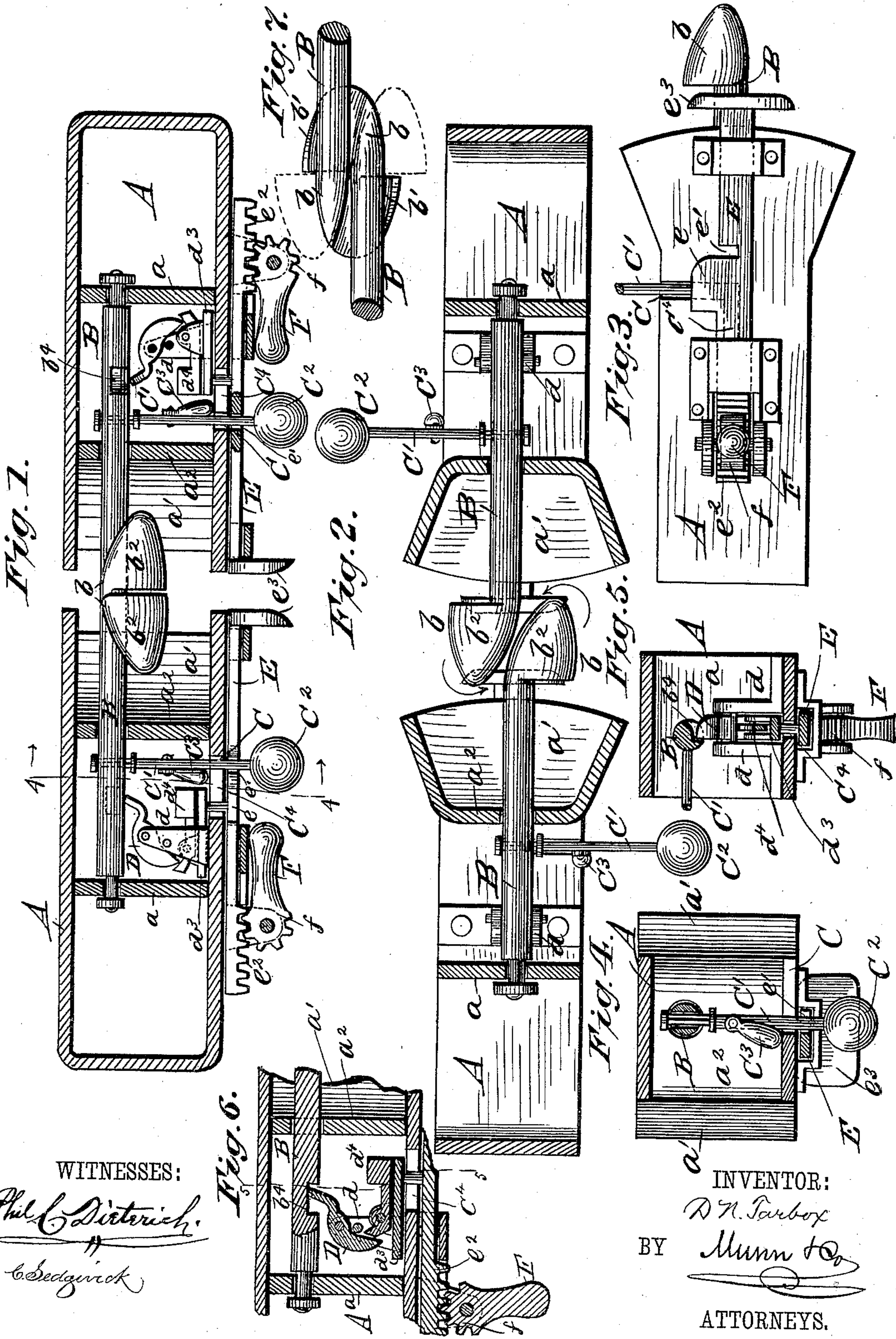


(No Model.)

D. N. TARBOX.
CAR COUPLING.

No. 390,411.

Patented Oct. 2, 1888.



WITNESSES:

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DAVID N. TARBOX, OF CEDARVILLE, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 390,411, dated October 2, 1888.

Application filed March 10, 1888. Serial No. 266,893. (No model.)

To all whom it may concern:

Be it known that I, DAVID N. TARBOX, of Cedarville, in the county of Greene and State of Ohio, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-couplings, and has for its object to simplify the construction of the same, provide an effective link, and means whereby the cars may be coupled without the operator passing between the same.

The invention consists in the arrangement of the link and in the combination and construction 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 letters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section through opposing draw-heads in a coupled position. Fig. 2 is a horizontal section through opposing draw-heads, illustrating the same in the act of coupling. Fig. 3 is a bottom plan view. Fig. 4 is a transverse section on line 4 4 of Fig. 1. Fig. 5 is a section on line 5 5 of Fig. 6, the parts being in position for coupling. Fig. 6 is a partial longitudinal section through Fig. 2, and Fig. 7 is a plan view of the united link.

