

(No Model.)

D. H. McFALLS & E. W. BAXTER.

CAR COUPLING.

No. 370,800.

Patented Oct. 4, 1887.

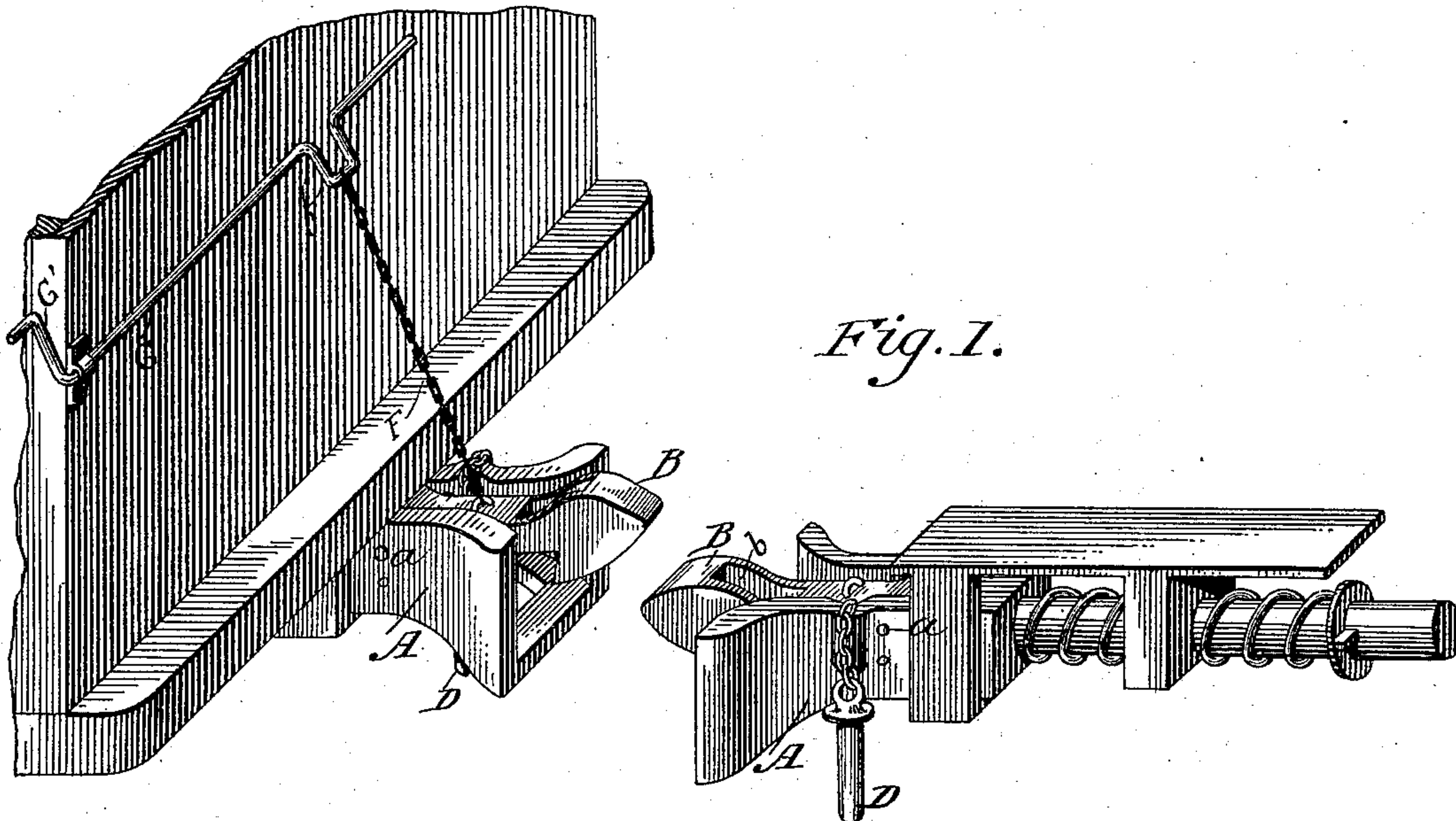


Fig. 2.

