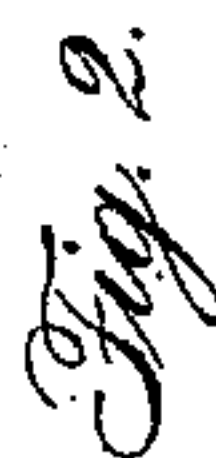


Car Coupling.

Patented May 27, 1862.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 35,399, dated May 27, 1862.

To all whom it may concern:

Be it known that we, HORACE A. SMEAD and CHARLES H. HUNTLY, both of Pavilion, in the county of Genesee, in the State of New York, have invented certain new and useful Improvements in Car-Couplings; and we do hereby declare that the following is a description thereof in terms which we now think sufficiently full, clear, and exact, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a top view; Fig. 2, a plan view, the top plate being removed, and Fig. 3 a section through the line *xx* of Figs. 1 and 2.

The nature of our invention consists in the production of a car-coupling combining many advantages, chief among which are a removable buffer of a peculiar construction, and a device by which the cars may be instantly uncoupled when one runs from the track.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

The bumper-bar is composed of the top and bottom plates, A and A', and the jaws B and B'. The jaw B' is firmly bolted to the top and bottom plates, but the jaw B is pivoted to the said plates at *a* and forms one side of the bumper-bar. It is held in its normal position up against the heel of the stationary jaw, as at *b*, by means of the coiled spring *c*, attached to hooks *e e'*, bolted to the under side of the movable and stationary jaws B and B'. In order that the movable jaw B may have a free outward movement, the bumper-head C is cut away on that side, as seen at *f*, Fig. 1, the cut-away portion being supplied by the part *d* bolted to or cast with the movable jaw. This last feature, however, is for no other purpose than to preserve the symmetry of the coupling.

The bumper-head C is made removable and slides on, cap like, over the end D of the coupling-bar, where it is held by means of screws or screw-bolts. The object of this is that when the bumper-head becomes too much battered or is worn out it may be replaced by a new one without substituting also a new coupling-bar. Between the movable and stationary jaws B and B' is the chamber E, in which are placed the block F and the disk G. The block F is concave in front and receives the convex or circular part of the disk G, against which

it is held by means of the coiled springs *g* and *g'*. These springs also hold the disk up against the concave parts *h h'* of the movable and stationary jaws B and B', but not so closely as to cause friction, since the front part of the block F bears against the shoulders *i i'* of the jaws. The disk G is not a perfect disk, it having a segment, H, cut out, which segment is the exact counterpart of the head I of the shackle-bar J, and when this segmental head is in place the disk is perfect in formation. From this construction it results that when the shackle-bar J is in place and its outer end is moved either to the right or left, as represented in blue and red lines, the segment G moves in its bed K in the opposite direction until the curve of the bed R corresponds with the curve of the jaws, as seen at *k k'*, when the shackle-bar is at once released and the cars are uncoupled. This feature is of great importance and its utility illustrated when a car runs from the track. When the said shackle-bar is in a right line with the coupling-bar, as represented in black lines, the cars are firmly coupled and by means now to be described.

To the movable jaw B at the point *l* is bolted the curved bar L, (shown in Fig. 2 in dotted lines,) which slides in a groove made in the bottom plate, A'. Its outer end is provided with a hole, *m*, through which, when the movable jaw B is closed, passes the pin M, pivoted to one end of the lever N at *n*, the said pin M being kept in its position in said hole *m* by means of the coiled spring O.

The uncoupling and automatic coupling are effected as follows: The movable jaw B has attached to its outer side a hook, P, which is bent over the top plate, A, and under the cap Q, and has its end there turned up at right angles to engage with the slot *o* in the sliding stop R. This stop is provided with a foot, S, which, by means of the coiled spring *p*, bears against a projection, T, on the pin end of the lever N. When, therefore, the lever N is raised and the pin M withdrawn from its hole *m* in the curved bar L, the foot S of the stop R slips under the projection T, and there retains it until the head of the shackle-bar is inserted between the jaws, when the movable jaw B yields outwardly, carrying with it the hook P and the foot S of the stop R from under the projection T, which lets the pin M drop upon

the upper surface of the curved sliding bar L, where it rests until the movable jaw B has returned by means of the action of the spring *c* to its normal position, when the pin M drops into its hole *m* and locks the head of the shackle-bar between the jaws.

Having thus described our invention, we shall proceed to point out what we do not and what we do claim—

1. We do not claim, broadly, a removable bumper-head or buffer, for such an one, made in sections which are removed and replaced by being slipped up and down over flanges on the end of the coupling-bar, which sections are held together when on the coupling-bar by means of a ring encircling their necks, is known and patented. Our object is to provide a removable bumper-head which shall avoid the objections attending such a construction, which are mainly, first, that when two bumper-heads come together the shock separates or forces apart the sections of which each is made and breaks the binding-ring, and, second, that the coupling-bar is often too short, terminating nearly under the platform of the car, so that a vertical motion in removing the bumper-head is not available, and the whole apparatus must be removed; but what we do claim in this connection, and desire to secure by Letters Patent of the United States, is a removable bumper head or buffer, C, when made entire, and which is removed and replaced by sliding it on or off the end of the coupling-bar in a horizontal direction, substantially as described.

2. We do not claim a disk with a segment removed, which disk is made perfect by the insertion of a shackle-bar formed with a double convex head when these devices are joined with other devices which prevent the release of the shackle-bar on its deflection to the right or left when the jaws are locked; but what we do claim, and desire to secure as aforesaid, is the imperfect disk G, which is made perfect by the insertion of a shackle-bar formed with a solid double-convex head, in combination with jaws having concave parts *h h'*, forming circles concentric with that of the disk G, as and for the purpose set forth.

3. We do not claim the imperfect disk G and double-convex head I when they are connected with mechanism which will not permit the said disk to recede within the coupling-bar when the jaws are locked and two cars come together; but what we do claim under this head is the combination of the disk G and solid double-convex-headed shackle-bar with the sliding spring-block F, as described.

4. We claim the means described for coupling and uncoupling the shackle-bar, consisting of the spring-stop R and foot S, projection T, lever N, pin M, and curved sliding bar L, as specified.

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Witnesses:

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