(No Model.)

J. MURPHY.

CAR COUPLING.

No. 497,593. Patented May 16, 1893.

Fig. 1.

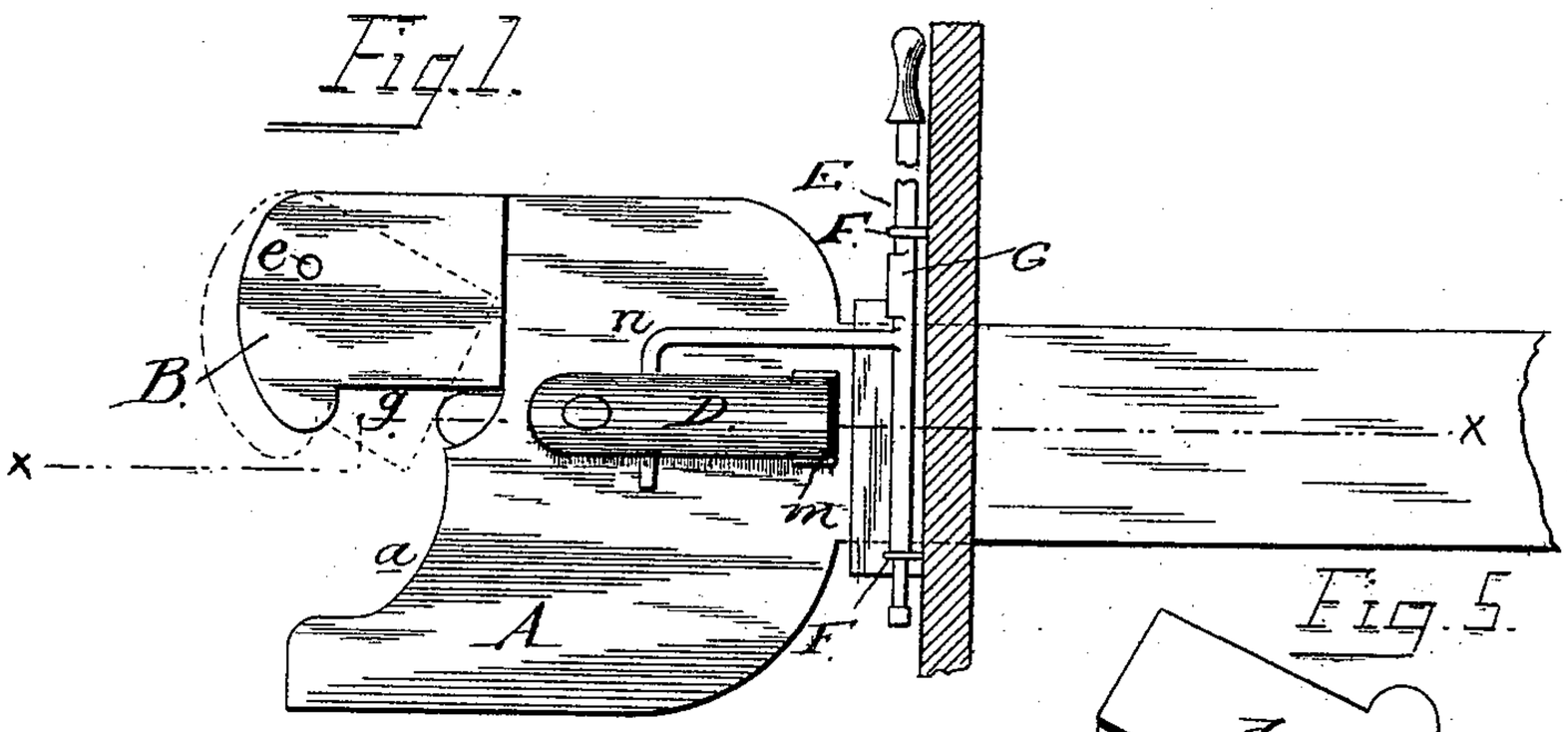


Fig. 5.

