

J. H. GATES & J. H. ROOT.

Car-Couplings.

No. 147,001.

Patented Feb. 3, 1874.

fig. 1.

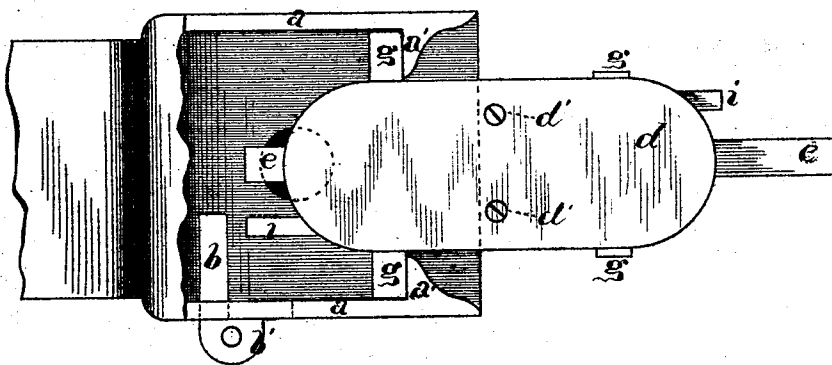


fig. 2.

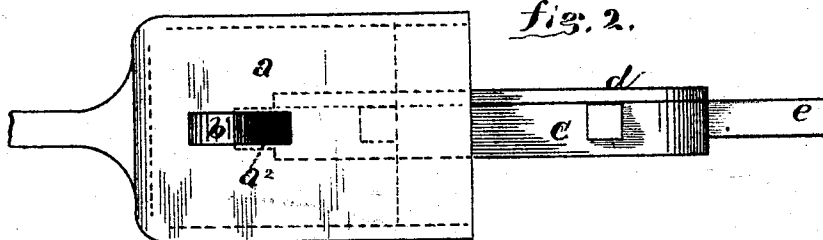


fig. 3.

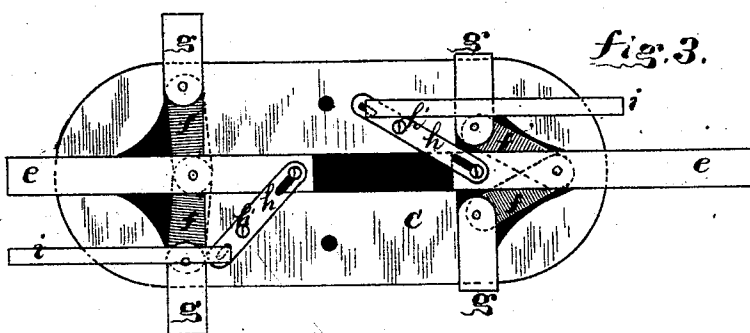
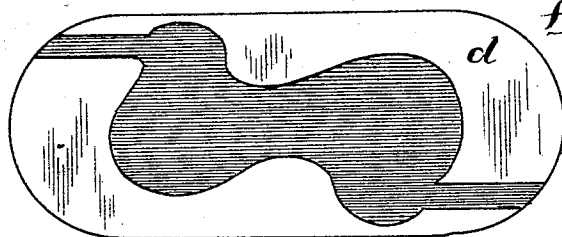


fig. 4.



Witnesses.

John Pollitt.
Wm. Edgar Simonds.

Inventors.

Julian H. Gates
James H. Root

UNITED STATES PATENT OFFICE.

JULIAN H. GATES AND JAMES H. ROOT, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **147,001**, dated February 3, 1874; application filed January 6, 1874.

To all whom it may concern:

Be it known that we, JULIAN H. GATES and JAMES H. ROOT, of Hartford, Hartford county, Connecticut, have jointly invented an Improved Car-Coupling, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a top view of a draw-head with the coupling proper inside; the top of the draw-head broken away so as to show the coupling. Fig. 2 is a side view of the draw-head and coupling proper. Fig. 3 is a top view, on an enlarged scale, of the body-plate of the coupling, with the cap-plate removed so as to show the mechanism of the coupling, which is mainly in the body-plate. Fig. 4 is a view of the under side of the cap-plate.

