S. REED.

Car-Couplings.

No. 144,476. Patented Nov. 11, 1873.

Fig. 1.

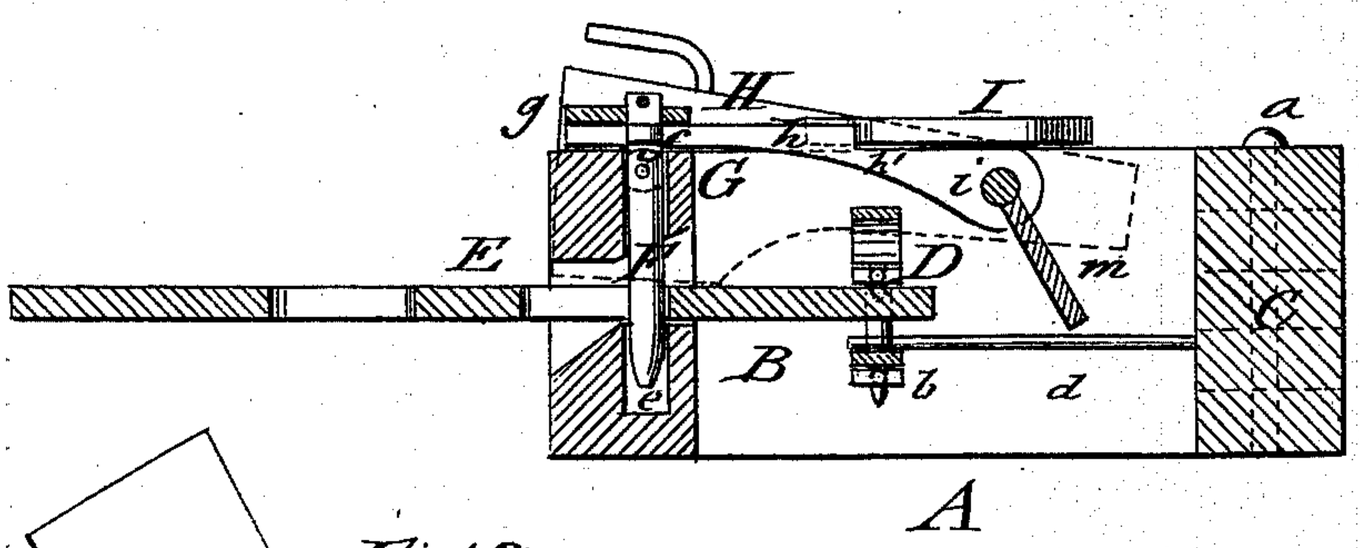


Fig. 2.