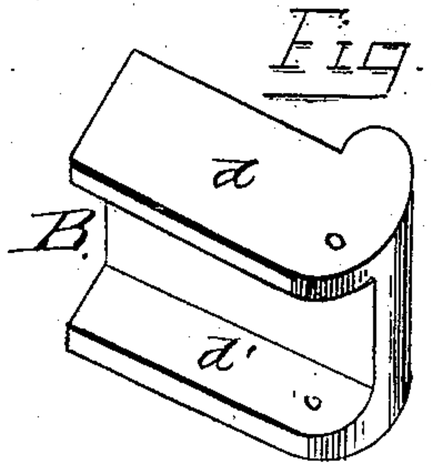


Fig. 2.

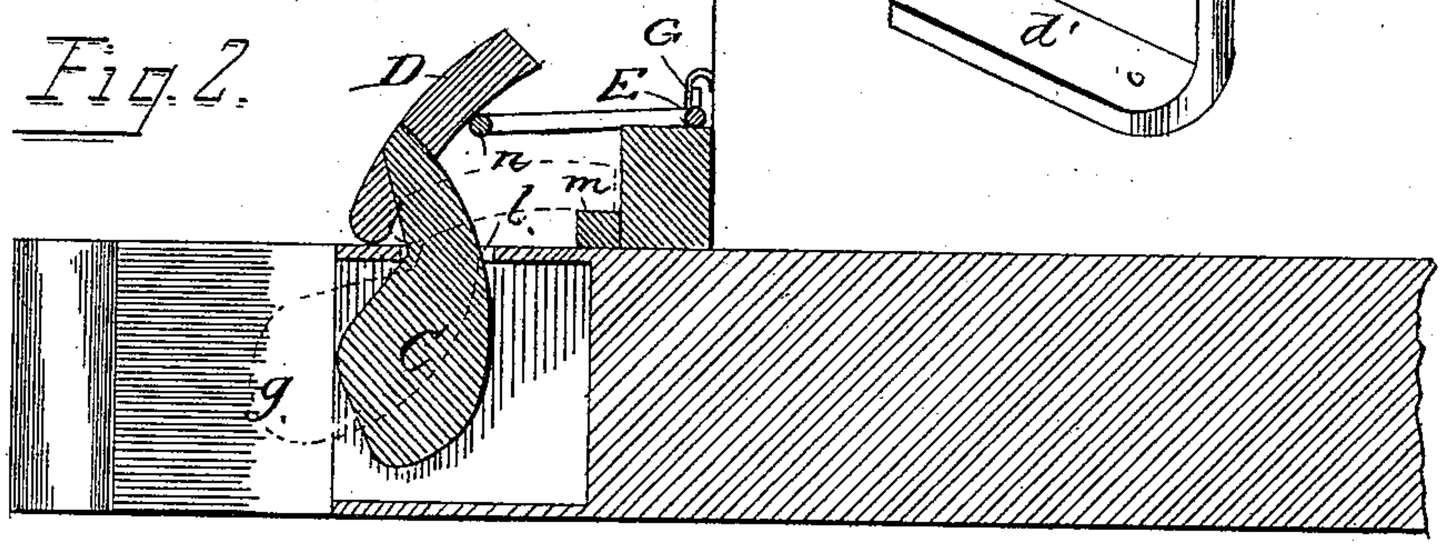


Fig. 3.

