

(No Model.)

J. TIMMS.
CAR COUPLING.

No. 463,357.

Patented Nov. 17, 1891.

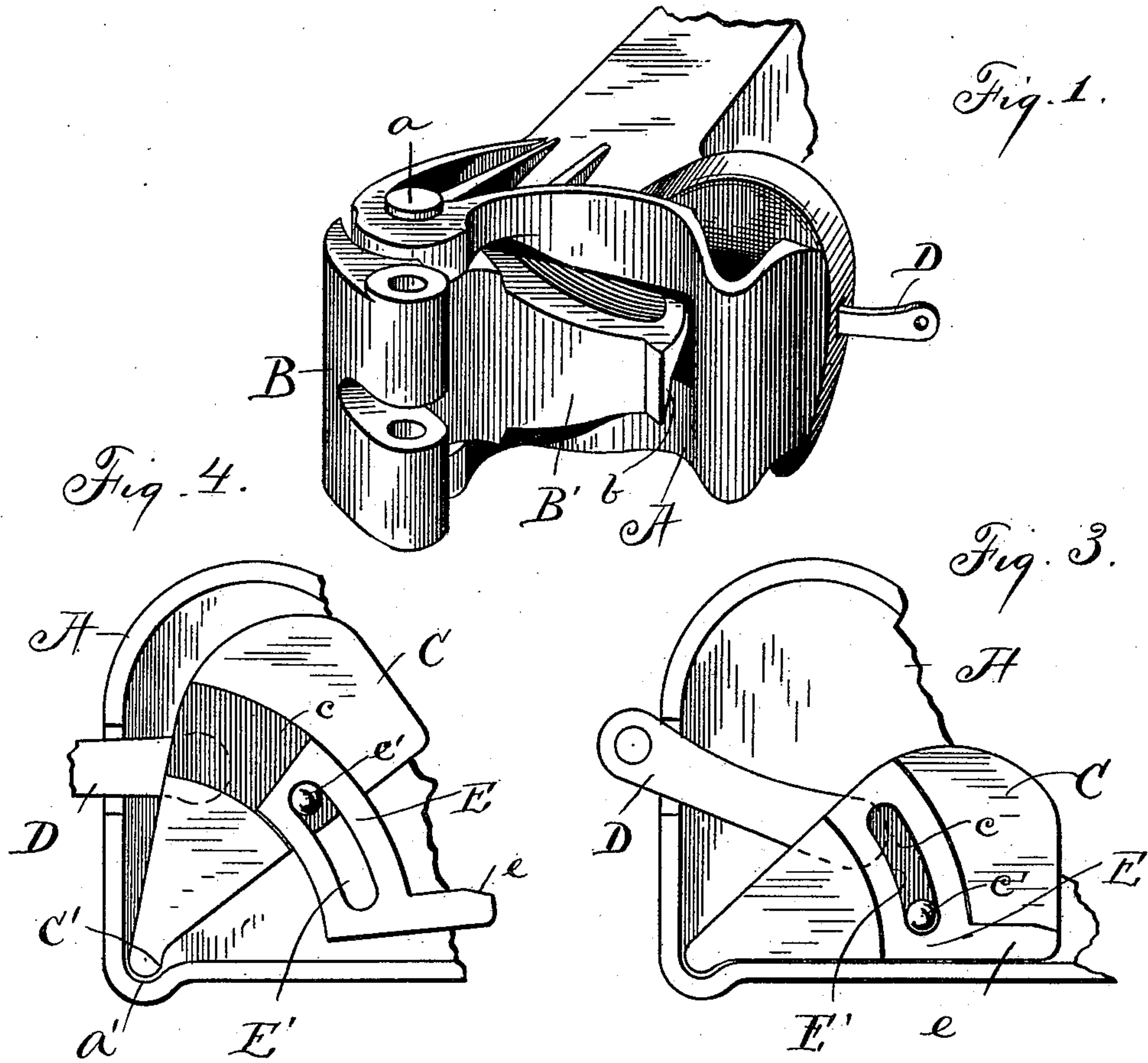
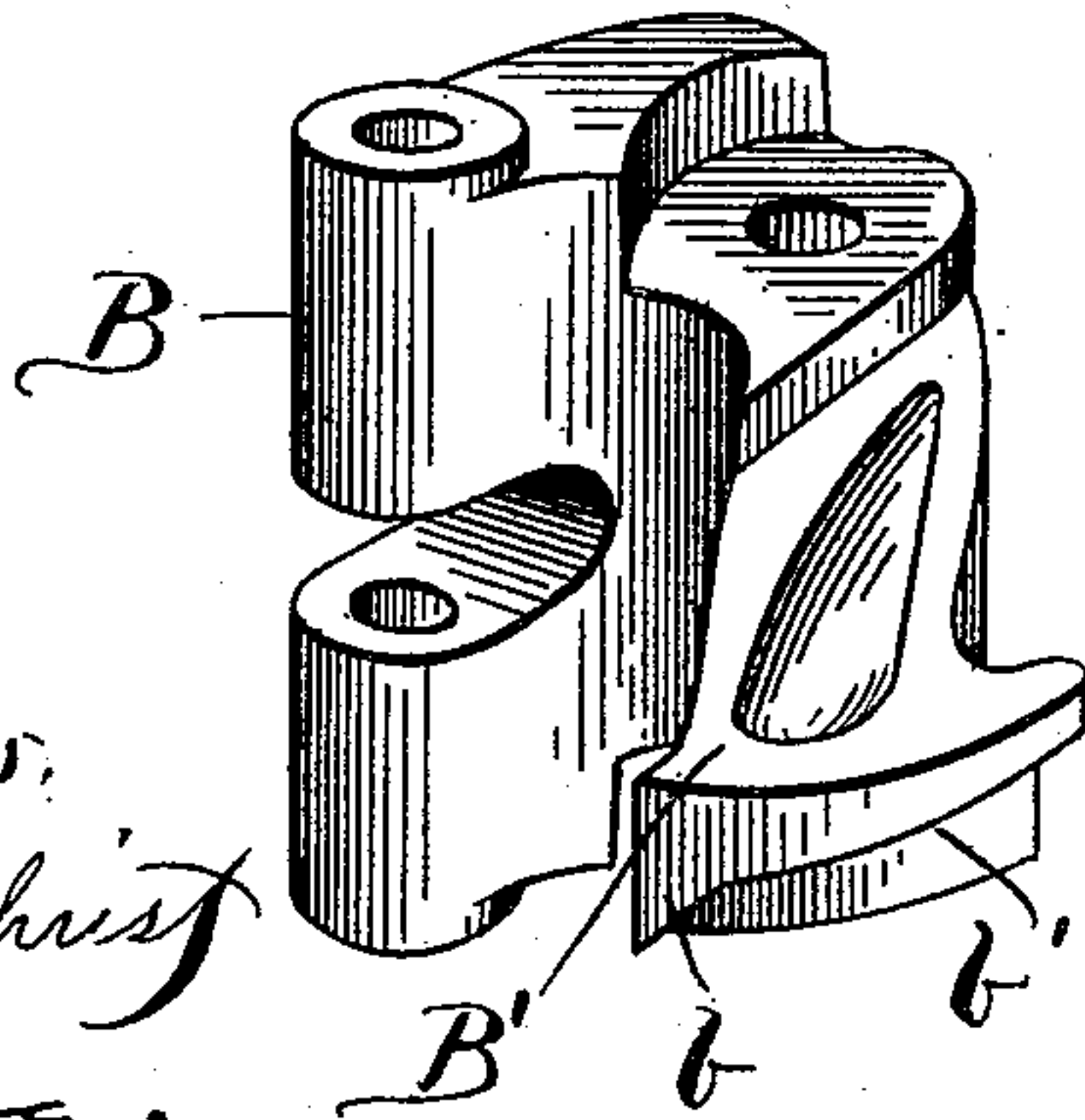