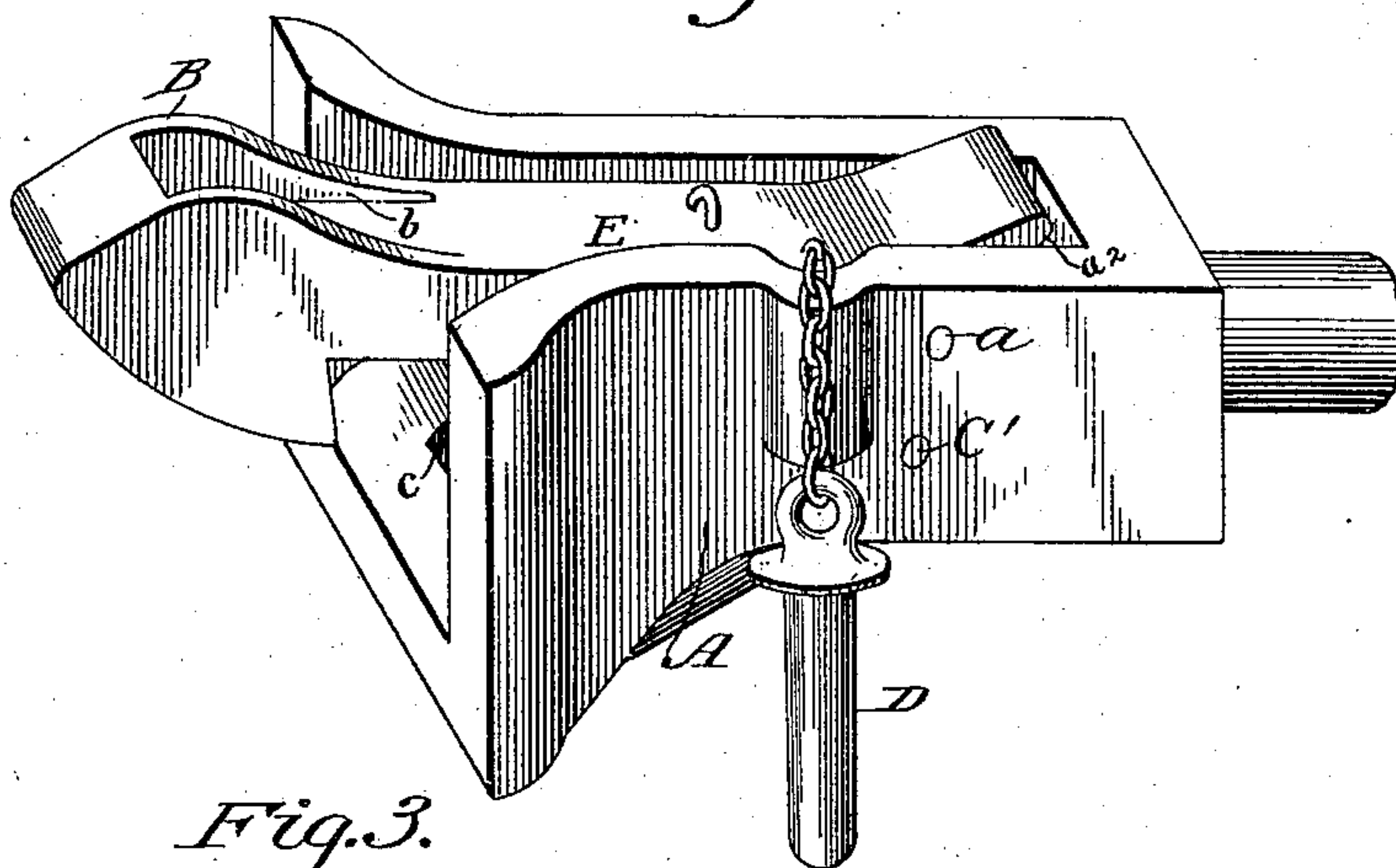