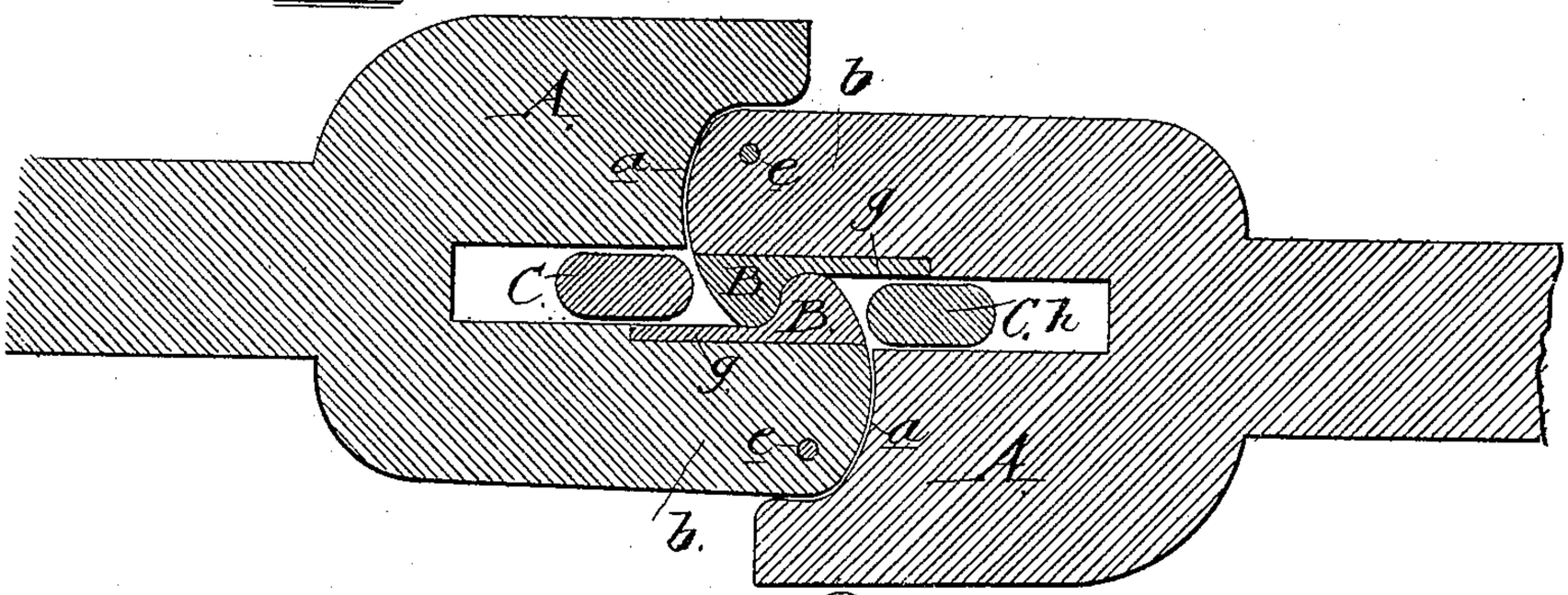
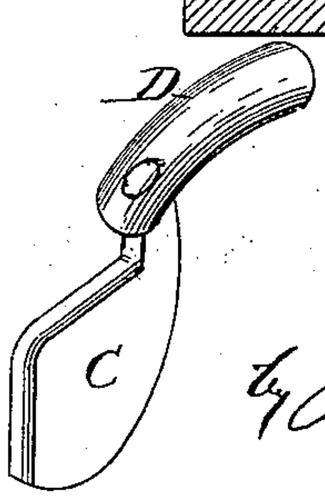


Fig. 4.



WITNESSES

Thos. J. Routt Jr.

Chapman W. Fowler

INVENTOR

John Murphy

by A. H. Evans & Co Attorneys

UNITED STATES PATENT OFFICE.

JOHN MURPHY, OF CRESTON, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 497,593, dated May 16, 1893.

Application filed September 17, 1892. Serial No. 446,160. (No model.)

To all whom it may concern:

Be it known that I, JOHN MURPHY, a citizen of the United States, residing at Creston, in the county of Union and State of Iowa, have invented certain new and useful Improvements in Car-Couplings, as set forth in the accompanying drawings, forming part of this specification, in which—

Figure 1, represents a perspective view of one of my couplings. Fig. 2, is a vertical sectional view of the same on the line *x*—*x* of Fig. 1 with the coupling pin raised. Fig. 3, is a horizontal sectional view showing a second jaw coupled in position. Fig. 4, is a perspective view of the coupling pin. Fig. 5, is a detail of the movable jaw.

My invention relates to that class of car coupling known as twin-jaw couplings, and consists of the constructions and combinations of devices which I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents one of the jaws of a twin-jaw coupling, the said jaw being located at the outer end of a draw bar which is secured in position in the manner common to this class of couplings. The front end of this head is recessed at *a* to form the fixed jaw and to receive and permit the coupling thereto of a jaw carried by another drawhead, and each fixed jaw carries at one of its sides a movable jaw B, hinged or pivoted upon a bolt *e*, to an arm *b* of the fixed jaw, at one side, so that it may swing outward to effect the uncoupling of the jaws of opposing cars, the said movable jaw of one coupling being adapted to enter the recess *a* of the opposite fixed jaw whereby the curved or hooked ends of the movable jaws engage each other in the well known manner. The movable jaw B is formed with upper and lower walls or flanges *d d'* and inner vertical side wall *g*, the outer side of this jaw being open to receive the arm *b* of the fixed jaw and to allow the movable jaw to turn upon its hinge bolt or pivot.

