(No Model.)

D. K. CLARK.

CAR COUPLING.

No. 559,772. Patented May 5, 1896.

Fig. 1.

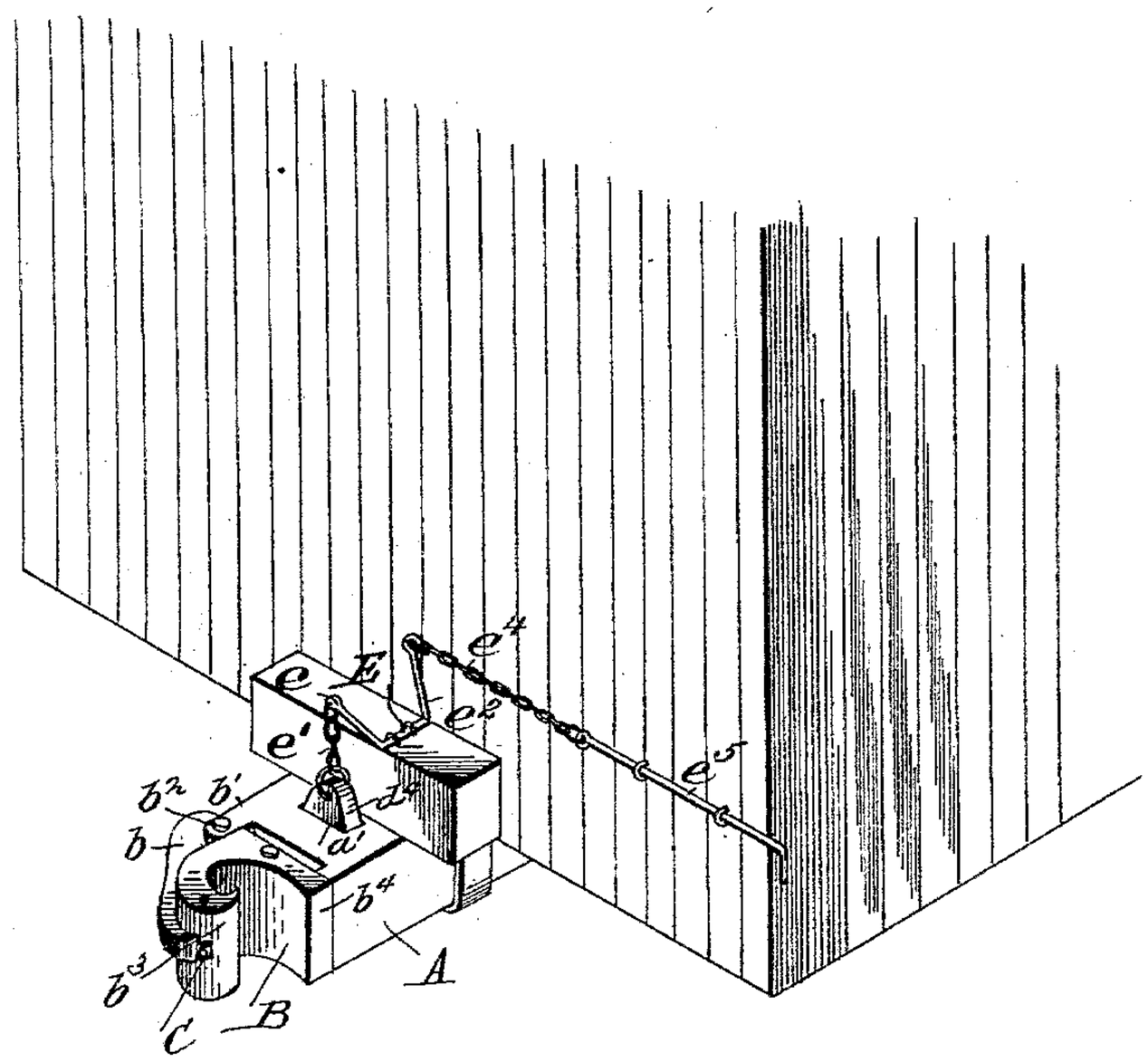


Fig. 2.