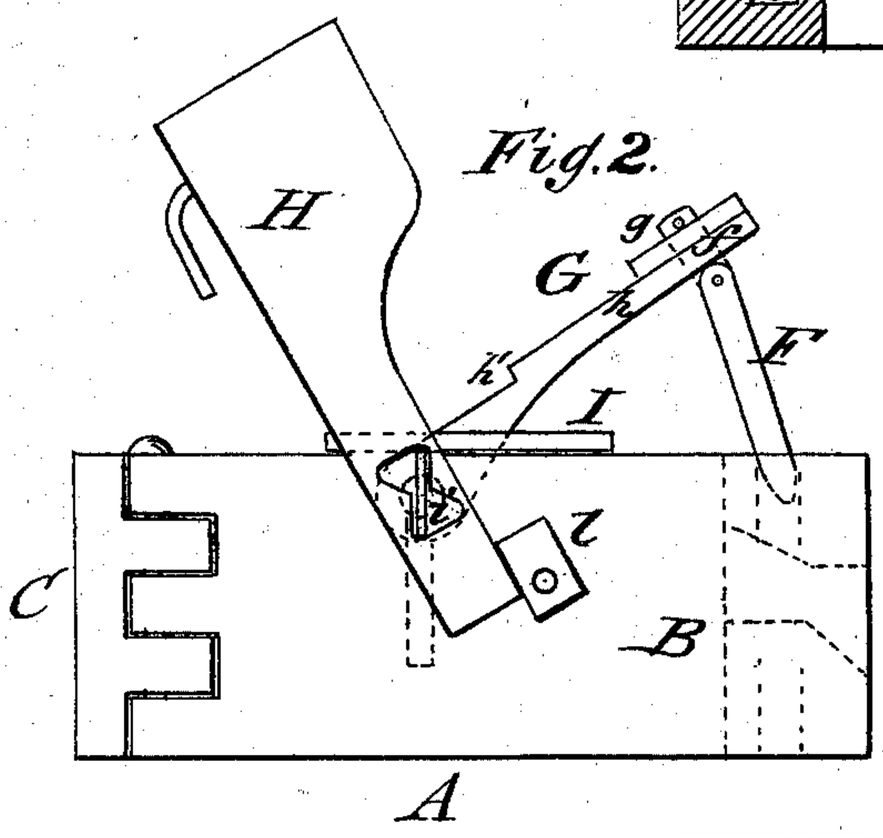
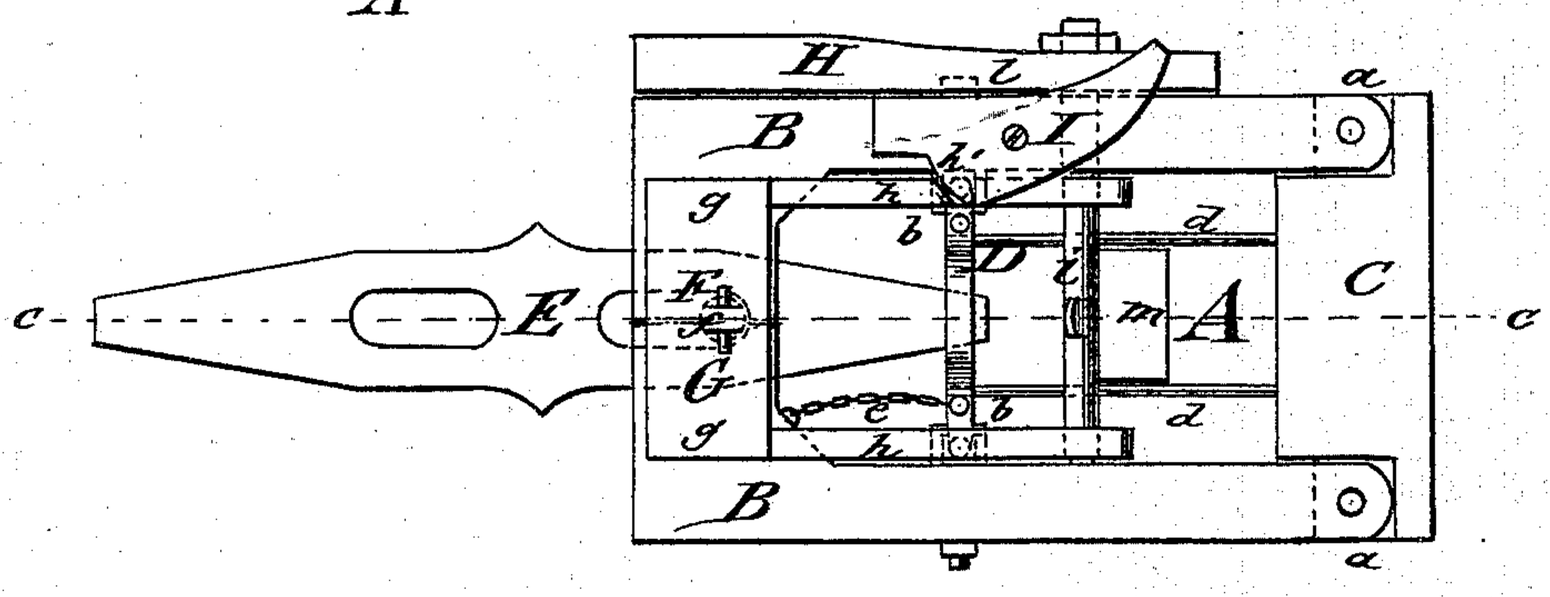


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL REED, OF LIBERTY, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **144,476**, dated November 11, 1873; application filed August 23, 1873.