In carrying out the invention, A represents the draw-head, provided with a vertical partition, a , and the usual link-opening, a' . In the partition a the rear end of the coupling-link B is pivoted, which link, consisting, preferably, of a cylindrical bar, is projected within the link-opening, terminating in a head, b , extending beyond the front of the draw-head. The head b is at right angles to the body, coming downwardly and forwardly therefrom, having an upper concave surface, b' , and a lower convex surface, b'' , the outer edge of said head being the segment of a circle. The body of the link is also supported by a front partition, a'' , separating the link-opening from the body of the draw-head. To the rear of the said front partition, a'' , in the bottom of the draw-head, at one side, a transverse slot, C, is produced, adapted to accommodate a rod, C', having a

weight, C², at the extremity below the draw-head, which rod is secured to the link-body in such manner as to have limited vertical motion therein, as shown in Figs. 1 and 4. Upon the inner side of the weighted rod C' an essentially-elliptical weight, C³, is pivoted, adapted to normally lock the rod C' in a perpendicular position.

In the upper end of standards d , attached to the bottom of the draw-head, between the partitions a and a'' nearest to the former, a weighted cam-hook, D, is pivoted, the upper hooked portion whereof is adapted to enter a recess, b^4 , in the link-body when said link is brought to a coupling position. (Illustrated in Fig. 6.) The movement of the cam-hook is limited by a suitable pin.

A longitudinal slot, C⁴, is produced in the bottom of the draw-head, intersecting the slot C, the said slot C⁴ being adapted to guide the movement of a carriage, d^3 , upon which is pivoted the rear angular end of a latch, d^4 , having a weighted forward end. The inner extremity of the latch is adapted to engage the lower end of the weighted cam-hook D when the latter is in position to sustain the link.

The carriage d^3 is connected with a trip-bar, E, held to slide longitudinally beneath the draw-head, the movement whereof is limited by an integral stop, e , engaging the outer end of the support. The trip-bar is provided with a slot, e' , adapted to register with the slot C in the draw-head when the link is in a coupled position. The under inner end surface of the bar is provided with a rack, e^2 , and upon the outer end a buffer-plate, e^3 , is secured.

A weighted arm, F, is pivoted at one end below the racked surface of the trip-bar, being provided upon said pivotal end with gear teeth f , meshing with the rack.

In coupling, the weighted rod C' is elevated to a horizontal position in any approved manner from the top or platform of the car, which turns the head of the link to an essentially-vertical position in direction of the bottom of the draw-head, as best illustrated in Fig. 2. As the link is elevated the trip-bar E is released, and the weight F, falling to a vertical position, (shown in Fig. 6,) carries the bar outward, causing the buffer-plate to extend

beyond the draw-head. The same movement propels the carriage \bar{d}^3 forward, allowing the lower end of the cam-hook D to drop and the upper end of the same to enter the recess b^4 in the hook. The inner end of the latch pivoted upon the carriage will now be immediately in front of the weighted end of the cam-hook. (See Fig. 6.) As the two draw-heads approach, the buffer-plates are brought in contact and the trip-bar slid back, causing the latch to trip the weighted cam-hook, whereupon the weight C^2 , upon the link-rods C' acting, imparts to the links a quarter-turn, causing them to interlock, as shown in Figs. 1 and 7. The link-rods, entering the slots e' , hold the trip-bars in place, and the pivotal weight C^3 upon the link-rod, engaging the floor of the draw-head, retains the latter rod in position. The play of the link-rods in the link permits the pivoted weights C^3 to disengage themselves when the link-rods are elevated.

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

1. In a car-coupling, the combination, with the draw-head and its hooked coupling-link journaled longitudinally therein, of the transversely swinging weighted operating-arm extending through the draw-head and having a limited movement through the coupling-link, and a pivoted retaining-cam on the said arm and adapted to bear on the draw-head, substantially as set forth.

2. The combination, with the draw-head

having a hooked longitudinally-extending horizontally-turning coupling-link journaled therein, and having a weighted operating-rod extending through the draw-head, of a latch for holding the link in position for coupling and a buffer for releasing the latch when the cars come together, substantially as set forth.

3. The combination, with the draw-head, the link journaled therein to turn horizontally, and provided with a weighted operating-arm, of a longitudinally-sliding carriage within the draw-head and provided with a vertically-swinging latch to engage the said link, as described, and the buffer connected to the carriage and having means for projecting it, substantially as set forth.

4. In a car-coupling, the combination, with the draw-head having a slotted under surface, a trip-bar sliding beneath the draw-head, provided with a buffer-plate and a rack, and a weighted toothed arm pivoted to mesh with said rack, of a link held to turn in the draw-head, consisting of a bar having a head at right angles thereto, concaved upon the upper face and convexed upon the reverse face, a weighted rod projecting from said link, a latch-carrying carriage attached to the trip-bar, and a weighted retaining-cam adapted for engagement with the link, all combined to operate as and for the purpose specified.

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Witnesses:

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