

F. A. FOX,
CAR COUPLING.

Patented Feb. 9, 1892.

Fig. 2.

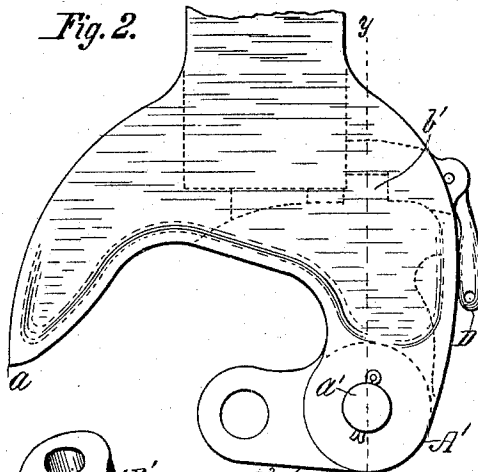


Fig. 3.

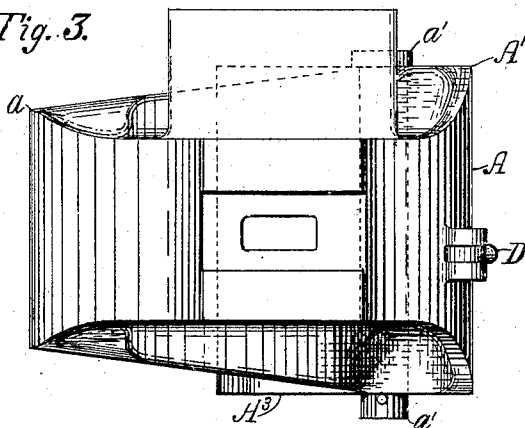
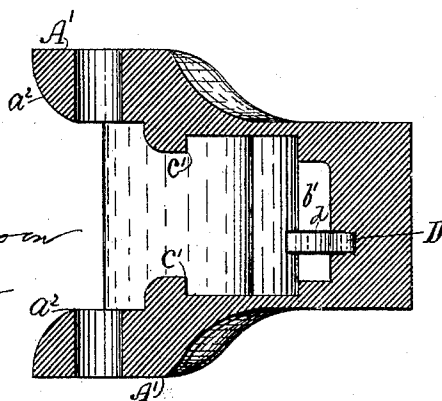


Fig. 6.



WITNESSES:

C. R. Fyfe
Noel Gale 72

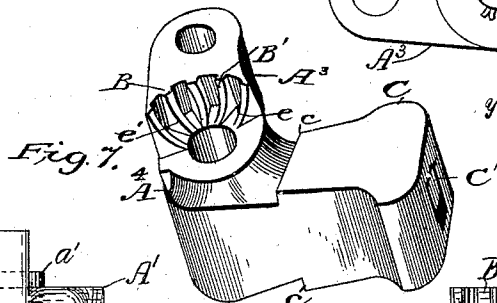
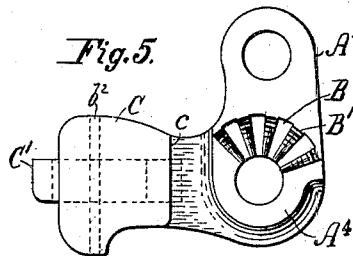


Fig. 5.



INVENTOR

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UNITED STATES PATENT OFFICE.

FRANK AVERILL FOX, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO
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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 468,765, dated February 9, 1892.

Application filed July 16, 1891. Serial No. 399,678. (No model.)

To all whom it may concern:

Be it known that I, FRANK AVERILL FOX, of San Francisco, in the county of San Francisco and State of California, have invented a certain new and useful Improvement in Car-Couplers, of which the following is a specification.

The invention relates to that class of car-couplers in which there are two automatically-interlocking sections having means for securing them as interlocked; and it consists in the novel construction of the joint bearing between the locking-section and the main section of the coupler.

It further consists in a laterally-swinging uncoupling-lever and other details of construction, as will be particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a top or plan view of a coupling embodying my improvement. Fig. 2 is a bottom plan view thereof. Fig. 3 is a rear end elevation. Fig. 4 is a section through line xx of Fig. 1. Fig. 5 is a top view of an interlocking section of the coupler. Fig. 6 is a section through line yy of Fig. 2. Fig. 7 is a perspective view of a portion of the coupler.

