

(No Model.)

I. E. MARSHALL.
CAR COUPLING.

No. 442,814.

Patented Dec. 16. 1890.

Fig. 1.

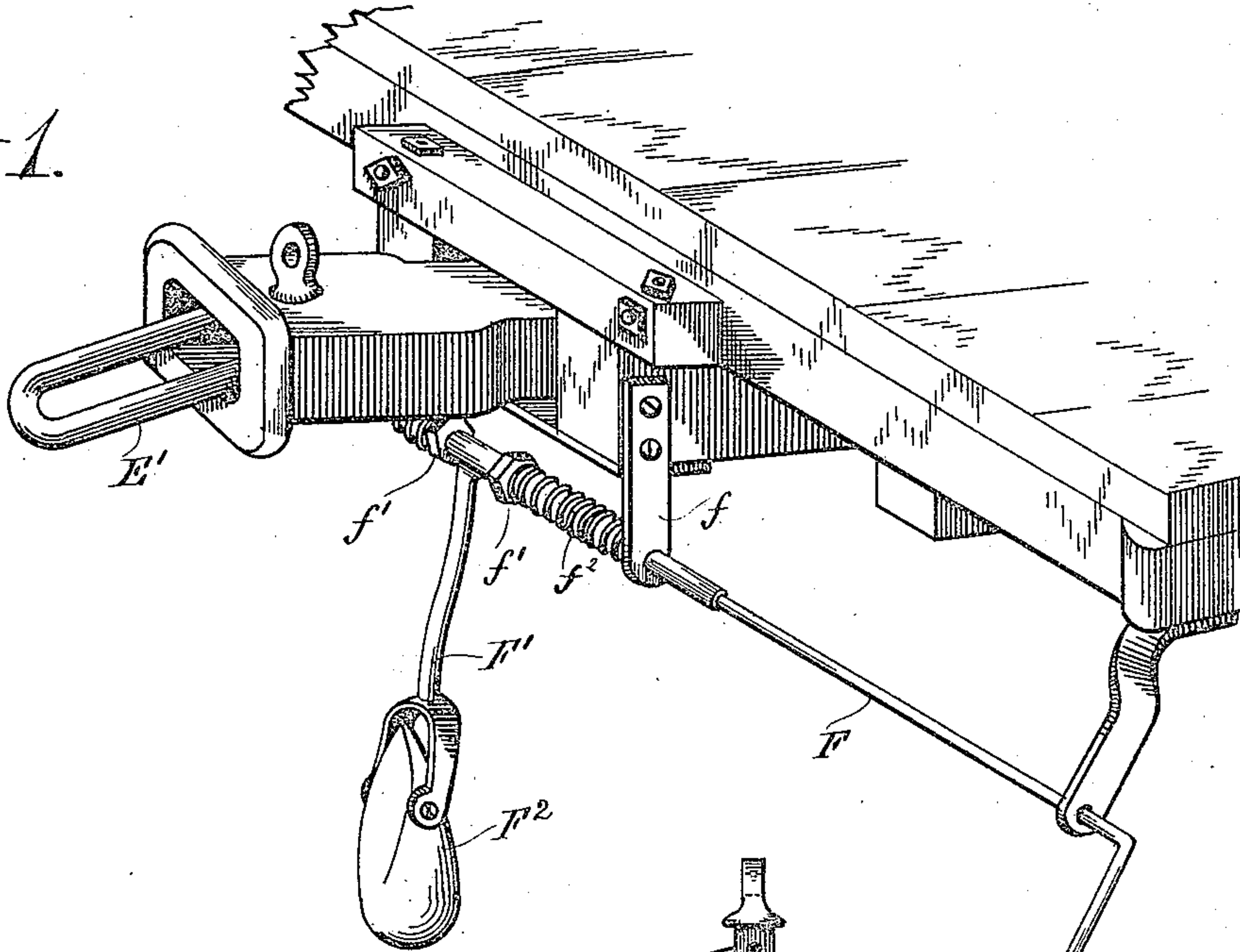


Fig. 2.