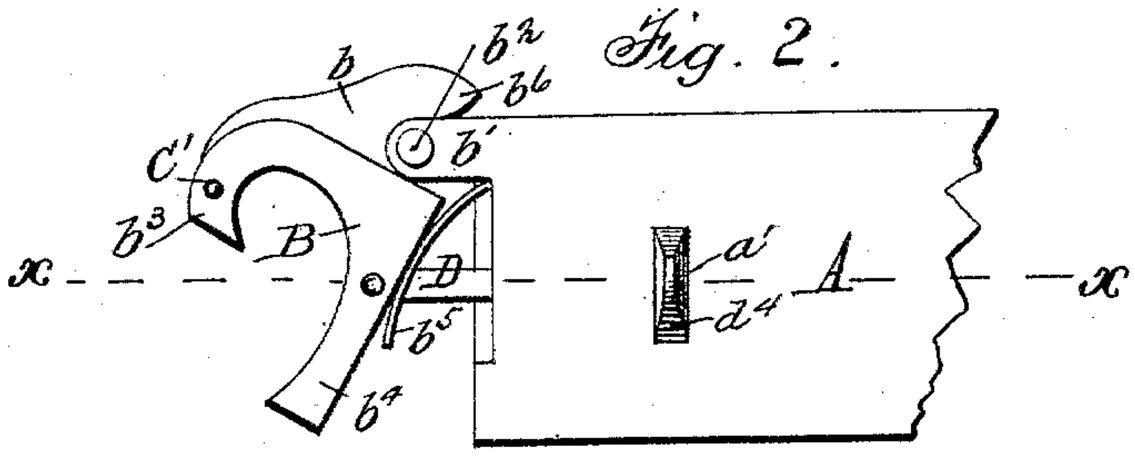


Fig. 3.

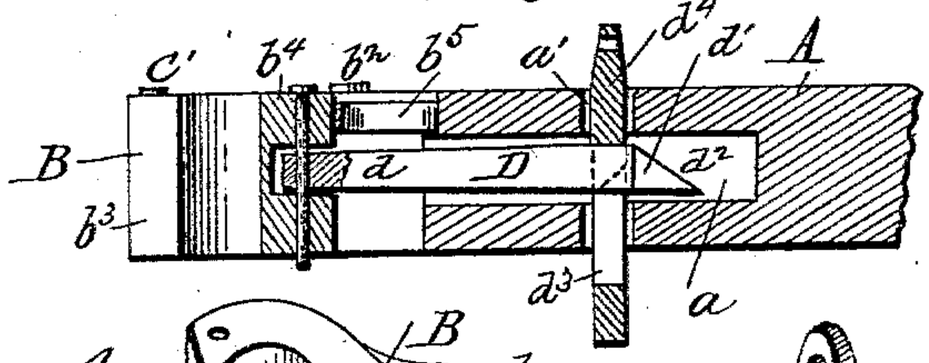


Fig. 4

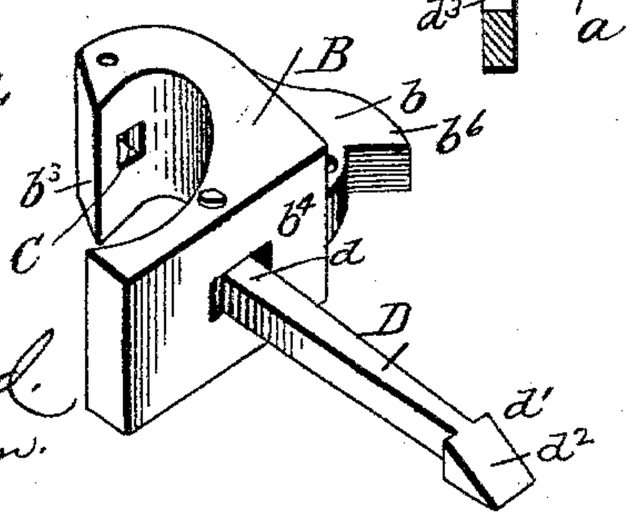
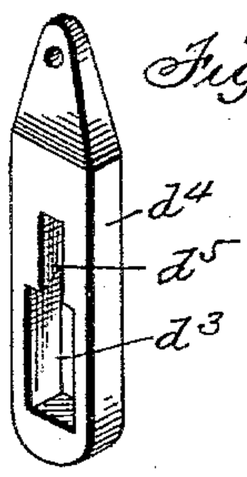


Fig. 5.



Witnesses
F. L. Ourand.
F. S. Graham.

Inventor
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by J. Fred. Reilly,
his Attorney.

UNITED STATES PATENT OFFICE.