To all whom it may concern:

Be it known that I, SAMUEL REED, of Liberty, in the county of Tioga and State of Pennsylvania, have invented a new and Improved Car-Coupling, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved car-coupling on the line *c c*, Fig. 3; Fig. 2, a side view, and Fig. 3 a top view, of the same.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish an improved car-coupling which automatically couples the cars, and detaches them in case the adjoining car is thrown off the track. The whole coupling is simple in construction and efficient and prompt in action. My invention consists of a draw-bar or coupling-box, with side parts hinged to the rear part, and connected firmly by a hook-frame, which is detached by the coupling-link in case of accident, and produces the giving way of the sides and the uncoupling of the link. The coupling-pin is hinged to a frame, with lever, latch, and gate, of which the latter is struck by the link, carrying the pin down for coupling. For uncoupling, the lever is raised, which detaches the link.

In the drawing, A represents the draw-bar or coupling-box, with open top and bottom, made of suitable material, and attached to the car-platform. The symmetrically-arranged sides B join in front, and are hinged to the rear plate C at *a*. The sides B are firmly connected at the inside by the lateral hook-frame D, placed into eyes or staples *b*, and held therein by springs *d*, to prevent the detaching of frame D, in the ordinary use of the coupling. A short chain, *e*, connects the hook-frame D to one part, B, by which it is suspended after it has been detached by the action of the coupling-link E. The front part of draw-bar A has a tapering mouth, which widens again toward the inside, back of the coupling-pin F, for which a vertical recess, *e*, is provided. Both hinged sides B are recessed symmetrically, to produce the opening for the mouth and the recess for the pin F. The coupling-pin F is hinged to a bolt, *f*, which is attached centrally to the laterally-connecting front piece *g* of pin-frame G. The front piece *g* is rigidly connected, by means of two arms, *h*, to a cross-roller, *i*, which turns in bearings of sides B, and is operated by a weighted lever, H. Lever H is applied on the outside of draw-bar A, rests in its downward position on lug *l*, and is lifted for uncoupling the pin F by a suitable mechanism on the car-platform. Lever H acts, on being raised, on the outward curved part of latch I, which is pivoted to the top of side B, and projects also into a recess, *h'*, of arm *h*, locking the same firmly to prevent the disengaging of pin F by the jerks of the car.

Lever H forces latch I sidewise, and releases arm *h*, which allows then the withdrawing of pin F from the draw-bar A and link E, and produces the uncoupling of the latter. Lug *l* also limits the upward motion of lever H, so that pin F may not be raised clear of the top of draw-bar A, but remains partly in the recess *e* for ready coupling. The connection of lever H and roller *i* is made in such a manner that the turning motion of the latter is produced directly after the latch I is withdrawn.

A gate, *m*, is connected rigidly to roller *i*, in such a manner that the entering link E strikes the same, and carries lever H and pin F down, coupling the cars automatically.

In case of the throwing off of one of the adjoining cars from the track, or by other accidental cause which produces the sudden violent side or upward jerking of the coupling-link, the same strikes with its projecting end the hook-frame D, detaches the same, and forces the hinged sides B open far enough to let the link pass. The hinged pin F gives way at the same time, and produces an instant uncoupling of the cars.

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

1. The combination of draw-bar A, having hinged sides B, with hook-frame D, pin-frame G having hinged pin F, lever H, latch I, and

coupling-link E, substantially as and for the purpose described.

2. The pin-frame G, having front piece *g*, with pin bolt *f*, arms *h*, roller *i*, and gate *m*, for coupling on entry of link, as described.

3. The arm *h* of frame G, having recess *h'*, in combination with latch I, for the purpose described.

4. The curved and projecting latch I, pivoted to the top of draw-bar, in combination with lever H, to lock and unlock frame G, as described.

5. The side part B of draw-bar, having lug *l* to regulate motion of lever H, as specified.

SAMUEL REED.

Witnesses:

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