

(No Model.)

J. EVANS.
CAR COUPLING.

No. 513,098.

Patented Jan. 23, 1894.

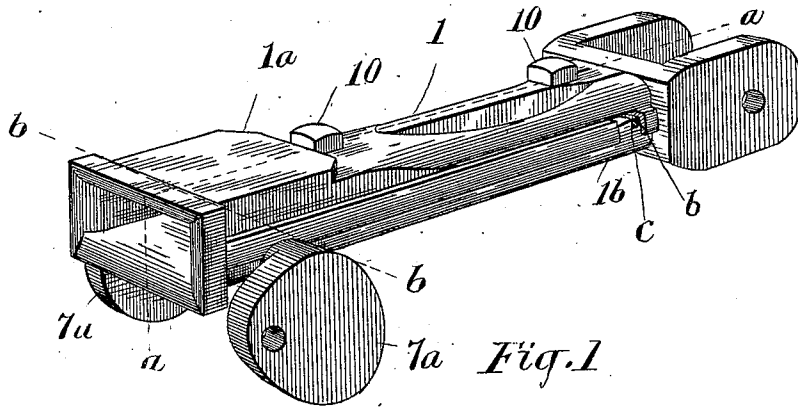


Fig. 1

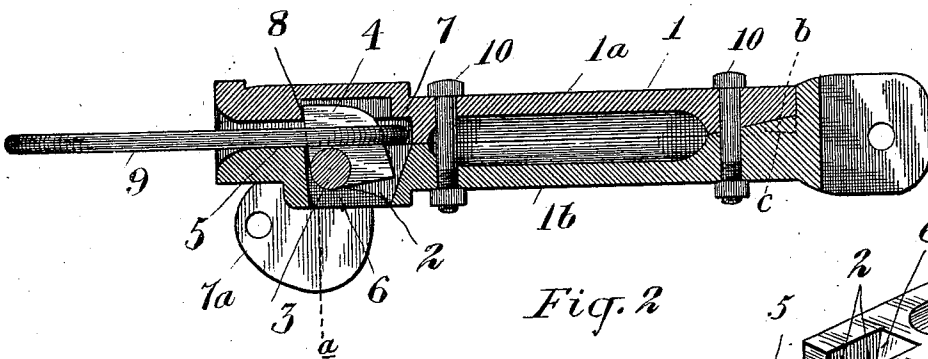


Fig. 2

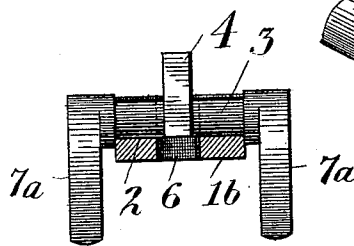


Fig. 3

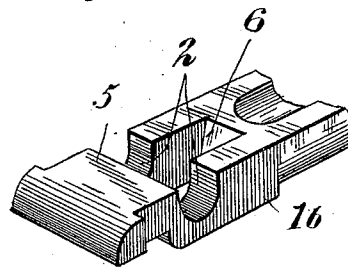


Fig. 4

Witnesses

W. J. McMillan
D. C. Ridout

Inventor
J. Evans,
by C. H. H. H.
his atty.

UNITED STATES PATENT OFFICE.

JOHN EVANS, OF TORONTO, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 513,098, dated January 23, 1894.

Application filed October 23, 1893. Serial No. 488,847. (No model.)

To all whom it may concern:

Be it known that I, JOHN EVANS, blacksmith, of the city of Toronto, in the county of York, Province of Ontario, Canada, have invented certain new and useful Improvements in Car-Couplers; and I hereby declare that the following description is sufficiently clear and exact as to enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to devise a car coupler by means of which cars can be automatically coupled on coming together and to so arrange the coupling pin that it will successfully hold its respective end of the coupling link and to also so arrange the coupler that the link can be readily detached from the draw head when required; the whole device being constructed and arranged as hereinafter more fully set forth and more particularly pointed out in the claims.

In the drawings Figure 1 is a perspective view of the apparatus. Fig. 2 is a sectional view on the lines *a— a* Fig. 1. Fig. 3 is a sectional view on the lines *b— b* Fig. 1. Fig. 4 is a perspective view of the lower section of the draw head.

