(No Model.)

A. B. LEFEVER.

CAR COUPLING.

No. 502,305. Patented Aug. 1, 1893.

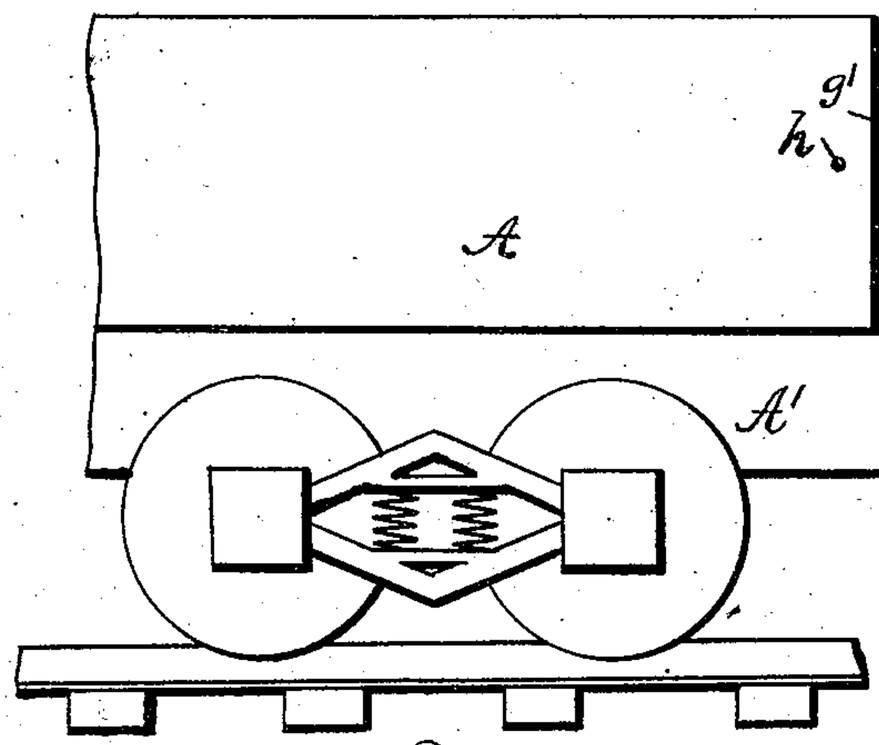

Fig. 1.

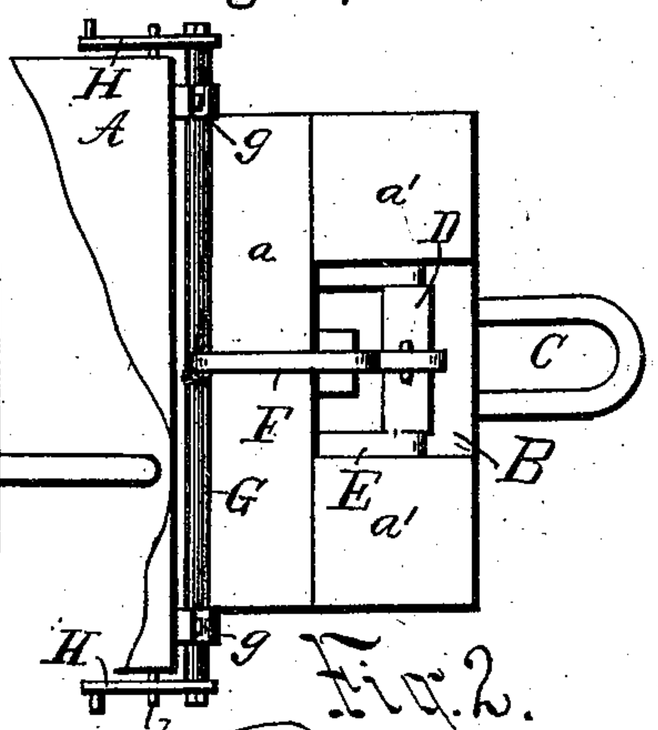

Fig. 2.