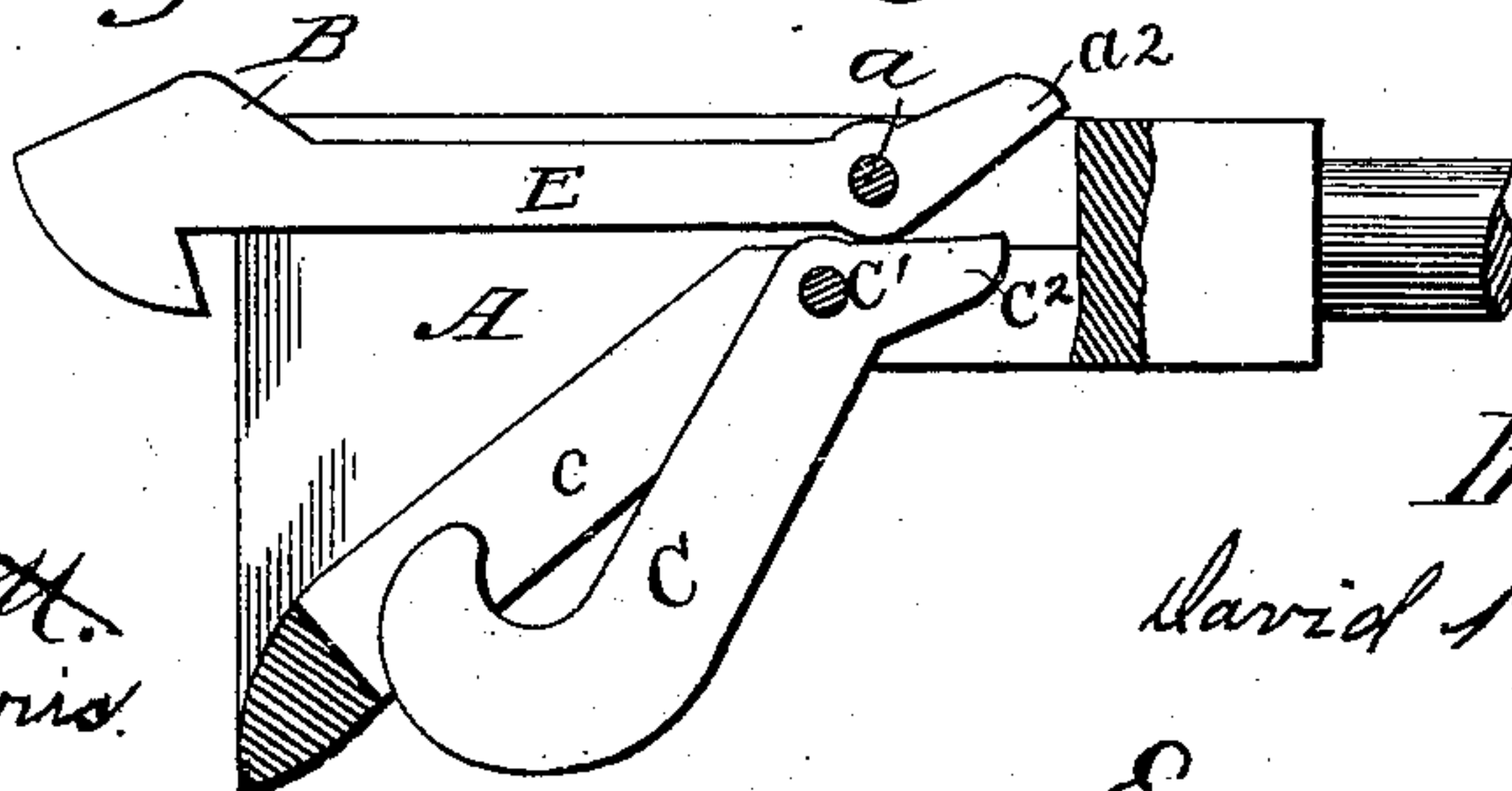