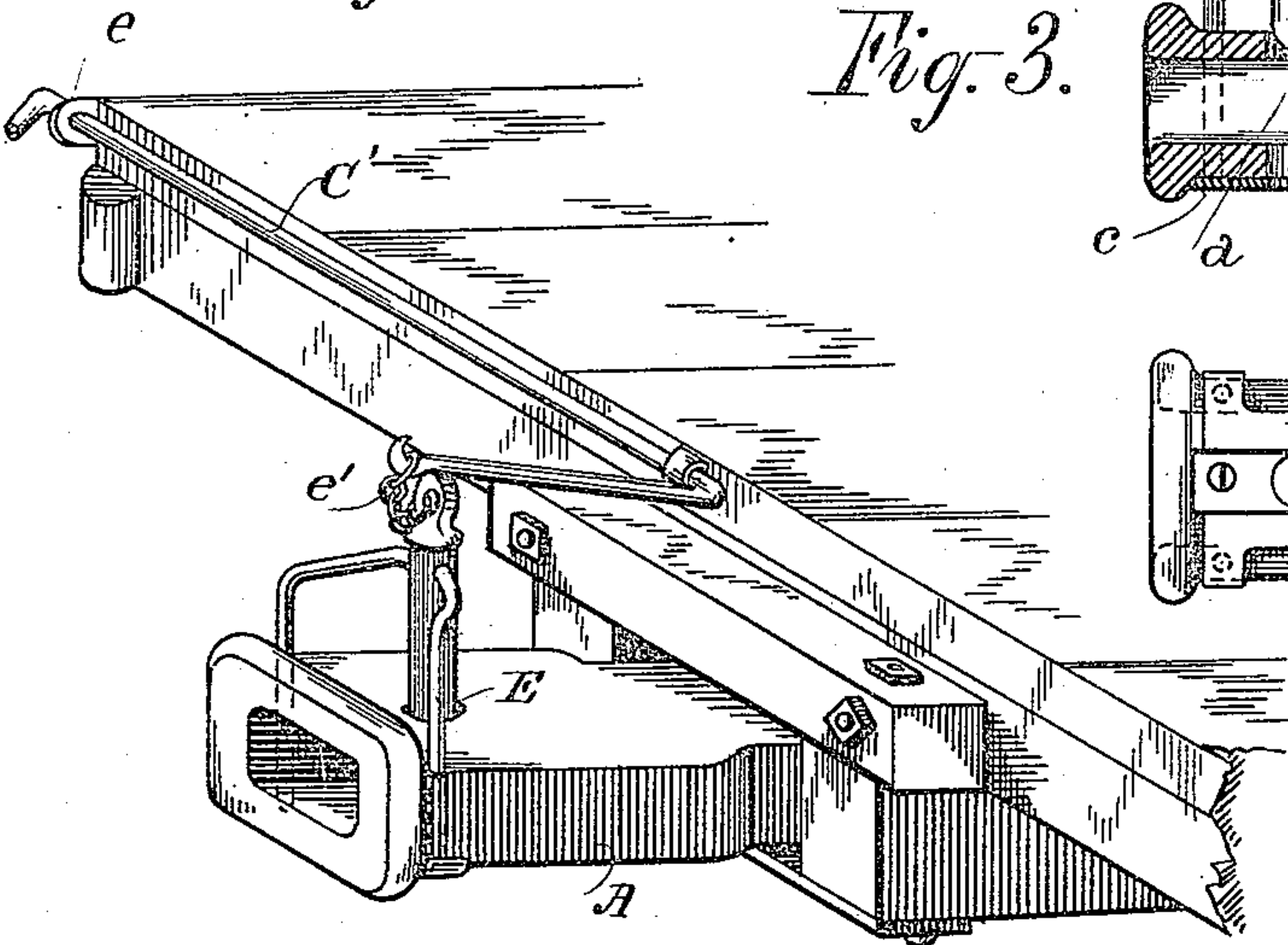


Fig. 3.

