

UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 516,159, dated March 6, 1894.

Application filed October 17, 1893. Serial No. 488,393. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. W. HOWARD, a citizen of the United States, residing at Broadview, in the county of Maury and State of Tennessee, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to automatic car couplings wherein the pin which is "set" from the side or top of the car, is adapted to be lowered by a link on an approaching car entering the drawhead, and it consists in certain novel constructions, combinations and arrangements of parts, whereby the pin can be "set" and dislodged, and the link adjusted to a proper position for coupling and uncoupling, as will be hereinafter described and claimed.

Figure 1 is a longitudinal section of my improved coupling applied to the end of a car, the link being shown in different positions in the same. Fig. 2 is a side elevation of my improved coupling with the pin raised or "set" to receive the link, the latter being shown in dotted lines, and Fig. 3 is a top view of the coupling.

A in the drawings represents a drawhead which is provided with flaring mouth *a*, having longitudinal groove *a'* in which the link rests and is intended to keep the link in a straight line with respect to the draw head which facilitates the ready coupling of the cars. The draw head is provided on its top surface with a long deep longitudinal recess or cavity *a²* and on its under side with a shorter longitudinal recess *a⁴* which communicates with the larger recess *a³* near its forward end. The larger recess is downwardly and outwardly beveled on its upper surface at *a⁵* and communicates with the mouth of the drawhead for the insertion and passage of the link. The drawhead is also provided with a vertical pin hole or passage *a⁶* which passes through the front end of the drawhead at the forward end of the long longitudinal recess *a³*. The longitudinal recess is provided on its lower inner sides with shoulders or ledges *a⁷* which extend from the rear to the front end of the recess and upon which

rests a pivoted block B. The link is prevented from entering the drawhead too far by striking the front end of the shoulders or ledges *a⁷*.

The block B is pivoted at its rear end to the drawhead by a pin passed through the same and has its front or outer end outwardly and downwardly beveled at *b*, to correspond with the bevel *a⁵* on the draw head in rear of the flaring mouth. The block is also provided at its front end with a longitudinal slot of triangular shape in longitudinal section, which extends through the beveled portion and through the under side of the block, the base of the triangular shaped slot being on the under side of the bar, and the front of the slot in the beveled portion of the block. The slot in the beveled end or nose being closed at the lower end to engage the head on the trigger D to prevent the latter becoming disconnected from the block, as will be hereinafter described. The block is reduced in width in about the center of its height to the bottom thereof to form upper flanges or shoulders which rest on the ledges or shoulders *a⁷* formed in the bottom of the longitudinal recess *a³*. The outer or front end of the block has a chain secured to it which extends to the top or side of the car and is connected with a suitable mechanism for raising and lowering the block for adjusting a link. When the link is in place in the drawhead the rear end of the same rests beneath the outer beveled end of the block so that when it is desired to raise or lower the link it can be done by raising or lowering the chain connected to the outer end of the block, whereby the weight of the block is removed from the rear end of the link and the outer end of the link by reason of its preponderating weight will lower and permit the cars to readily couple. This will be found of great convenience when it is desired to raise or lower the link with respect to the height of the drawhead on an approaching car. E represents the pin which is provided at its upper end with an enlarged head *d*, having bifurcated ends between which ends is a gravitating pivoted trigger D having a head or enlargement at its lower end. Before pivoting the trigger to the head of the pin it is passed through the closed triangular shaped

slot in the front end of the block and is prevented from becoming disconnected from said block by the head formed on the lower end of the trigger.

5 In applying the block, pin and pivoted gravitating trigger to the drawhead, the pin is passed through the vertical pin hole, the beveled end or head of the block is slid under the under beveled portion of the drawhead
10 and the rear end of the block dropped into place and pivoted, and the trigger is passed through the smaller longitudinal slot a^4 in the under side of the drawhead.

When it is desired to "set" or raise the pin
15 for the purpose of uncoupling the cars or to couple the same the pin and gravitating trigger are raised by the chain connected therewith and in doing so the gravitating trigger would be raised sufficiently to draw its head
20 out of the smaller longitudinal slot a^4 in the under side of the drawhead and the trigger by its gravity will swing forward to a perpendicular position and the head of the trigger will engage or rest upon the inside of the
25 drawhead and hold the pin in a raised position out of the way of the link entering or being withdrawn from the drawhead and the pin will remain in this raised condition until the trigger is struck by an entering link, when
30 it will descend through the link into the pin hole in the bottom of the drawhead.

In raising the pin to uncouple the cars the enlarged portion or head on the lower end of the trigger will strike the under side of the
35 pivoted block and raise the same, whereby its weight is removed from the rear end of the link and the front end of the link will be lowered by reason of its preponderating weight.

It will be observed from the foregoing description that the link can be adjusted by the
40 block independently of the pin and trigger and that it can also be adjusted in the act of uncoupling the cars by raising the pin and causing the head of the trigger to strike the
45 under side of the block, thereby removing its weight from the rear end of the link. My construction also gives an unusual body of metal near the front end of the draw head,

and also affords support for the pin immediately above and below the link so that the
50 pin is less liable to be bent or broken.

What I claim is—

1. In a car coupling, the combination of a drawhead, a longitudinal block pivoted at its rear end and provided at its front end with a
55 passage, a pin provided with an enlarged head at its upper end and a gravitating trigger pivoted to the head of the pin and extending through the passage in the block, substantially as described.

2. In a car coupling, the combination of a drawhead provided with a long longitudinal recess in its upper surface and a recess in its bottom surface, a longitudinal block pivoted at its rear end to the drawhead and having
60 its forward end provided with a passage, a pin having an enlarged head in which is pivoted a gravitating trigger provided with a head at its lower end, the said trigger being passed through the slot in the block, substantially
65 as described.

3. In a car coupling, the combination of a drawhead, provided with a longitudinal recess in its upper surface, and which is outwardly and downwardly beveled at its outer
70 end, and a recess in its bottom surface, a longitudinal block pivoted at the rear end to the drawhead, and having its forward end beveled and provided with a passage which extends through the beveled portion and the
75 bottom of the block, a pin having an enlarged head, in which is pivoted a gravitating trigger provided with a head at its lower end, the said trigger being passed through the slot in the block, and a link, the link when in
80 position in the drawhead being beneath the outer end of the block so that when the block is raised, the outer end of the link by its preponderating weight will lower, substantially
85 as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS J. W. HOWARD.

Witnesses:

JAMES A. SMISER,
M. L. EDDY.