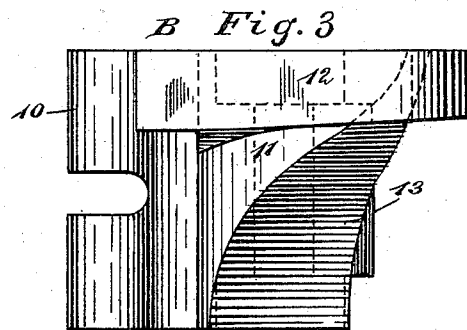
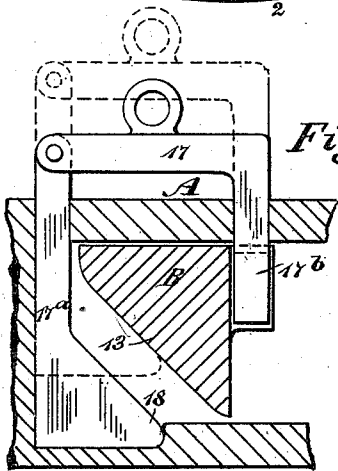
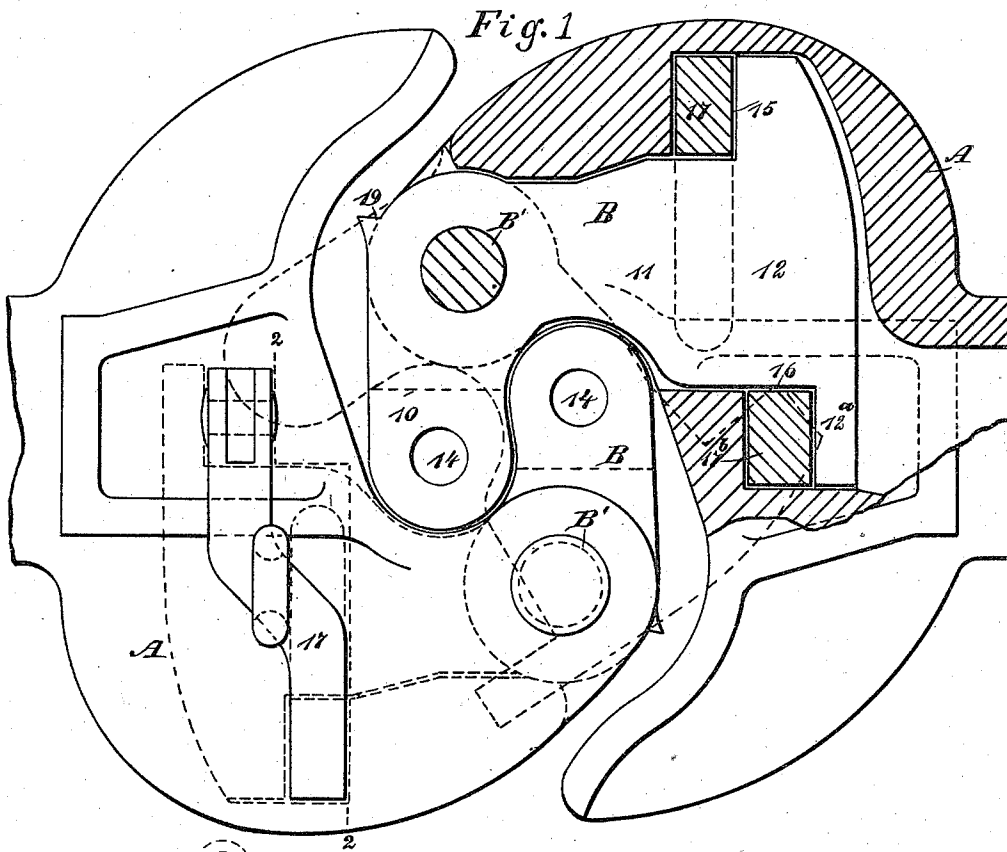


(No Model.)

J. P. KIRWAN & J. E. KIRWAN, Jr.
CAR COUPLING.

No. 470,579.

Patented Mar. 8, 1892.



WITNESSES:
J. A. Beigstrom
L. Sedgwick

INVENTORS:
J. P. Kirwan
BY J. E. Kirwan Jr.
Munn & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN P. KIRWAN AND JAMES E. KIRWAN, JR., OF PITTSFIELD, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 470,579, dated March 8, 1892.

Application filed October 10, 1891. Serial No. 408,336. (No model.)

To all whom it may concern:

Be it known that we, JOHN P. KIRWAN and JAMES E. KIRWAN, Jr., both of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in car-couplers of the knuckle type, and has for its object to so construct the coupler that the moment the coupling-pin is elevated to uncouple cars the knuckle will be automatically forced outward to the uncoupling position.

A further object of the invention is to render the construction of knuckle-couplers exceedingly simple, durable, and economic, and to so form the coupling-pin that the knuckle will have more of a bearing thereon than has been heretofore obtained.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a view of two opposed couplers in a coupled position, one coupler being in plan view and the other partially in horizontal section. Fig. 2 is a section taken, practically, on the line 2 2 of Fig. 1, illustrating the coupling-pin in side elevation; and Fig. 3 is a rear elevation of the knuckle.

