E. H. McGINTY & F. MEAD.

Car-Coupling.

No. 206,119. Patented July 16, 1878.

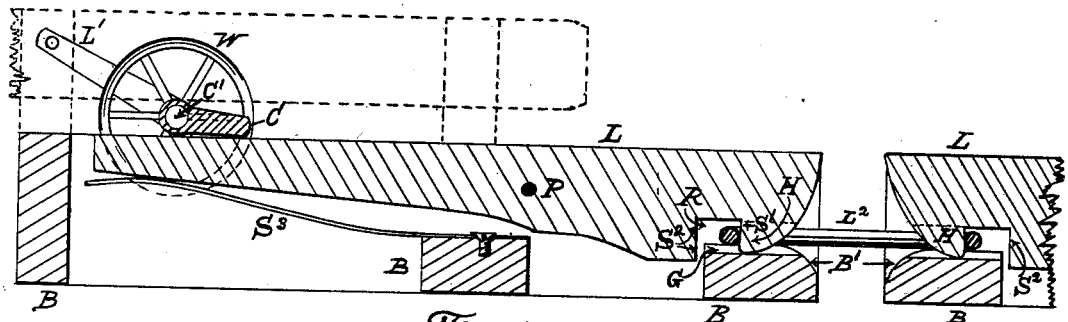

Fig. 1.

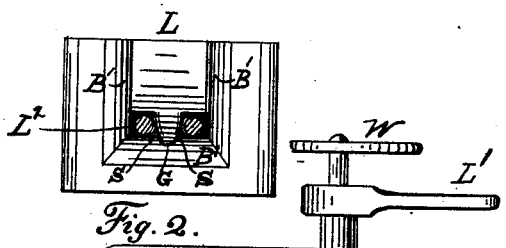

Fig. 2.

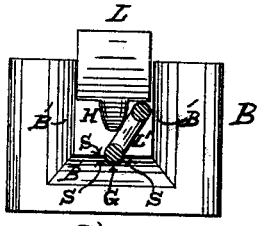

Fig. 3.

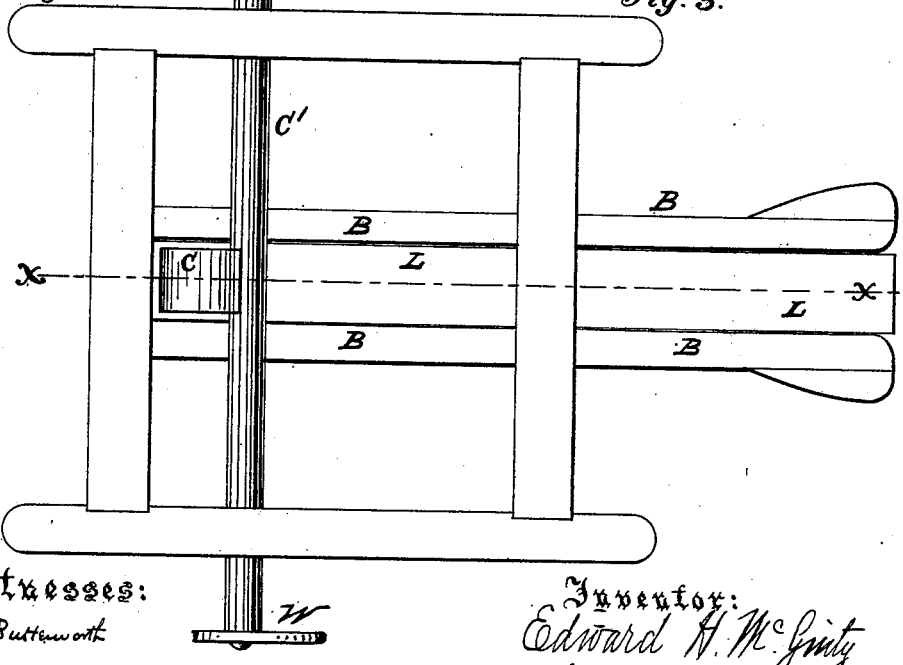

Fig. 4.

Witnesses:

Wm. H. Butterworth

George A. Hammel.

Inventor:

Edward H. McGinty

Francis Mead by

James A. Skilton Atty

UNITED STATES PATENT OFFICE.

EDWARD H. McGINTY AND FRANCIS MEAD, OF CENTRE JUNCTION, IOWA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **206,119**, dated July 16, 1878; application filed May 31, 1878.

To all whom it may concern:

Be it known that we, EDWARD H. McGINTY and FRANCIS MEAD, of the town of Centre Junction, in the county of Jones and State of Iowa, have invented a new and useful Improvement in Railroad-Car Couplers and Uncouplers, of which the following is a specification:

The invention relates to devices for connecting railroad-cars at their adjoining ends, consisting of a box draw-bar solid in three sides, and preferably made of cast-iron, provided on its fourth and open side with a pivoted lever hook-bar, to engage with a link attached in a similar manner to the adjoining car, preferably, or even when attached thereto in the ordinary manner with a common pin only.