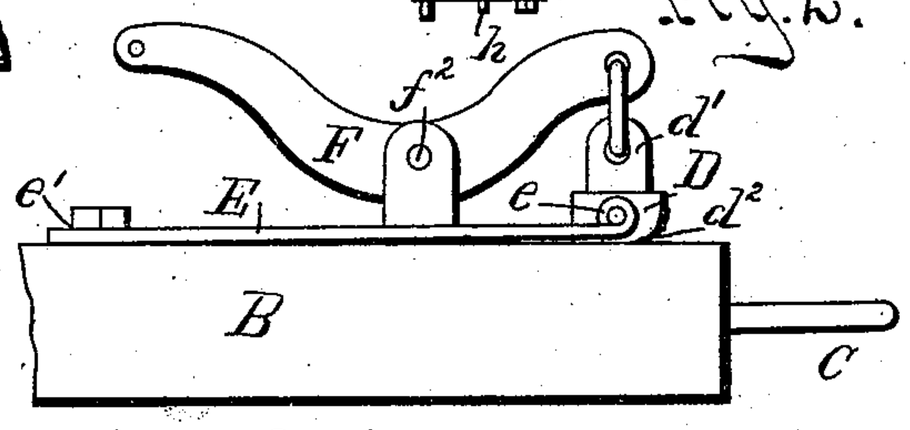

Fig. 4.

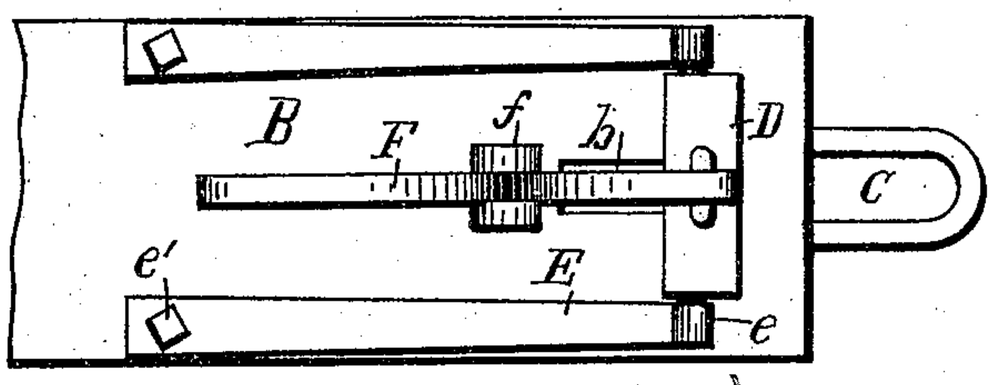

Fig. 3.

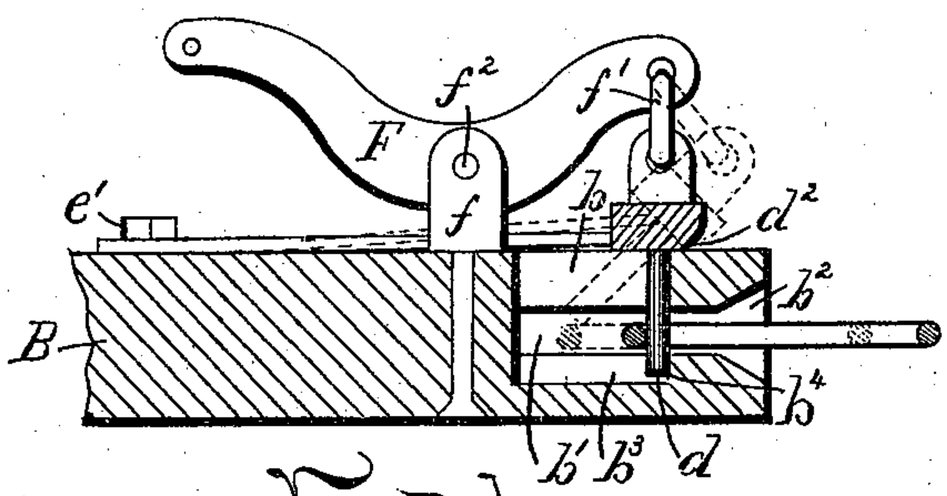

Fig. 6.