The draw-head A is shaped in the usual manner, and the knuckle B, which is pivoted at B' in the draw-head, comprises a hook end section 10, a body-section 11, standing at an angle to the hook-section, and a wing-section 12, the latter being at the rear of the body and extending from opposite sides thereof, as best shown in Fig. 1. The wing 12 at its inner end is provided with a recess, which reduces it in width and forms, virtually, a tongue 12^a. When the knuckle is in its coupled position, the wing stands transversely of the draw-head, as is likewise best shown in Fig. 1. The wing 12 is not as thick as the body portion—in fact, is made as thin as pos-

sible consistent with strength—and the upper face of the wing is flush with the upper face of the body. The outerside face of the body-section 11 of the knuckle is provided with a beveled or inclined surface 13, as is best shown in Figs. 2 and 3, and the hook end of the knuckle has produced therein an aperture 14 for the reception of a coupling-pin when the coupler is to be coupled with an ordinary link-coupler or one substantially of that type.

In the draw-head two pin-openings 15 and 16 are produced. These two pin-openings are adapted to receive the members 17^a and 17^b of the coupling-pin 17. The member 17^b of the coupling-pin is somewhat triangular in general contour, and to one end of the horizontal section thereof the upper end of the member 17^a is pivoted; but if in practice it is found desirable both members 17^a and 17^b may be made integral. The member 17^a is much longer than the member 17^b, and the lower end of the member 17^a is wider than the upper portion, while the inner edge of the said lower end is beveled, as illustrated at 18 in Fig. 2, the bevel of the said member being made to practically correspond to the angle of the beveled surface 13 of the knuckle. At the outer edge of the knuckle a stop 19 is formed, which when the knuckle is in its uncoupled position or outer position, as shown in dotted lines in Fig. 1, engages with the front of the draw-head at one side and serves to limit the movement of the knuckle in that direction.

The coupling-pin may be elevated in any suitable or approved manner, and preferably the pin-openings 15 and 16 are made in alignment, and when said pin-openings are so located the outer edge of the coupling-pin is somewhat curved at its central portion, as shown at the left in Fig. 1.

In the operation of the coupling when it is desired to uncouple the coupling-pin is raised, and the moment that the shorter member 17^b is elevated a sufficient distance to clear the tongue-section 12^a of the knuckle the beveled surface 18 upon the member 17^a acts upon the beveled surface 13 of the knuckle and forces the said knuckle outward to an uncoupled

position. Thus the moment that the pin is raised a sufficient distance to clear the knuckle at its inner end the knuckle is automatically forced outward through the medium of the pin to disengage it from the opposed knuckle with which it had been in contact. In forming the coupling-pin with two members when the knuckle is in its coupled position it is sustained, virtually, by two pins when tension is exerted upon it, and should the member 17^b of the coupling-pin break an ordinary pin may be substituted therefor. When the coupling-pin is raised to clear the knuckle, it is prevented from again dropping until the knuckle is in its coupled position by reason of said member having a constant bearing while the knuckle is in its outer position upon the upper face of the wing of the latter.

It is obvious that this coupling is exceedingly simple and durable and exceedingly effective and that the knuckle may be manipulated with the least possible risk to the manipulator.

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

1. In a car-coupler, the combination, with a pivoted knuckle the body portion of which is provided with a downwardly-inclined or beveled surface, of a coupling-pin having at its lower end an inclined or beveled surface corresponding to that of the knuckle, whereby when the pin is raised the knuckle will be forced outward to the uncoupled position, substantially as described.

2. In a car-coupler, the combination, with a knuckle provided at its rear with a transversely-located wing and having its body portion provided with a beveled surface, of a

coupling-pin comprising two connected members, one shorter than the other, both members being adapted for engagement with the wing and one member being also provided with a beveled surface to act upon the beveled surface of the knuckle when the pin is elevated, as and for the purpose set forth.

3. In a car-coupler of the type described, the combination, with a knuckle comprising a hook-section, a body-section, and a wing-section located transversely of the body-section, the body-section of the knuckle being provided upon its outer side face with a beveled surface, of a coupling-pin comprising two connected vertical members, one shorter than the other and both adapted for engagement with the wing of the knuckle, the longer member being provided at its lower end, upon its inner edge, with a beveled surface engaging with the beveled surface of the knuckle, and a stop located upon the knuckle and adapted for engagement with the draw-head when the knuckle is in its outer position, as and for the purpose specified.

4. In a car-coupler of the type described, a knuckle provided with a wing at its upper rear portion, extending transversely of the body and having one face of its body-section beveled, as and for the purpose specified.

5. In a car-coupler of the type described, a coupling-pin comprising two vertical connected members, one longer than the other, the longer member being widest at its lower end and provided at said end with a beveled surface, as and for the purpose set forth.

JOHN P. KIRWAN.

JAMES E. KIRWAN, JR.

Witnesses:

A. J. CASSIDY,

JOHN A. HOLLAND.