It has been customary to employ a pivoted hook-bar secured in a draw-box, and in some instances in connection with a common link; but for some reason, although claimed to be simple, and capable in some instances of automatic coupling and in others of automatic coupling and uncoupling, it remains substantially the universal practice, with freight-cars at least, to employ the simple devices of common links held in the ends of the draw-bars of adjoining cars by pins inserted therein by the employé standing usually in a dangerous position between the approaching cars.

My invention differs from all these in having on the lower lip of the bell-mouthed draw-box and in its longitudinal center a groove and a beveled hook on the hook-bar, which rests therein when engaging the link. Its object is to provide means whereby the coupling, and also, in the case of a car leaving the track, the uncoupling, of cars may be automatically accomplished.

The invention consists in the combination of three elements, viz: a pivoted lever provided with a beveled hook, a bell-mouthed buffer and draw-bar, provided with a longitudinal groove in its lower lip, and a loop-link.

In the accompanying drawing, in which similar letters of reference indicate like parts, Figure 1 is a longitudinal sectional view on the line *x x*, Fig. 4. Figs. 2 and 3 are front views, the former representing the positions of the parts when coupled and the latter representing the positions of the parts in the act and instant of uncoupling; and Fig. 4 is a plan of the coupling devices attached to a frame representing the frame of the car.

B is the three-sided draw-bar box, and is secured to the frame of the car in any ordinary way. Its mouth is beveled on three sides, as shown at B′ B′ B′, Figs. 2 and 3, and B′, Fig. 1. In the center of its lower lip, and directly under the hook H, is the groove G. On each side of this groove those portions of the lower lip which are undisturbed or remain in forming the groove G constitute shoulders S S, which support the link L^2 when the parts are coupled, as in Fig. 2, and which detain the link when it is turned or twisted, as by the effect of the jumping of the track by the car, and in the act of uncoupling. The lever L has on its front or external end a narrow projection, H, beveled on its forward edge. At the rear of H is a cut or recess, R, which gives the form of a shoulder, S^1, to its rear edge, and makes it a hook, and also gives the form of a shoulder, S^2, to that part of the lever L which is just back of the recess R.

The object of the bevel of the front edge of the hook H is to receive the approaching end of the link of the adjoining car, and by sliding thereon to elevate the forward end of the lever L, overcoming the spring S^3, or any equivalent device, until the shoulder S^1 passes the inner edge of the end of the link L^2, when the hook H will drop by its own weight, if no spring be used, into engagement with the link, as shown in Fig. 1, which is its proper position when the whole device is in use as a coupler. The shoulder S^2 receives the end of the link after it has passed by the hook H, and prevents its further insertion, and sustains the pressure created when the other end of the link is in the act of automatic coupling. The lever L is pivoted at P, and of course moves in vertical lines.

The bill of the hook H drops into the groove G below the lower level of the link L^2 as it rests on the shoulders S S, and therefore it retains its hold of the link securely so long as the adjoining cars are all running on the same level. Any change, however, in the level of the car of more than the usual extent begins immediately to move the link out of its flat position, and to cant it to one side or the other,

as shown in Fig. 3. In this movement the lower side of the link bears first upon the adjacent shoulder S of the lip, and the upper side bears against the lever on the adjacent side of the hook H, thereby lifting the pivoted lever until the continued canting of the link, if it be continued, causes the lower limb of the link to drop into the groove G, when the link, being at the same time nearly disengaged from the hook H, is easily withdrawn from the mouth of the draw-box. The link L^2 is of the usual form, rounded on the ends where it comes in contact with the side lips of the draw-box.

C is a cam operated by a cam-shaft, C′, which latter is provided with hand-wheels W W at each side of the car, to enable the brakeman to depress the rear end of the lever L while standing beside the car in the act of coupling, and without danger. The effect of depressing the rear end of the lever L is, of course, to elevate its front end and open the way for the entrance of the link attached to an approaching car, without dependence upon the automatic action of the mechanism.

L^1 is a lever secured on the cam-shaft C′, to which a chain may be attached, and extended thence to the top of the car, where, by means of any of the ordinary appliances used for that purpose, the brakeman may control the coupling and uncoupling while on the top of the car.

We claim as our invention—

1. A pivoted lever, L, provided with a beveled hook, H, a bell-mouthed buffer and draw-bar, provided with a longitudinal groove in its lower lip, and a loop-link, L^2, all in combination, substantially as shown and described.

2. The hook H, bell-mouthed draw-bar B, with groove G and loop-link L^2, in combination.

3. The bell-mouthed buffer and draw-bar B, provided in its lower lip with the groove G, for engaging the link L^2 in the act of uncoupling.

4. The bell-mouthed buffer and draw-bar B, provided in its lower lip with the shoulders S S, for the purpose of supporting the link L^2, and also with the groove G, for the purpose of receiving the bill of a hook, H.

EDWARD H. McGINTY.
FRANCIS MEAD.

Witnesses:
OREN FREEMAN,
W. A. TIDBALL.