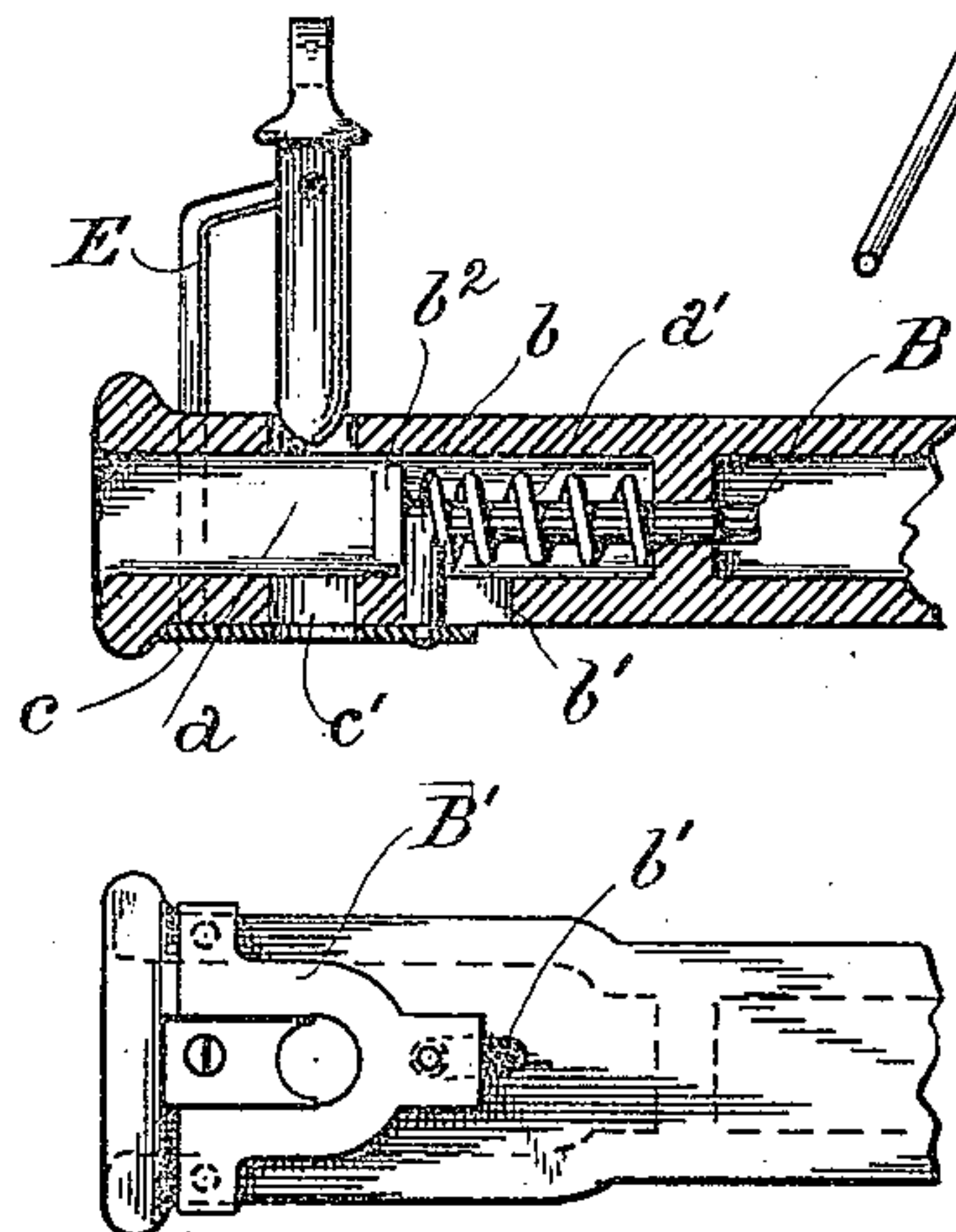
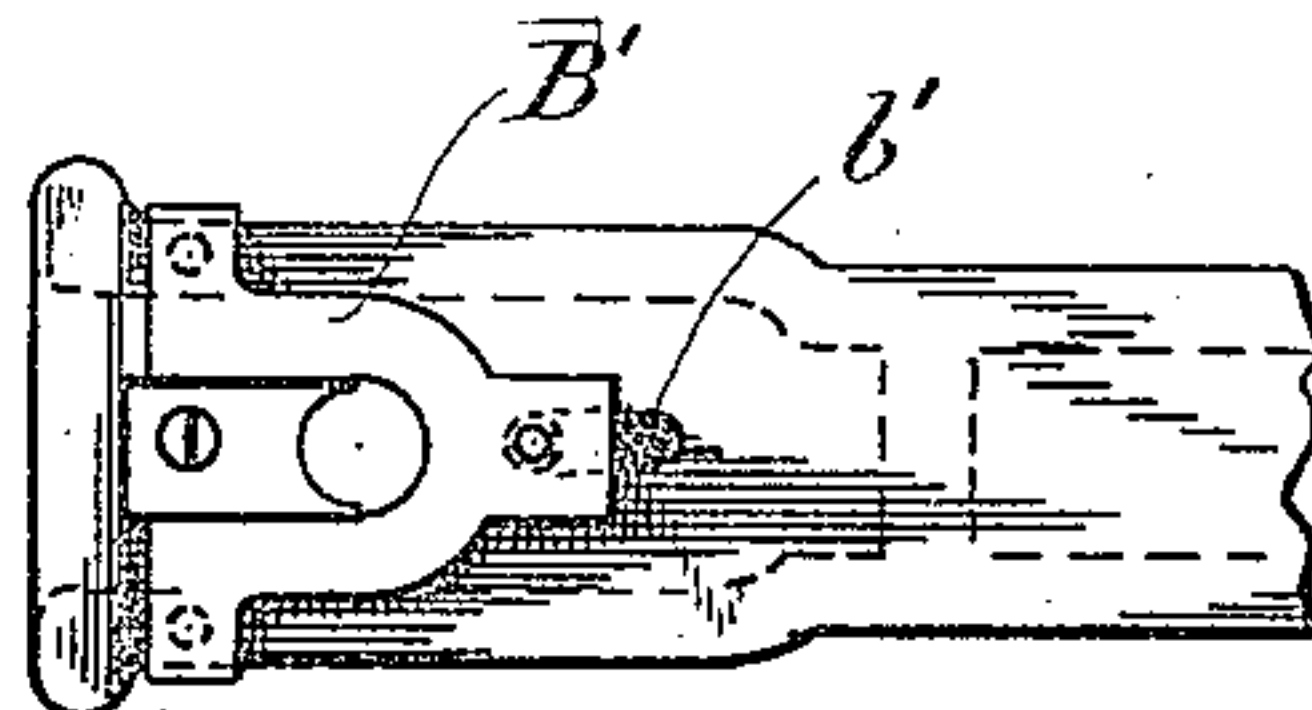