The body of the fixed jaw is recessed at *h* to receive the pin C, whose form approximates that shown in Fig. 4. In other words the pin C is preferably flat and has its front end adapted to be projected out of the front of the recess *h* and to be confined between the inner side wall *g* of the movable jaw and one of the side walls of the recess *h*, whereby said projecting front of the pin secures the inner free end of the movable jaw, when the latter is closed, and also is securely braced and prevented from having lateral twisting motion, by being confined between the two straight vertical walls of the movable jaw and recess *h*. The pin C has its rear or inner side curved, and said pin has also a reduced upper end or stem also curved upwardly and forwardly and adapted to pass loosely through an opening *l* in the top of the fixed jaw. The upper end of the pin C extends above the top of the jaw A and has secured to it, by any suitable means, a lever arm D, the forward end of which is adapted to fulcrum against the upper surface of the jaw A, while the opposite end projects some distance rearwardly and has sufficient weight to cause the pin to fall by gravity when the pin raising devices hereinafter named are released. The rearwardly extending arm of the lever D is adapted to be seated upon a step or shoulder *m* at or near the base of the jaw A, and this arm is engaged and actuated by the crank arm *n* of a rock shaft E, suitably journaled in guides F on the front of the car body, and adapted to be operated from the side or top of a car in the manner common to this class of coupling; the said crank shaft having a lug G projecting from it, adapted to engage one of the guides F to hold the pin raising devices elevated when desired. From this description it will be seen that the movable jaw of one or both of the opposing couplings being open, it will enter the recess *a* of the other jaw, and its curved front end will strike the inner vertical wall *g* and force the movable jaw back to its seat. During this movement the inner end of the vertical wall *g* of the movable jaw will strike the rounded front end of the pin C, and cause the pin to be forced back into its recess to enable the inner or free end of the movable jaw to pass said end of the pin. Having passed the plane of the side wall of the pin, the weight of the lever arm D of the

pin causes the latter to fall so that its front end will be projected forwardly into the front of the recess *h* and be confined by the vertical inner side wall of the movable jaw and one of the side walls of the recess as before described.

To release the couplings, the rock shaft on one coupling is rocked in its bearings so that its crank arm lifts the rearwardly extending arm of the pin thereby causing the front end of said pin to fulcrum against the top of the fixed jaw and form the pivot about which the pin turns so that it may be moved rearwardly into its recess to free its front end from contact with the movable jaw, when the opposite pull of the cars will cause the released jaw to swing inward thereby releasing the opposing jaw and permitting the uncoupling and separation of the cars.

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

1. In a car coupling, the fixed jaw having the horizontally swinging jaw and recess *a*, said fixed jaw having also a recess for the pin opening through its front, in combination with said pin loosely mounted within its recess in the fixed jaw and having its front portion adapted to be extended into the space between the inner wall of the movable jaw and the front portion of one of the walls of its recess, said pin extending through the top of the coupling head so that it may be operated, substantially as herein described.

2. In a car coupling, the fixed jaw, and the horizontally swinging jaw, in combination with the pin C mounted loosely within a recess in the fixed jaw and having a front end adapted to be projected into the space between the inner wall of the movable jaw and the front portion of one of the walls of its recess, whereby the movable jaw is held against movement, said pin having a neck projecting through an opening in the top of the head, and provided with a weighted lever arm for operating the pin by gravity to cause its front extension to pass between the inner side wall of the movable jaw and one of the walls of the pin recess, whereby the said jaw is secured and the pin securely braced, substantially as herein described.

3. In a car coupling the combination with the fixed jaw, and the movable jaw, of the pin C mounted loosely within the fixed jaw having a projecting front end adapted to secure the movable jaw, and a curved rear end, said pin having also a curved stem or neck projecting through an opening in the top of the fixed jaw, a lever arm on said stem or neck having its front end adapted to fulcrum upon the head, said lever arm extending rearwardly, and a crank shaft and connections for lifting the arm and retracting the front of the pin to release the movable jaw, substantially as herein described.

JOHN MURPHY.

Witnesses:
JNO. MCCORMACK,
PAUL O. H. LENZ.