

J. CURRAN.
Car-Couplings.

No. 154,650.

Patented Sept. 1, 1874.

FIG I

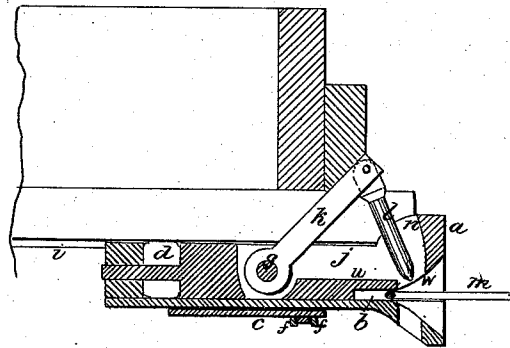


FIG IV

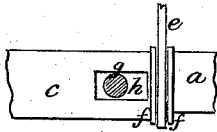


FIG V

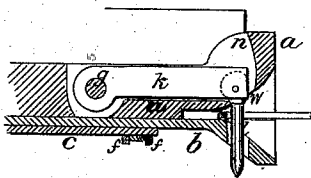


FIG II

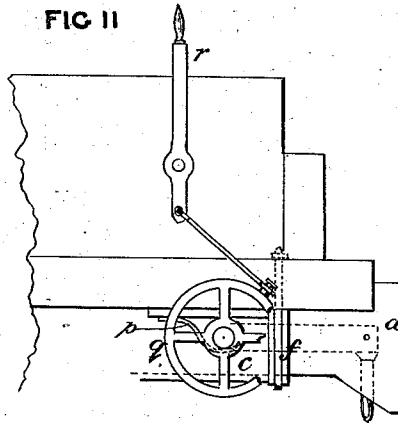


FIG VI

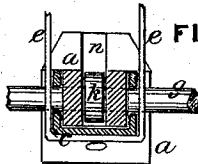


FIG VII

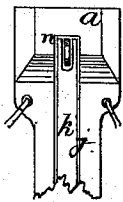
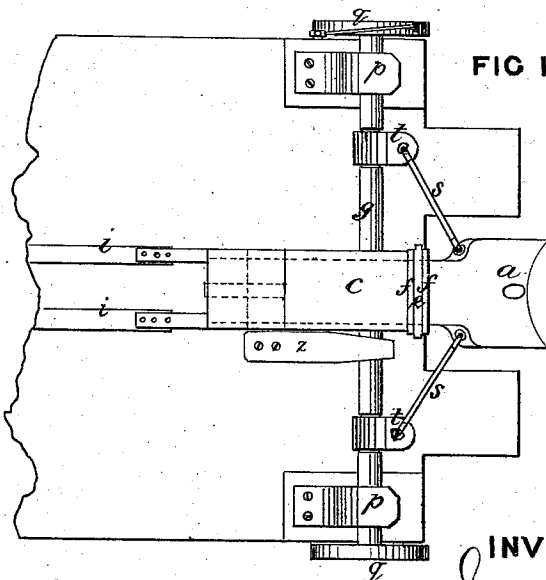


FIG III



WITNESSES

H. Rutherford
John C. Laing

INVENTOR

James Curran
by Johnson and Johnson
his Atty.

UNITED STATES PATENT OFFICE.

JAMES CURRAN, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **154,650**, dated September 1, 1874; application filed June 18, 1874.

To all whom it may concern:

Be it known that I, JAMES CURRAN, of Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Railway-Car Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

My improvement relates to that class of couplings for railway-cars in which the coupling-pin is carried by an arm operated by a rock-shaft; and the special features of my invention consist of the combination of a slotted shoe with the draw-head and a stirrup secured between flanges, whereby the shoe is firmly secured in place, and the draw-head rock-shaft allowed to have free movement by the slots of said shoe; also, in the combination of the operating rock-shaft with diagonal braces, and open bearings for the ends of said shaft, whereby it is braced and held in position with the draw-head.

In the accompanying drawings, Figure 1 represents a vertical section of a car-coupling device embracing my invention; Fig. 2, a side view of the same; Fig. 3, a bottom view; Fig. 4, a side view of the slotted shoe; Fig. 5, a section showing the link coupled and the coupling-pin lever down in the socket of the draw-head; Fig. 6, a cross-section of the draw-head and its shoe; and Fig. 7, a top view of the draw-head.

