T. A. PALM.

Car-Coupling.

No. 219,301. Patented Sept. 2, 1879.

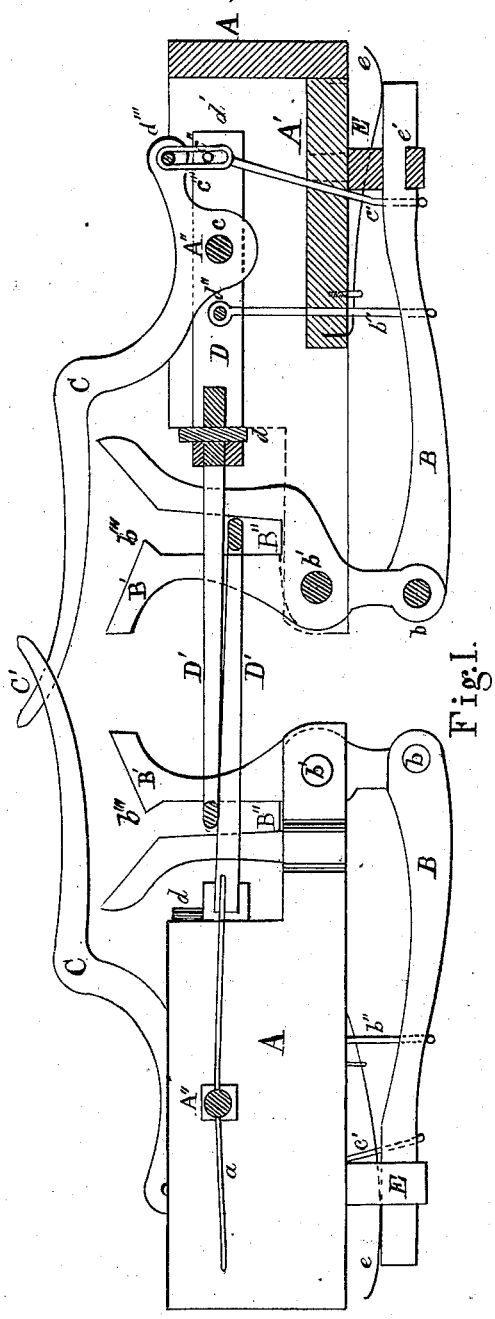

Fig. I.

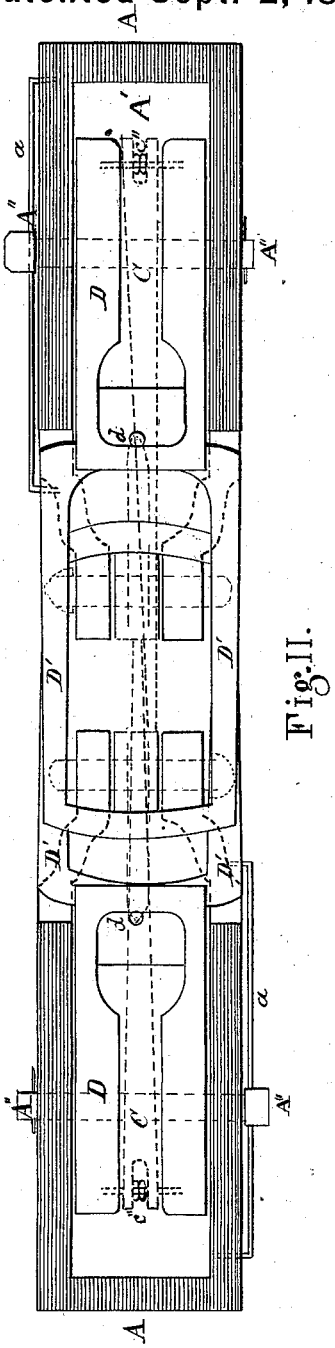

Fig. II.

Witnesses

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UNITED STATES PATENT OFFICE.

THEODORE A. PALM, OF DICKINSON TOWNSHIP, CUMBERLAND COUNTY, PA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **219,301**, dated September 2, 1879; application filed July 28, 1879.

To all whom it may concern:

Be it known that I, THEODORE A. PALM, of Dickinson township, in the county of Cumberland and State of Pennsylvania, have invented certain Improvements in Railroad-Car Couplings, of which the following is a specification.

This invention relates to that class of railroad-car couplings whereby cars can be automatically connected, but for uncoupling requires the use of hand or foot levers, all of which will be hereinafter more fully explained.

In the drawings, Figure 1 represents a side view of two couplers, one of which is in section. Fig. 2 is a plan view of Fig. 1, with some of the parts shown in broken lines.

