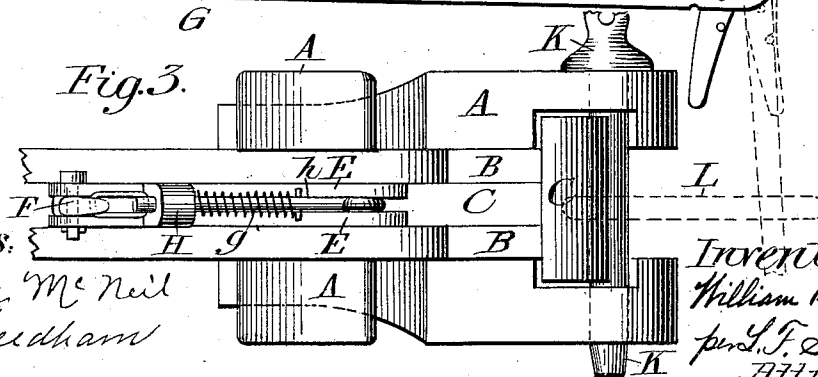
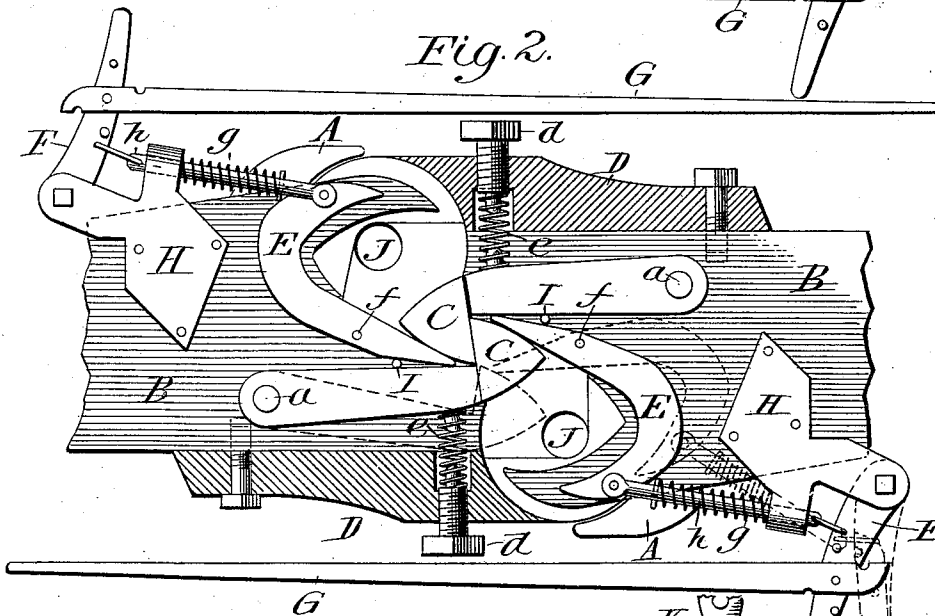
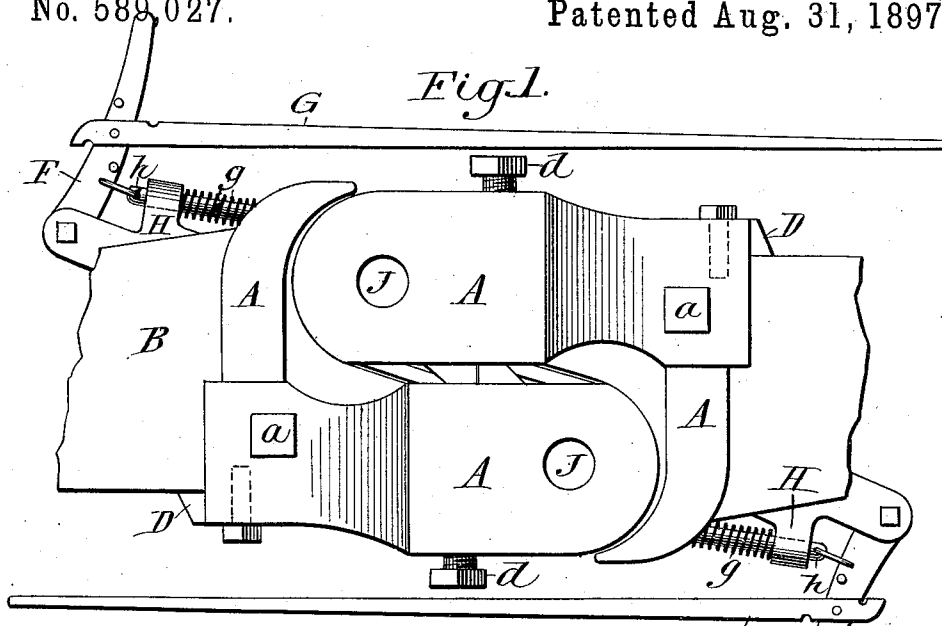


(No Model.)

W. B. RICE.
CAR COUPLING.

No. 589,027.

Patented Aug. 31, 1897.