DAVID K. CLARK, OF UPPER SANDUSKY, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO DANIEL NITRAUER, OF SAME PLACE, AND W. R. CONAWAY AND E. H. CONAWAY, OF CALEDONIA, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 559,772, dated May 5, 1896.

Application filed September 26, 1895. Serial No. 563,789. (No model.)

To all whom it may concern:

Be it known that I, DAVID K. CLARK, a citizen of the United States, residing at Upper Sandusky, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in Car-Couplers; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in car-couplers; and it has for its object the production of a coupler with a perfect center or straight draft which will not cramp when running on a curve and which will readily uncouple in the event of a car leaving the track.

A further object is to provide a coupler which will be simple in construction and efficient in operation and which will not readily get out of order or become deranged.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a view in side elevation of a car with my improved coupler applied thereto. Fig. 2 is a top plan view of the coupler detached. Fig. 3 is a longitudinal sectional view on line $x\ x$, Fig. 2. Fig. 4 is a view of the knuckle detached. Fig. 5 is a view of the locking-pin.

Referring to the drawings, A designates the draw-bar, which is provided with a forward longitudinal chamber a and a transverse hole or opening a' leading from top to bottom of said draw-bar and intersecting said chamber.

B represents the knuckle, which is provided with a web b, projecting between two ears or lugs b' of the draw-bar and connected thereto by a pivot-pin b^2. Said knuckle is provided with a forward hook portion b^3, which is designed to engage a similar portion of an adjacent coupler, and a rear squared portion b^4, designed to rest against the forward end of the draw-bar when the knuckle is locked. A spring b^5 holds said knuckle open or unlocked, and a projecting lug b^6 of web b serves as a stop for preventing the knuckle from moving too far under the action of said spring. A hole or opening C may be provided in the hook portion of said knuckle for the reception of a coupling-link should the use of such become necessary, said link being adapted to be engaged by a pin C′ working in said hook portion.

D is the locking-arm adapted to work back and forth in chamber a. This arm is pivotally connected at its forward end d to the knuckle B and at its rear end is provided with a headed portion d', beveled on its top surface d^2. The headed portion d' is designed to be projected through a longitudinal opening d^3 in the locking-pin d^4, which latter moves up and down in the hole or opening a'. A slot or recess d^5 leads from the top of hole or opening d^3 and is adapted to receive said locking-arm when said locking-pin is dropped or forced down, whereby said head is held in engagement with the inner edges of said slot or recess. A lever E is pivoted to the car-frame and is provided with an arm e, to which said locking-pin is connected by a cord or chain e', the inner arm e^2 of the lever E being connected by a chain e^4 to an operating-lever e^5, extended to the sides of the car.

The operation and advantages of my improved coupler are at once apparent, and it will be observed that if for any reason a car should leave the track the hook portions of the knuckles will be moved out of line with each other and thus the remaining cars will not be drawn after the derailed car.

My improved coupler is also extremely simple, cheap, and durable.

I claim as my invention—

1. In a car-coupler, a draw-bar having a forward longitudinal chamber therein, a knuckle pivotally connected to said draw-bar, a locking-arm pivotally connected to said knuckle and working in said chamber, and a locking-pin adapted to engage said locking-arm, substantially as set forth.

2. In a car-coupler, a draw-bar having a forward longitudinal chamber therein, a knuckle pivotally connected to said draw-bar, a headed locking-arm pivotally connected to said knuckle and working in said chamber, and a

locking-pin having an opening adapted to receive and engage the headed end of said locking-arm, substantially as set forth.

3. In a car-coupler, a draw-bar having a forward longitudinal chamber therein, a knuckle pivotally connected to said draw-bar, a headed locking-arm pivotally connected to said knuckle and working in said chamber, and a locking-pin having a hole or opening therein adapted to receive the headed end of said locking-arm and having a slot extending from said opening with the edges of which said headed end is designed to engage, substantially as set forth.

4. In a car-coupling, a draw-bar having a forward longitudinal chamber therein, ears or lugs projecting from the forward end of said draw-bar, a knuckle provided with a web or flange pivotally secured between said ears or lugs, a spring for normally holding said knuckle open or unlocked, a stop for limiting the outward movement of said knuckle, a headed locking-arm pivotally connected to said knuckle and adapted to work in said chamber, and a locking-pin adapted to engage the headed end of said locking-arm, substantially as set forth.

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

DAVID K. CLARK.

Witnesses:
H. H. NEWELL,
W. O. WEIR.