Referring by letter to the drawings, A designates a fixed section or coupler-head adapted to be secured to a car in the usual manner. This section A has the usual guide-horn a at one side, and at the opposite side has forwardly-projecting lugs A' , forming bearings for a horizontal swinging interlocking section A^3 . The section A^3 has a reduced portion or block A^4 , adapted to engage between the lugs A' , and both the lugs and the block A^4 are vertically perforated for the passage of a hinge-pin a' . It will be seen by this construction that a hinge-joint is formed between the sections A A^3 of the coupling, and that the block A^4 forms one member of the joint and the lugs A' form the other members of the joint. The outer ends of the lugs A' are rounded transversely and the inner bearing-surfaces are hemispherical or rounded, as at a^2 .

In couplings of this character it is found that a break or fracture is most likely to occur at the junction of the main portion of the section A^3 and the block A^4 . This breakage is

caused by the coupling coming in sudden violent contact with another coupling or other obstruction. A feature of my invention resides in means for strengthening the coupling at this point, as I will now describe. The bearing-walls B of the section A^4 are transversely convexed to correspond substantially to the transverse curve of the lugs A' , and these walls are provided with longitudinal integral ribs B' . The ribs B' are longitudinally curved to conform to the rounded surface a^2 of the lugs A' . It will be seen that the ribs B' converge from the outer ends toward the inner ends, and that the thickest portion of the ribs is at the junction e of the walls B with the block A^4 , as shown at e' in Fig. 7, so that the section A^3 is strengthened at this ordinarily weak point. The ribs B' not only strengthen the parts, as described, but they reduce the bearing-surface, and therefore reduce the friction in the joint. The interlocking section A^3 has a projection C at substantially right angles to its face. The projection has a transverse shoulder or abutment c on its upperside, adapted to impinge against a flange c' , extending downwardly from the rear side of a lug A' . It is obvious that a shoulder c may also be formed in the lower side of the projection and the other lug be provided with a flange c' . By providing the shoulder c and the flange c' the hinge-pin is relieved of great strain when the interlocking section is in its normal or locking position, and should the hinge-pin by some accident be lost the shoulder and flange will serve to hold the interlocking section in its proper position. The projection C carries a locking-bolt C' . This locking-bolt is movable longitudinally in a recess c^2 , formed in the end of the projection C, the inner surface of the lower wall of which is downwardly and outwardly curved or inclined, as shown at b . The bolt C' rests upon this inclined surface b , and by means of its own weight moves outwardly to engage in a recess b' , formed in the section A of the coupling. The bolt C' is not accessible from the outer side when in a locked position, excepting by means of a lever hereinafter described. The bolt is prevented from falling entirely out of the recess c^2 by means of a pin b^2 pass-

ing through a wall of the projection C into a groove b^3 in the bolt.

D designates a lever for moving the locking-bolt C' out of the recess b' when it is desired to unlock the coupling. This lever is fulcrumed to the section A of the coupling, and has its inner arm d projected through a hole in the side of the section into the recess b' . By moving the outer arm of the lever away from the coupling the inner arm will force the bolt C' out of the recess b' and into the recess c^2 , so that the interlocking section of the coupling may be opened.

Having described my invention, what I claim is—

1. In a car-coupling, the combination of the main section having the lugs rounded on their bearing-surfaces, and the swinging section pivoted thereto and having the ribbed bearing-surface, substantially as specified.

2. In a car-coupling, the combination, with the main section having the bearing-lugs, of the swinging section having the block and the transversely convexed bearing-walls, and the integral ribs longitudinally curved and having the thickest portion at the junction of

the bearing-wall and block, substantially as specified.

3. The combination, with the fixed section of a coupler having the rounded bearing-lugs, of the swinging section having the transversely-convexed bearing-wall and the block and the longitudinally-curved ribs converging from their outer ends toward their inner ends and having their thickest portion at the junction of the bearing-wall and block, substantially as specified.

4. In a car-coupler, the combination, with the main or fixed section and the section hinged thereto and having the projection carrying a locking-bolt, of the lever fulcrumed to one side of the main section for moving the locking-bolt in one direction, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK AVERILL FOX.

Witnesses:

EDWIN H. BROWN,
ANTHONY GREF.