A is the draw-head, to be secured between the timbers of the car. A′ is a bottom board of the draw-head A.

E is a bracket pendent from the bottom board, A′, having a mortise through it for the end of a lever, B, which is pivoted at *b* in the lower end of a pivoted coupling-hook, B′, which is U-shaped above, having the two branches widely beveled to admit the draw-bars of high or low cars.

The front prong of the coupling-hook is provided with a projection, *b‴*, which prevents the link D′, which is wider than the opening, from being disengaged from the hook while the latter is in a vertical position; but as the cross-section of the link D′ is thinner than the opening in the hook, the link can easily slide in or out when the hook is in a horizontal position, in which it must be for coupling or uncoupling.

The coupling-hook B′ is pivoted in the draw-head at *b′* in such a manner that when it is in a horizontal position, ready for coupling the cars, the draw-bar D′ enters the forked end and strikes against the inner part of the fork B″. The leverage causes the coupling-hook to turn on its pivot *b′* and assume the vertical position shown in Fig. 1. The lever B is moved with it, and its notched end catches upon the bracket E at *e′*, and holds the coupling-hook firmly in place until released.

C is a crooked lever placed in the top of the draw-head, pivoted at *c* in the rear part of the draw-bar by a pin, A″, which passes entirely through the draw-head A and draw-bar D. The end of the lever C′ extends above and beyond the end of the car-platform, passing the end of the corresponding lever of the other car, so that the operator can depress both levers with his foot or hand at the same time, to release the coupling-hooks of both cars.

The draw-bar is composed of a stock, D, which is pivoted in the draw-head A by a through-pin, A″, and the link D′, which is attached to D by a mortise at the inner end, and is held in place by a vertical pin, *d*.

The above description of parts applies to the couplings of both cars; and the draw-bars D D of both cars operate alike on the opposite coupling-hooks by means of the shackle-links D′ D′, which hook over the branches of the hook in front, (marked B′,) and out of which the links D′ cannot be forced while in a vertical position, owing to the projecting lip on B′. The length of these branches of the coupling-hooks admits of coupling cars of any heights.

At the end of lever C a rod, *c′*, is attached by a loop, *c‴*, which passes over a pin, *c″*, in the end of the draw-bar D. This rod *c′* is passed through the bottom A′ and under the lever B, so that when the lever C is depressed the rod *c′* lifts lever B out of its notch *e′* on E, when the pull of the cars will force the coupling-hooks B′ B′ into a horizontal position, and the links D′ D′ of the draw-bar will pull out of the coupling-hooks B′ B′.

The lever B is kept in its engagement with the bracket E by means of a strong spring, *e*. Attached to the draw-bar D is a straight spring, *a*, which passes through the end of the pivot-rod A″, and is fastened in the side of the draw-head A, which spring keeps the draw-bar firmly to its place, and yet is sufficiently yielding to permit the end of lever B to be raised out of the catch on E.

b″ is a rod, which is connected to draw-bar D by a pin, *d″*, and its lower end is bent under the lever B, so that when draw-bar D is raised the rod *b″* lifts lever B, just as rod *c′* does nearer the end. The purpose of this rod *b″* is to lift lever B out of its catch should a car or cars at any time run off the track. The change of level of the cars will cause draw-bar D to be lifted, and, consequently, uncatch lever B and allow the uncoupling to take place.

The loop c''' is made of such a length that when the rod c' is to be moved by means of the lever C, the lever B can be uncoupled from E without interfering with the draw-bar D; but should any car jump the track the change of level will cause draw-bar D to turn on its pivot-rod A'' and lift the outer end upward, and the link c''' will be pulled up, and thus carry rod c' and unlatch the end of B from its connection with E. Thus is provided the means for uncoupling the cars by any one or more of them jumping from the track, either when the fore end of D' is lifted in raising B by the rod b'', or, if that end be depressed, the outer end of D will be raised, and, consequently, B will be detached by rod c'.

I claim—

1. The U-shaped coupling-hook provided with the projection b''', to prevent the disengagement of the link, substantially as and for the purpose described.

2. The combination of the U-shaped pivoted coupling-hook, the link draw-bar D, and foot or hand lever C, substantially as and for the purpose described.

3. The combination of the U-shaped coupling-hook, the link draw-bar D, and sustaining-lever B with the notch e and bracket E, all substantially as and for the purpose described.

4. The combination of the U-shaped pivoted coupling-hook, draw-bar D, lever B, bracket E, connecting-rods c' c'', and lever C, substantially as and for the purpose described.

5. The combination of the draw-bar D D', connecting-rods b'' and c', sustaining-lever B, and pivoted coupling-hook B', substantially as and for the purpose described.

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Witnesses:

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