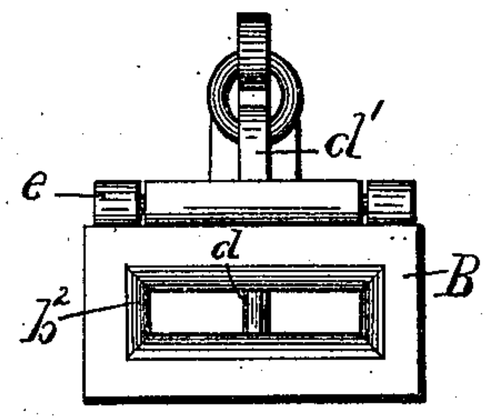

Fig. 5.

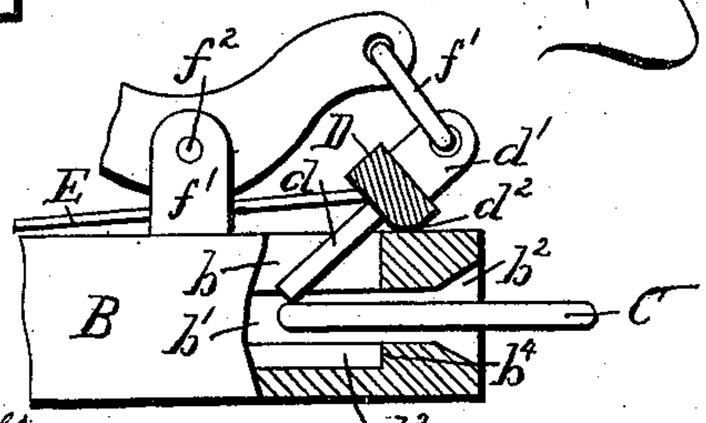

Fig. 7.

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UNITED STATES PATENT OFFICE.

AMOS B. LEFEVER, OF LEACOCK, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 502,305, dated August 1, 1893.

Application filed May 3, 1893. Serial No. 472,827. (No model.)

To all whom it may concern:

Be it known that I, AMOS B. LEFEVER, a citizen of the United States, residing in Leacock township, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Automatic Car-Couplings, of which the following is a specification.

This invention relates to that class of devices used for automatically coupling cars; and it consists in the construction and combination of the various parts, as hereinafter fully described, and then specifically pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 is the side elevation of an end of a car, showing a coupling embodying my improvement, the rock-shaft being in section and one of the bumpers cut away. Fig. 2 is a top plan view of the same, but showing all the parts in place. Fig. 3 is an enlarged top view of the draw-head detached, and Fig. 4 an enlarged side view of the same, showing a modified form of pin-lever. Fig. 5 is a front end view of the draw-head. Fig. 6 is a longitudinal vertical section of the draw-head, showing the coupling-pin engaged with the link, and Fig. 7 a similar view of the front end of the draw-head, showing the position of the parts as the coupling link is engaging the pin.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, A indicates the body of the car; A′, the longitudinal sills beneath the car; *a*, the platform, and *a′* the bumpers.

B is the draw-head having the usual horizontal opening, *b′*, with a flaring mouth b^2, in which opening coupling-link C is received. In the bottom of the rear end of opening *b′* is an elongated recess b^3, forming a shoulder b^4 at its front against which the lower end of the coupling-pin bears. If preferable, a slot extending entirely through the plate may be substituted for recess b^3. Above recess b^3 there is an elongated slot *b* in the top plate of the draw-head.

On the top of the draw-head and on the opsite sides of slot *b* there are located two flat springs E, having their inner ends secured to the draw-head in any approved manner, as shown at *e′*. Back of slot *b* there is a post *f* erected on the draw-head having the upper end bifurcated, and between the jaws thus formed there is a bent-lever F pivoted on a pin f^2. Above the front of the slot *b* there is a rock-plate D having journals on the ends which engage bearings, *e*, at the front or vibrating ends of springs E, and its lower front edge is rounded or beveled, as shown at d^2.

