected to the draft or draw bar S. A convenient mode of connection is as shown—viz., by recessing the rear end portion of the draw-bar and receiving the forward end of the draw-bar therein and there securing it in place. The forward end of the coupler has a recess B, which latter is, in vertical longitudinal section, of a tapering form for the front or first portion of its length, substantially as shown. Preferably both the bottom and the top of the recess B incline toward one another until the locking-lever C is reached. From that point rearward the recess is straight and of a size to readily receive the link L. This locking-lever works in a vertical slot T in the coupler or draw head A. This lever is oscillatory on a pivot C<sup>2</sup>, and one end of it extends outside of the head A and is connected at C<sup>3</sup> to a spring D, whose other end is connected to the fixed piece E of the draw-head or coupler.

This spring elastically draws the part C<sup>3</sup> of the locking-lever toward the piece E for a purpose hereinafter mentioned. The central portion of the lever C is hollowed out or made concave at C<sup>4</sup> to receive when locked the head or working end of the reciprocating locking-piece H. This piece is of a rounded form H<sup>2</sup> at that portion of the end which comes in contact with the link L. The remainder C<sup>5</sup> of the working surface or part of the locking-lever C is of a rounded convex form, and this latter part C<sup>5</sup> preferably connects directly and smoothly with the already-mentioned part C<sup>4</sup>. The working surfaces of the two parts form in combination an outgoing and re-entering curve or ogee, substantially as shown. The locking-piece H is reciprocated by suitable means, one form of which is shown and consists of a rod H<sup>3</sup>, working through a stationary guideway K. The lower portion of the rod has a guide K<sup>2</sup> fixed to the rod and working between or within fixed guiding-surfaces. The guide K<sup>2</sup> therefore reciprocates with the locking-piece H, and the latter is so held as to always drop directly upon the locking-lever C as the latter is raised, and not only so, but it directly engages with and in the recess C<sup>4</sup> of the locking-lever C. It is therefore desirable that the fixed supports of the locking-piece H should be consistent with the coupler-head and be to all intents a part thereof. To this end I provide a frame K<sup>3</sup>, preferably cylindrical, secured at one end to the coupler-head at the locality shown. A preferred mode of securing this frame K<sup>3</sup> to the head is by a screw-thread. To this frame I secure the guide K, and by making this guide of a discal form and providing it with flanges K<sup>4</sup>, overlapping the cylinder K<sup>3</sup> and secured thereto by a screw-thread, as shown, or otherwise, I provide not only a guide for the rod H<sup>3</sup>, but also a cap for the cylinder K<sup>3</sup>, thereby preventing the admission of any dust or dirt into the cylinder.

To render the movement of the locking-piece H automatic in the direction which the piece is to take in locking the coupling-link L to the coupling-head, I provide the spring K<sup>5</sup>, located and compressed between the movable guide K<sup>2</sup> on the rod H<sup>3</sup> and the station-

ary guide K. The locking-piece H therefore continually presses toward the locking-piece C.

When the guideways of the guide K<sup>2</sup> are a cylinder, the guide K<sup>2</sup> will preferably lie altogether within the latter, as shown.

The rod H<sup>3</sup> is moved away from the coupler-head by hand or any suitable necessary device, and a suitable device is to be arranged for holding it when drawn out when such holding for any reason becomes necessary.

The mode in which my invention operates is as follows: The parts are ready for coupling when in the position shown in Fig. 2. There the locking-piece H is held up and out of the way by the surface C<sup>5</sup> of the locking-lever in contact therewith. As the coupling-link L is forced or pushed in its forward end impinges against the surface C<sup>5</sup>, below the locking-piece H, and, overcoming the opposition of spring D, pushes back that arm of the lever C which bears the surface C<sup>5</sup> and, passing under and beyond the locking-piece H, allows the latter to move forward into the opening between the ends and sides of the link, as shown in Fig. 3. When the locking-lever C has been brought into the position last named, its concavity C<sup>4</sup> is directly beneath the locking-piece H, and the latter passing through the link enters the recess C<sup>4</sup>. This the locking-piece H will do, inasmuch as it is propelled by the spring K<sup>5</sup>. The parts are now securely locked. The link draws against the side of the locking-piece H. As the latter is securely held in place by the conjoint action of the spring and recess C<sup>4</sup>, it cannot be thrown up by accident and will remain locked until moved by human agency. When it is desired to remove or uncouple the link L from the coupler-head, the locking-piece H is lifted by the rod H<sup>3</sup>. The link can now be withdrawn. As it (the link) is withdrawn past the locking-piece H the spring D causes the surface C<sup>5</sup> of lever C to follow the retreating link until the lever C has assumed the position shown in Fig. 2 and is again supporting the locking-piece H and sustaining the pressure of the locking-piece H, pressed against by spring K<sup>5</sup>. The parts of the coupler are now in readiness to be coupled with a link and to be moved thereby and engage therewith and lock the same securely to the coupler.

In some instances it may be desirable to draw the locking-piece H out of contact with the link by drawing or moving it to one side.

In such event the rod H and its accompanying mechanism would join the locking-piece at the side instead of the top.

My invention is economical of manufacture and simple of operation and effective in use.

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

1. In a car-coupler, the combination of the reciprocating locking-piece H with rounded end, and an opposing pivoted lever C, having a concave depression C<sup>4</sup>, to receive the piece H, and a curved convex surface C<sup>5</sup>, at the rear thereof, the lever C being provided with means for enabling the arm of lever C which carries the convex surface C<sup>5</sup> to continually press toward the locking-piece H, the locking-piece H having means for causing it to elastically advance toward lever C, when permitted so to do, substantially as and for the purposes specified.

2. In a car-coupler, the combination of the pivoted lever C having forward concavity C<sup>4</sup> and rear rounded surface C<sup>5</sup>, and a spring strained between the point C<sup>3</sup> of the lever, and the detent E, and the locking-piece H, elastically advanced by a spring, and provided with a rod, and reciprocating in guideways, substantially as and for the purposes specified.

3. In a car-coupler, the combination of the pivoted lever C having forward concavity C<sup>4</sup> and rear rounded surface C<sup>5</sup>, and a spring strained between the point C<sup>3</sup> of the lever, and the detent E, and the locking-piece H, and rod H<sup>3</sup>, and fixed guide K, and moving guide K<sup>2</sup>, and spring K<sup>5</sup> between the same, substantially as and for the purposes specified.

4. In a car-coupler, the combination of the pivoted lever C having forward concavity C<sup>4</sup> and rear rounded surface C<sup>5</sup>, and a spring strained between the point C<sup>3</sup> of the lever, and the detent E, and the locking-piece H, and rod H<sup>3</sup> thereof for moving the same, and the cylinder K<sup>3</sup> connected to the coupling-head, and the movable guide K on the rod H<sup>3</sup>, and the stationary guide K<sup>2</sup> covering the top of the cylinder, and forming a cap thereof, and the spring K<sup>5</sup> compressed between the guides K and K<sup>2</sup>, substantially as and for the purposes specified.

JOHN BAMART.

Attest:

WM. E. JONES,  
K. SMITH.