Witnesses:
Joseph McNeil
J. C. Needham

Inventor
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per L. F. Speed
Att'y

UNITED STATES PATENT OFFICE.

WILLIAM B. RICE, OF MODESTO, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 589,027, dated August 31, 1897.

Application filed September 9, 1895. Serial No. 562,466. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. RICE, a citizen of the United States, residing at Modesto, in the county of Stanislaus, State of California, have invented a new and useful Automatic Car-Coupler, of which the following is a specification.

My invention relates to improvements in automatic car-couplers in which cars automatically couple and in case of derailment automatically uncouple; and the objects of my invention are, first, to provide a car-coupler capable of coupling the cars automatically when switched together without the intervention of any person to manipulate it or the necessity of going in between the cars to complete the coupling and which can be attached to passenger-coaches and box and flat cars and also used in connection with the link-couplers now in use; second, to provide a coupler which can be uncoupled without the necessity of going in between the cars to do so, either from the outside of the cars, from the platform, or from the top of box-cars, by means of levers attached to the coupler; third, to provide a coupler which in case of derailment of any of the cars will automatically uncouple the derailed car. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal section of the entire coupler, showing both sections coupled, and is an outside or top view. Fig. 2 is also a horizontal section, but cut through the center, showing in detail the mechanism of the invention. Fig. 3 is a vertical section showing the attachment of the link-coupler and also the grip-coupler.

Similar letters refer to similar parts throughout the several views.

The plate A A constitutes the outside or frame of the coupler and acts as a buffer when the cars are coupled or switched together. It is hollowed out, so as to permit the free play of the buffer of the opposite coupling, and by reason of this curve or hollow aids in holding together the hooks C when coupled, the curve preventing the springing apart of the couplers. This curve also plays an important part in the accidental uncoupling, hereinafter ex-

plained, by acting as a lever, when the two parts are turned at a sufficient angle, to pry apart the hooks C.

B is the shaft by which the coupler is attached to the cars.

C C are the grip or draw-hook couplers by which the cars are coupled. They are fastened to the shafts B B by the pins *a a*, which permit sufficient revolution to allow coupling and uncoupling. Set-screws *d d* pass through the outside plate D (which may be in one piece with one of the shafts B or outside plates A) and by means of the spiral springs *e e* regulate the pressure upon the grip-hooks C C and hold them together in place when the cars are coupled. The springs can be tightened or relaxed by means of the screws. While these springs hold the grip-couplers in place, they allow sufficient play to permit the grips to spring apart when the cars are run together for the purpose of coupling, pushing the grips together again when they have passed far enough to couple.

E is the dog which uncouples the grip. It is fastened to the shaft B by the rivet or pin *f*, upon which it revolves. It is operated by means of the levers F and G, which extend to the outside of the car or which may be carried by a change in the direction of the lever to the top of a box-car. *g* is a spiral spring surrounding the rod *h*, which attaches the dog E to the levers F and G. The spring throws the dog back in place, out of the way, when the lever is released. The dog E uncouples the grip by means of the levers F and G, and in conjunction with the effect of the pin I when the cars are at an angle of about forty-five degrees, as by derailment, automatically uncouples them. When the levers F and G are fastened back, the dog E holds the grip-coupler in such a position that in switching together the cars do not couple.

H is a plate fastened to the shaft B, to which are attached the levers F G and through which the rod and spring *h* and *g* play.

I is a pin passing through the shaft B and into the plates A A, by means of which the grip-coupler C is prevented from being pushed by the spring *e*, so as to prevent uncoupling when the dog E pushes away the reciprocating

ing grip hook or coupler C. It, with the spring *e*, limits the play of the grip-coupler C on either side and keeps it in place, so as not to interfere with the automatic coupling. It is owing to the action of this pin upon the hooks C, in conjunction with the dog E and the lever-like action of the curved buffer A, that when the coupling is turned at a sufficient angle, as by the derailment of a car, the coupler automatically or accidentally uncouples, thus releasing the cars remaining upon the track.

J is a hole through the plates A A, (the shafts B B do not extend that far,) through which a pin K may pass to attach this coupler to an ordinary link-coupler L, so that a car furnished with this coupler may couple with one furnished with the old-style link-coupler.

I am aware that prior to my invention automatic couplers have been in use with grip hooks or couplers in somewhat the same shape as those in my invention, and therefore do not

claim, broadly, an invention of couplers in the shape of my grip-coupler C; but

What I do claim as my invention is—

1. In a car-coupling, the combination of a vertical hook C, retired within its outside frame A, pivoted upon its shaft B attached to the car, and provided with a spring *e* and a rivet I, a curved or hollowed outside frame or buffer A, provided with a hole J and a pin K for a link-coupler, and a dog or lever E, pivoted to the said shaft B, operated by means of a spring-rod and pivoted levers *h*, *g*, F and G, substantially as described.

2. The combination of a grip-hook C, a hollowed or curved outside frame or buffer A, a rivet I and a dog E riveted to said shaft B, substantially as and for the purpose specified.

WILLIAM B. RICE.

Witnesses:

N. E. LEEK,

T. E. B. RICE.