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 442,814, dated December 16, 1890.

Application filed August 18, 1890. Serial No. 362,334. (No model.)

To all whom it may concern:

Be it known that I, IANTHUS E. MARSHALL, a citizen of the United States, residing at Martinez, in the county of Contra Costa and State of California, have invented certain new and useful Improvements in Railway-Car-Coupling Attachments; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

My invention has relation to certain new and useful improvements in railway-car-coupling attachments; and it consists of the parts and details of construction, as will be hereinafter more fully set forth in the drawings, and described and pointed out in the specification.

The object of my invention consists in providing for the mechanical locking and unlocking of the cars without the requirement of the brakeman going therebetween for the purpose of coupling or uncoupling.

My invention further consists in providing suitable means for raising and retaining the coupling-pin in its raised position until automatically released by the coupling-link during the coupling of the cars.

The invention further consists in providing mechanism whereby the coupling-link may be mechanically raised and guided in line of coupling with the opposite coupling-head; and my invention further consists in providing suitable attachment whereby the loss of lives or limb of the operators may be provided against, which shall be simpler in construction, more effective in its operation, and less expensive than any device of a similar nature heretofore known to me.

Referring to the drawings forming a part of this application, wherein similar letters of reference are used to denote corresponding parts throughout the entire specification and several views, Figure 1 is an end view showing my improved mechanism for raising the coupling-link; Fig. 2, a similar view showing the coupling-pin raised so as to permit insertion of the link within the coupling-head; Fig. 3, a longitudinal sectional view, and Fig. 4 a bottom

plan, of the coupling-head, for the purpose of more fully illustrating the movable retaining-shoe plate.

The letter A is used to indicate the ordinary link-coupling head attached to the car in any suitable manner. Located within the rear portion of the coupling-head opening *a* is the spring *a'*, which surrounds the rod B, provided with the downwardly-extending lug *b*, adapted to project through and work within the bottom opening *b'* of the coupling-head. The projecting end of said downwardly-extending lug is connected to the movable shoe-plate B', secured to the bottom of the coupler, as clearly shown in Fig. 4 of the drawings. The forward end of said shoe-plate is adapted to cover the openings *c*, formed in the coupler-head, for the purpose hereinafter fully set forth.