The coupling-pin *d* is rigidly secured to or in rock-plate D, and on the top of said plate there is a perforated post *d′*, through which perforation and a like perforation in the front end of bent-lever F said rock-plate and lever are connected by a link *f′*.

Along the end of the car and adjacent to platform *a* there extends a rock-shaft G, journaled in bearings *g* and having cranks H attached to the ends thereof. The downward movement of the cranks is limited by studs, *h*, set in the side of the car. The inner end of bent-lever F is connected with rock-shaft G by a chain *g′*, adapted to be wound around the rock-shaft by the depression of cranks H.

In operating, to couple two cars together, the link is pushed into opening *b′*, forcing the coupling-pin back and tilting the rock-plate, as shown in Fig. 7. As the link passes the end of the coupling-pin the latter engages said link and assumes an upright position, being forced thereto by the pressure of springs E. To uncouple, the coupling-pin is raised by pressure upon one of the cranks H, thereby depressing the inner end of bent lever F, the coupling-pin being again forced down into the draw-head by springs E upon the release of the pressure on the crank H.

I do not limit myself to any particular construction of the bent-lever F or means for actuating the same; neither do I restrict myself to the particular construction of the springs E and rock-plate D, herein shown and described, as it is evident that many changes may be made in the details of construction without departing from the spirit of my invention.

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

1. In a car-coupling, the combination, with a draw-head slotted substantially as described, of a rectangular spring actuated rock-plate having its lower front edge beveled, a

coupling-pin secured thereto and passing into the draw-head, and means for raising the rock-plate, substantially as and for the purpose specified.

2. In a car-coupling, the combination, with a draw-head slotted substantially as described, of spring-plates located on opposite sides of the slot in the top of the draw-head, a rock-plate having its ends journaled in the vibrating ends of the spring-plates, a coupling pin secured to the rock-plate and passing into the draw-head, and means for raising the rock-plate, substantially as and for the purpose specified.

3. In a car-coupling, the combination, with a draw-head slotted substantially as described, of a spring actuated rock-plate, a coupling pin secured thereto and passing into the draw-head, a lever fulcrumed behind the rock-plate, a hinge connection between the outer end of the lever and the rock-plate, and means for depressing the inner end of the lever, substantially as and for the purpose specified.

4. In a car-coupling, the combination, with a draw-head slotted substantially as described, of spring-plates located on opposite sides of the slot in the top of the draw-head, a rock-plate having its ends journaled in the vibrating ends of the spring-plates, a coupling-pin secured to the rock-plate and passing into the draw-head, a lever fulcrumed behind the rock-plate, a hinge-connection between the outer end of the lever and the rock-plate, and means for depressing the inner end of the lever, substantially as and for the purpose specified.

5. In a car-coupling, the combination, with a draw-head slotted substantially as described, of spring-plates located on opposite sides of the slot in the top of the draw-head, a rock-plate having its ends journaled in the vibrating ends of the spring-plates, a coupling-pin secured to the rock-plate and passing into the draw-head, a rock-shaft attached to the car, and a connection between the rock-plate and rock-shaft whereby said rock-plate is raised by the rock-shaft, substantially as and for the purpose specified.

6. In a car-coupling, the combination, with a draw-head slotted substantially as described, of spring-plates extending longitudinally of the draw-head on opposite sides of the slot in the top thereof, a rock-plate having its ends journaled in the vibrating ends of the spring-plates, a coupling-pin secured to the rock-plate and passing into the draw-head, a lever fulcrumed behind the rock-plate, a hinge-connection between the outer end of the lever and the rock-plate, a rock-shaft journaled to the front of the car, a chain connecting the inner end of the lever and the rock-shaft, and cranks attached to the rock-shaft and adapted to actuate the same to take up said chain, all constructed and arranged substantially as and for the purpose specified.

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