This invention is a device for the coupling of cars. The invention consists in the parts and combinations particularly specified in the claim at the end of this specification. What is not so claimed is supposed to be old.

The letter *a* indicates the body of the draw-head, having within it, upon the two sides, the ledges or shoulders *a'* *a'*. It also has within it the slide *b*, having a short forward-and-back horizontal play by means of the arm *b'* extending through the slot *a''* to the outer side of the draw-head. As this slide is used to trip or unlock the coupling from the draw-head, we call it a "tripping-slide." The coupling proper has a body-plate, *c*, in which is set the main part of its mechanism, and a cap-plate, *d*, covering such mechanism, and secured to the body-plate by any convenient means, as by screws *d'* *d'*. Two bunter-rods, *e e*, have longitudinal play in the body-plate, and projecting from the two ends of the coupling. They are connected, by toggle-joint arms *f f*, to the catch-bars *g g*, which have a play at right angles to the line of direction of the bunter-rods. When the two bunter-rods are pushed back and inward, their catch-bars are pushed outward, so as to project from the sides of the coupling. When the bunter-rods are moved outward, the catch-bars are moved inward. To the inner ends of the bunter-rods are pivoted the levers *h h*, swinging on the pivots *h'* *h'*, and from the outer ends of

these levers, tripping-rods *i i* run to outside of the coupling, they lying parallel, or nearly so, to the bunter-rods.

The operation of the coupling and draw-head is as follows: Suppose the coupling to be within a draw-head, as shown in Figs. 1 and 2, and suppose the car which carries this draw-head and coupling to be approaching another car having a similar draw-head: the projecting bunter-rod, after the coupling enters the draw-head of the car last referred to, strikes against the rear or back side of the draw-head, and, being thereby pushed in, it pushes out the two catch-bars with which it is connected, and as these catch-bars, when thus driven out, are within or back of the shoulders *a'* *a'*, the coupling cannot escape from the draw-head till these catch-bars are again drawn in. This can be effected by pushing inward the tripping-rod connected with this bunter-rod. Such pushing in of the tripping-rod is the office and purpose of the slide *b*, which, by means of the arm *b'*, can be operated from outside the draw-head. As this arm is pushed forward or toward the mouth of the draw-head, the slide will strike the tripping-rod, and, pushing it in, will cause it to push its bunter-rod outward, and thus pull its catch-bars inward, so that the coupling can be withdrawn from the draw-head.

Having shown how the bunter-rods operate the catch-bars by means of the toggle-joints, we do not mean to be confined to the use of a toggle-joint for this purpose, as it is evident that cams and other mechanical equivalents can be used in the place of the toggle-joint.

The draw-head has a hole through both its upper and under side, so that this draw-head can be used with a common coupling, if desired, the holes just referred to being for the common coupling-pin in such case.

We claim as our invention—

1. The coupling provided with the longitudinally-moving bunter-rods *e*, and with the laterally-moving catch-bars *g*, combined to be operated substantially as and for the purpose set forth.

2. The combination of the body of the coupling, the bunter-rods *e*, the toggle-arms *f*, the

catch-bars *g*, the levers *h*, and the rods *i*, all constructed and designed for operation substantially as shown and described.

3. In combination with a coupling having laterally moving and projecting arms *g*, a draw-head having the shoulders *a'*, as and for the purpose set forth.

4. The combination of the draw-head body *a* and the slide *b* within the draw-head, hav-

ing an arm, *b'*, projecting outside the draw-head, with the coupling having arms *g* and rod *i* constructed for operation substantially as shown and described.

JULIAN H. GATES.
JAMES H. ROOT.

Witnesses:

WM. EDGAR SIMONDS,
JOHN POLLITT.