The draw-head *a* is cast in two parts, with a narrow throat, *b*, to hold the link horizontal, and an inclined mouth. It is secured within an iron shoe, *c*, so that it can be forced back against a rubber cushion, *d*, when the cars come together, to relieve the concussion. This shoe *c* is secured to the under side of the platform, and braced by a stirrup, *e*, fitted between flanges *f* on the sides and bottom of the shoe *c*, and it is by these shoes the cars are drawn, as the draw-heads are locked therewith by means of a rock-shaft, *g*, passing crosswise through the rear part of the draw-head, and through slots *h* in the sides of the shoe, and against the front ends of these slots *h* the rock-

shaft *g* is drawn with the draw-head, and thus the rock-shaft and the shoe serve to hold the draw-head in place. Any other additional means for securing these parts may be employed, if found necessary. As the pull of the cars is directly upon the shoes it is necessary that their connection with the car should be very firm, and for this purpose I connect the inner ends of the two draw-head shoes by means of bars *i* secured to the shoes, and bolted to the under side of the cars, thereby bracing the two shoes as one, and increasing the security of the fastening. The top of the draw-head has a slot, *j*, within which an arm, *k*, moves up and down upon its rock-shaft *g*, by turning the latter in its bearings in the draw-head; and the front end of this arm carries the coupling-pin *l*, which, as the arm descends, passes down through the link *m*, and makes the coupling. The slot *j* in the draw-head allows the lever to descend flush with its top, and the front end of the slot *j* terminates in a raised socket, *n*, within which the pin end of the arm *k* moves, and is confined when the coupling is made, thereby shielding the arm from accidental displacement, and forming a guide to hold the pin in position always to descend in the openings in the draw-head. The pin is pivoted to the arm, and held, to allow it to descend in a line with its receiving-opening; but when raised it will be held in an inclined position, as shown in Fig. 1.

The pin-arm being secured to work in a slot on the top of the draw-head, puts it out of the way, and makes it more firm and steady in its movement with its acting end held between the walls of the socket, which thus act as guards both to the arm and its pin, and give the advantage of a short movement to the pin, as the arm which carries it is pivoted nearly centrally in the draw-head, so that the range of movement in coupling and uncoupling the pin is comparatively small, and makes a very sure coupling, the arm and its pin entering the draw-head together.

The rock-shaft *g* passes through the draw-head and its shoe, and is fitted into open bearings *p*, on the under side of the platform, to render it steady; and a hand-wheel, *q*, is secured on each end of the shaft, by which to operate the coupling; and a lever, *r*, may be

connected to one of these hand-wheels, whereby the coupling may be operated from the top of the car. To keep the rock-shaft in line, and brace it to the draw-head, two braces, *s s*, extend from each side of the draw-head to boxes *t* on the rock-shaft, so that the latter can be turned and moved in and out, and carry the bracing-arms *s* and boxes *t* with it.

It is, of course, understood that each end of the car is provided with the same coupling apparatus, and with the flaring mouth, and the coupling-pin passing down through the narrow throat, cars of different heights can be coupled, and upon short curves.

It will be observed that the arm *k*, in being coupled, is brought down upon a bed, *u*, in the draw-head, and that the upper opening, *w*, through which the coupling-pin moves, is made in this bed, and that the narrow throat *b* for the link is made beneath this bed, whereby the link-seat *b* and the arm-seat *u* are separated, and secured in different recesses within the plane of the draw-head.

When the arm *k* is raised the pin is held up for the entrance of the link by means of a

spring, *z*, arranged to bear upon the rock-shaft.

I claim—

1. The combination, with the draw-head, of the shoe *c*, the stirrup *e*, flanges *f*, and the connecting and bracing bars *i*, whereby the shoes are firmly braced to the car and to each other, as set forth.

2. The slots *h* in the sides of the shoe *c*, in combination with the rock-shaft *g* and the draw-head *a*, whereby the rock-shaft and draw-head are allowed to have a certain movement, and the rock-shaft made to draw against the ends of the slots, as set forth.

3. The combination of the rock-shaft *g* with the braces *s s* and the open bearings *p p*, whereby the shaft is braced and held in position with the draw-head, as set forth.

In testimony that I claim the foregoing I have affixed my signature in presence of two witnesses.

JAMES CURRAN.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.