Within the opening *c'* works the coupling-pin C, which is raised so as to uncouple the cars or place the same in position for coupling by means of the lever C', which is attached to the end of the car by means of ears *e*, and connected to the coupling-pin through the medium of chain *e'*. The outer end of said lever extends or projects beyond the side of the car and terminates in the form of a handle, whereby the same is operated, thereby obviating the necessity of going between the cars for the purpose of coupling or uncoupling. Secured to the coupling-pin are the forwardly-extending arms E, which fit within and work through the openings *c* and rest upon the shoe-plate B', which is connected thereto, as above described. When the plate has moved a distance sufficient to uncover the openings *c*, the pin-supporting arms are released from their seat and by gravity fall until the coupling-pin has descended its full length, when the pin is securely locked. Owing to the spring-actuated rod B being held to the rear of the coupling-pin it is impossible for the sliding shoe to move forward until said pin is raised its full length or height, which it is through the medium of the operating-lever C'. It will thus be observed that the free movement of the coupling-link is in no way retarded. The forwardly-extending pin-supporting arms may be formed integral

or separate from the coupling-pin, as practice may demonstrate advisable, and instead of working through openings *c*, may work through ears secured to the side of the coupling-head. (Not shown.) As the coupling-pin is raised, so as to uncouple, the pressure of the spring *a'* forces the rod *B* forward, which movement carries therewith the sliding foot-piece *B'* until openings *c* are completely closed. When once the coupling-pin is raised, so as to clear contact with the spring-actuated rod, it is impossible either by the motion of the car or sudden jar to cause the dropping thereof until the spring-actuated rod is forced backward and opening *c* uncovered.

In Fig. 1 I have not shown the lifting mechanism, while in Fig. 2 the same is shown connected to the coupling-pin.

In order to mechanically hold the link in line of center with the coupler-opening of the opposite head, and at the same time provide against the necessity of the brakeman going between the cars while coupling the same together, I secure to the car in any suitable manner below the coupling-head the operating-lever *F*, the outer end of which extends or projects beyond the side of the car and is turned so as to form a handle similar to lever *C'*. In Fig. 1 of the drawings I have shown the lever suspended in hangers *f*. Upon said lever I secure the collars *f'*, and between the collars and inner face of hangers *f* I secure the springs *f''*, which allow of the lever having lateral movement in either direction. Depending from and rigidly secured to the lever is the rod *F'*, and within the lower end thereof I pivotally secure the weight *F''*. The upper end of said weight is shaped so as to enable of the same fitting within the open loop of the coupling-link. Owing to the enlarged lower end thereof it is obvious that as the lever *F* is turned so as to throw the depending rod upward the gravity thereof will maintain the same in a perpendicular position. The upward throw of said depending rod causes the upper reduced end of the pivotal weight to fit within the opening of the link and lift the same to such an incline as may be required in order to permit of the same entering the opposite coupling-head opening. Upon releasing the pressure upon the operating-lever said pivotal weight will fall by gravity, carrying therewith the rod *F'* and causing the lever *F* to assume its normal position. In case the link hangs at an incline to either side of the center line I am enabled, through the springs mounted thereon, to shift the lever correspondingly, so as to cause the pivotal weight thereof to

engage with the link when thrown upward. When the pressure thereon is removed, the gravity of the weight and pressure of the springs will force the lever to its proper position.

I am aware that minor changes may be made in the arrangement of parts and details of construction herein shown and described without necessitating or creating a departure from the nature and scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent of the United States, is—

1. The combination, with a car-coupling head, of the spring-actuated rod secured within the same, movable shoe-plate suitably connected to the spring-actuated rod, coupling-pin provided with forwardly-extending supporting-arms, and the mechanism for raising said pin, substantially as set forth and described.

2. In a car-coupler, the combination, with the coupler-head, of the spring-actuated rod located therein, movable shoe-plate connected thereto and adapted to move therewith, and the coupling-pin adapted to be automatically released upon the movement of the movable shoe-plate, substantially as set forth and described.

3. In a car-coupler, the combination, with the coupling-link thereof, of the operating-lever suitably secured to the car, downwardly-extending rod secured thereto, and an operating-weight pivotally secured to the rod, said weight being adapted with the movement of the lever to contact with and raise the coupling-link sufficiently high as to permit entrance into the opposite coupling-head, substantially as set forth and described.

4. In a car-coupler, the combination, with a coupling-link, of an operating-lever journaled in hangers depending from the car, springs upon said lever interposed between the hangers and nuts or collars, a rod extending downwardly from the lever, and an operating-weight pivotally secured to the rod, said weight adapted with the movement of the lever to contact with and raise the coupling-link sufficiently high as to permit entrance into the opposite coupling-head, substantially as set forth.

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

IANTHUS E. MARSHALL.

Witnesses:

H. J. LANG,
GEO. T. KNOX.