Fig. 2.



Witnesses:
E. Byron Gilchrist
C. W. Dore

Inventor:
James Timms
By *Frederick and Lefferts*
attorneys

UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO, ASSIGNOR TO THE BUCKEYE CAR COUPLER COMPANY, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 463,357, dated November 17, 1891.

Application filed July 25, 1891. Serial No. 400,708. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Couplers; and I do hereby 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 pertains to make and use the same.

My invention relates to improvements in automatic hook car-couplers; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of a hook-coupler embodying my invention. Fig. 2 is a perspective view of the knuckle thereof detached. Figs. 3 and 4 are views in perspective of the locking-plate and attachments, showing, respectively, the locking-plate in its normal and in its elevated positions.

A represents the draw-head, chambered to receive the hook or knuckle B, the latter being pivoted on a vertical pin *a*, this knuckle having a laterally-projecting locking-arm B'.

C is a tilting gravity-plate, the point of this plate at C' being stepped in a depression *a*², made in the lower wall of the draw-head, whereby the plate is pivoted so as to tilt in a vertical plane. A link D connects with plate C for operating the latter, this link extending out through a hole in the side wall of the draw-head. When the locking-arm B' is turned back into the recess of the draw-head, as in coupling, plate C tilts downward by gravity and falls in front of arm B', thereby locking the knuckle in its closed position. When plate C is tilted upward and arm B' is swung outward, plate C rides on the arm B', and consequently plate C is always in its elevated position when the knuckle is opened. Heretofore a spring of some kind has usually been employed to force the knuckle open when the knuckle has been unlocked. Such spring was necessarily strained in closing the knuckle, and a spring having tension and at the same time being subjected to the jarring and knocking incident to car-couplers while the train is in motion is likely to become weak and eventually to break. Hence a

spring of any kind would seem ill-adapted to this purpose. I have therefore devised other means of opening the knuckle, to wit: The inner face of locking-plate C is recessed, as at *c*, to receive a link E, the latter being adapted to slide endwise in the recess. This link has a longitudinal curved slot E', and plate C has a pin *c'*, adapted to operate in the slot of the link. The normal position of link E is shown in Fig. 3, where pin *c'* engages or is near to the lower end wall of slot E'. Link E has a toe *e*, that projects somewhat under arm B', this arm being cut away on the under edge for the purpose. As shown in Fig. 2, arm B', where it is cut away to receive toe *e*, presents a sharp incline at *b*, and from thence presents a more gradual incline, as at *b'*. When the knuckle is in its closed position and locked, the sharp section *b* of the incline comes opposite or above toe *e*. In tilting upward plate C to unlock the knuckle, link E, by reason of its gravity, remains stationary until link E has been elevated above arm B', at which point pin *c'* engages the top wall of slot E', after which a further upward movement of plate C elevates link E, and the toe of the link by engaging the incline of arm B' forces the arm outward, thereby opening the knuckle, and the latter will remain open until it is closed, for instance, by engaging an opposing knuckle in coupling the cars. When the knuckle is closed and plate C falls in front of arm B', link E is thereby returned to its normal position. (Shown in Fig. 4.)

The device is simple, inexpensive, and effective, and is not likely to get out of order.

What I claim is—

1. In an automatic hook car-coupler, the combination, with a knuckle having a locking-arm, the latter having an inclined lower edge, of a tilting locking-plate bearing a sliding link, the latter having a toe or projecting member in position to engage the incline of the knuckle-arm, by which engagement the knuckle is opened in tilting the locking-plate upward, substantially as set forth.

2. In an automatic hook car-coupler, in combination, a knuckle provided with a lateral locking-arm, such arm having an inclined lower edge, a tilting gravity locking-plate having a recess, a link operative in such re-

cess, such link having a slot and the locking-plate having a pin operative in such slot, the link having a toe adapted to engage the incline of a knuckle-arm, substantially as set forth.
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3. In combination, a knuckle and knuckle-arm having an inclined edge, a tilting gravity locking-plate having a sliding link, such link having a slot and the locking-plate having a pin operative in such slot and adapted to engage the upper end wall of the slot at a
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predetermined elevation of the locking-plate, such link having a projecting member for engaging the incline of the knuckle-arm, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d day of July, 1891.

JAMES TIMMS.

Witnesses:

C. H. DORER,
WARD HOOVER.