Like numerals and letters of reference refer to like parts throughout the specification and drawings.

The car coupler consists of a draw head 1 of such dimensions as best adapted for the purpose for which the car coupler is intended, a pivoted pin, and a link. The draw head consists of an upper section 1^a and a lower section 1^b. In the lower section 1^b is formed a horizontal groove 2 parallel with the mouth of the draw head and below the plane of the lower side of the said mouth. This groove 2 forms a bearing to receive the spindle 3 of the pin 4, and it might be here stated that this bearing is so arranged that it permits the spindle 3 to drop below the lower face 5 of the mouth of the draw head in order that when the link is entering the drawhead it will pass across the said spindle and coupling pin without receiving any opposition therefrom.

Formed medially through the lower section 1^b of the draw head 1 is a slot 6 which extends rearwardly from the front side of the groove 2 to the end of the recess 7 in the draw head 1.

Mounted upon the spindle 3 and rigidly connected therewith is the coupling pin 4 and it might here be stated that while the spindle 3 is turning in its bearings the coupling pin 4 moves through the slot 6. It might also be stated that the front face of the pin 4 when the pin is turned back is flush with the lower face 5 of the draw head in order to permit the said link to enter the said draw head.

Secured to each end of the spindle 3 is a counter balance 7^a and these counter balances are so arranged that they will drop instantaneously and raise the pin 4 into an upright position immediately after the link has cleared it. It will be noticed by reference to the drawings that even while the pin is in a vertical position the heavier portion of each of the counter balances is forward of the vertical axis, *a*, of the spindle in order that the gravity of the counter balances will securely hold the pin 4 in an upright position, and against the edge of the recess 8 formed in the upper part of the draw head. Again by reference to the drawings it will be noticed that the lower end of the rear face of the pin 4 against which bears the link 9 is flattened in order that the said link will have a proper holding surface when drawing thereagainst. Again by reference to the drawings it will be noticed that the upper end of the pin 4 is slightly curved in order that the said pin when being turned downward will have a tendency to force backward the link 9 without binding against the said link. Again by reference to the drawings it will be noticed that the upper section 1^a of the draw head is provided on its rear end with two small lugs *b* which fit into recesses *c* in the rear end of the lower section 1^b of the draw head, in order that the strain will be taken off the bolts 10 which lock together the said sections.

In the operation of the device the link 9 enters the draw head and forces the pin 4 back flush with the lower face of the mouth of the draw head and passes thereover. As soon as the link 9 has cleared the pin 4 the counter balances 7^a return the pin to its upright position and prevent the withdrawal of the link until the pin has been again returned to its lowered position.

By means of this device two cars can be

automatically coupled on coming together and will remain coupled until uncoupled by human agency, and the uncoupling can be effected almost instantaneously thus saving
5 a vast amount of time in the operation of the car service.

In order to permit the ready operation of the pin when uncoupling—each counter balance is provided with an opening into which
10 may be inserted a lever to successfully raise the counter balance and turn the pin backward and downward.

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

1. In a car coupler the combination of a drawhead having formed therein and below the plane of the lower side of the mouth of the drawhead, bearings for a spindle and a
20 recess extending rearwardly from the front of the said bearing to the rear extremity of said mouth, a spindle journaled in said bearings, a coupling pin mounted upon said spin-

dle and extending vertically therefrom, and a counter-balance mounted on each end of
25 the said spindle adapted to turn the coupling pin into a vertical position as set forth.

2. In a car coupler the combination of a drawhead comprised of two sections 1^a—1^b,
30 the section 1^b having formed therein and below the plane of the lower side of the mouth of the drawhead—bearings for a spindle and a recess extending rearwardly from the front of the said bearing to the rear extremity of
35 the said mouth a spindle journaled in said bearings, a coupling pin mounted on said spindle—and a counter-balance mounted on each end of the said spindle adapted to turn the coupling pin into a vertical position substantially as specified.

Toronto, October 10, 1893.

JOHN EVANS.

In presence of—
C. H. RICHES,
JAS. R. ROAL.