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 370,800, dated October 4, 1887.

Application filed February 5, 1887. Serial No. 226,728. (No model.)

To all whom it may concern:

Be it known that we, DAVID H. McFALLS and EMERSON W. BAXTER, of the town of Philadelphia, in the county of Jefferson, State of New York, have invented a new and useful Mode of Coupling Railroad-Cars; and we do hereby declare that the following is a full, clear, and exact description of the same.

The object and nature of our invention are for the purpose of coupling cars by the motion of the car itself, or a self-coupler, to couple with or without the ordinary link, being self-adjusting and uncoupled without danger.

Figure 1 is a perspective view of our automatic car-coupler, illustrating the manner in which our invention is operated. Fig. 2 is an enlarged view of a buffer provided with our coupler; and Fig. 3 is a longitudinal section of a bumper provided with our coupler, showing the manner of operating the hook C.

Similar letters refer to similar parts throughout the several views.

The compound gravity-hook B is pivoted by a bolt, *a*, passing through the tongue E of the hook B and into the buffer A. The compound hook B is formed by two inclined planes, one on the upper and one on the lower side of the tongue E, the end of the compound hook being pointed or in the shape of a spear-head. Into the upper surface of the hook B is cut or formed a groove or slot, *b*, which also extends slightly under the surface of the upper portion of the hook B toward the point of the hook in such a manner that the under portion of the corresponding hook B will be held securely into the slot *b* by the sides of the slot and by the upper surface of the upper inclined plane of the hook which extends over the slot. The lower surface of the hook B has the form of a barb of a spear-head, and is made to fit into the slot *b* of the upper surface of the hook. Thus, when the coupling is made, two of our hooks B come together. The colliding surfaces being inclined planes and the hooks each easily moved upwardly and prevented by the lower surface of the buffer A from moving downward, one of them will be forced over the other until the barb-shaped lower portion of the hook B falls into the slot *b* on the upper surface of the 50 under hook. The coupling is then complete.

It is readily apparent that it is not necessary that the buffers carrying our coupler should be of the same height in order to insure a successful coupling.

In order that a coupling may be made between two cars, one furnished with our coupler and the other having the old-style pin-and-link coupler, we provide a hook, C, which is pivoted to the buffer A at C' and passes through the opening *c* through the bottom of the buffer A. The hook C, near the pivot-bolt C', is provided with a lever-arm, C², which passes into a slot in the tongue E of the hook B, and is in contact with the lever-arm *a*² on the tongue E. As the hook B is raised above a certain limit, which limit can be arranged by a proper adjustment of the lever-arms, the lever-arm *a*² operates the lever-arm C², and the hook C is raised and will pass into and secure the link, which will be forced, by the coming together of the cars, into a position over the opening *c* in the buffer A. The pin D is attached to the buffer to be used in case of accident occurring to our coupler.

In order to sever the coupling, or "uncouple" the cars, we attach to the upper portion of the tongue E of the hook B, by staple or otherwise, the chain F, which chain is attached to a crank portion, *f*, of a rod, G. The rod G runs across and is fastened to the end of a car extending outward from the car on each side, and provided at each end with a handle, G'.

When the train is slacked, the handle G' may be turned by a person standing at the side of the car, and the hook B will be raised from the slot *b*, and the cars thereby disconnected. Thus is obviated all necessity of going between the cars either to couple or sever the connection. When a coupling is to be made with a car having the old-style link coupler, the hook B is raised by operating the handle G' of the rod G until the hook C passes into the link.

The buffer A has its lower inside surface inclining upwardly toward the car to which it is attached, and its side surfaces inclining inwardly toward each other, to assist in guiding the hook B or a common link to its proper position in making the coupling. The buffer A is attached to the car in the ordinary manner,

and is provided with suitable springs to deaden the blow when the cars come together.

Our coupler is entirely automatic in its operation and performs its function in a positive and satisfactory manner, is simple and inexpensive in its construction, capable of being placed onto buffers now in use on railroad-cars, applicable to cars varying in height of platform, and may be used to couple with a common link.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupler, the hook C, pivoted in a car-buffer by bolt or pin C', passing through a slot, *c*, in the lower surface of a car-buffer, A, having a lever-arm, C², at the end of the shank of the hook C, all substantially as described, and for the purpose set forth.

2. In a car-coupler, the compound gravity-hook B, pivoted in a car-buffer by bolt or pin *a*, having a lower surface inclined downwardly and formed in the shape of a spear-barb, its upper surface provided with a groove or slot, *b*, the end of the tongue E of the hook B provided with a lever-arm, *a*², in combination with the hook C, pivoted in a buffer by bolt or pin C', and passing through a slot, *c*, in the

lower surface of a car-buffer, A, the end of the hook C provided with a lever-arm, C², which lever-arm C² is in connection with the lever-arm *a*² of the tongue E, all substantially as described, and for the purpose set forth.

3. In a car-coupler, the compound gravity-hook B, pivoted in a car-buffer by bolt or pin *a*, having a lower surface inclined downwardly and formed in the shape of a spear-barb, its upper surface provided with a groove or slot, *b*, the end of the tongue E of the hook B provided with a lever-arm, *a*², in combination with the hook C, pivoted to a car-buffer by pin or bolt C', passing through a slot, *c*, in the lower surface of a car-buffer, A, the end of the hook C provided with a lever-arm, C², which lever-arm C² is in connection with the lever-arm *a*² of the tongue E, in combination with the chain F, attached to the upper surface of the tongue E and to the crank *f* on the rod G, all substantially as described, and for the purpose set forth.

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Witnesses:

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