A. G. SAFFORD.

Car Coupling.

No. 6,947. Patented Dec. 11, 1849.

Fig. 1.

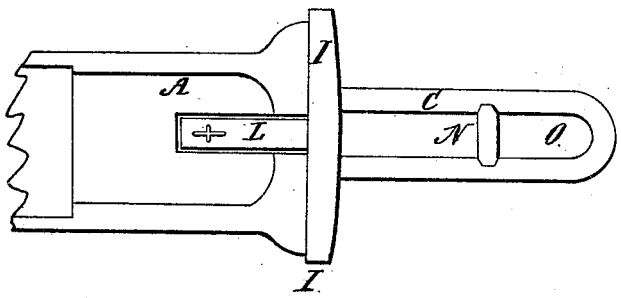


Fig. 2.

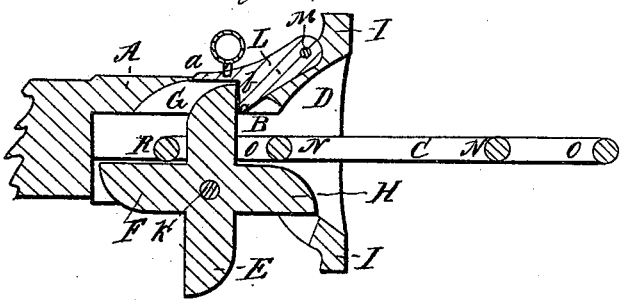


Fig. 3.

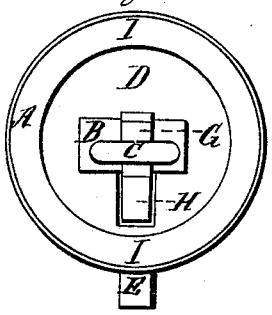
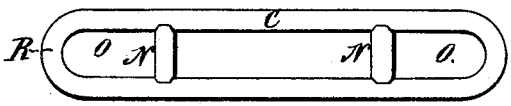


Fig. 4.



UNITED STATES PATENT OFFICE.

ALBERT G. SAFFORD, OF BOSTON, MASSACHUSETTS.

SELF-ACTING CAR-COUPLING.

Specification of Letters Patent No. 6,947, dated December 11, 1849.

To all whom it may concern:

Be it known that I, ALBERT G. SAFFORD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new or Improved Coupling for Connecting the Cars of a Railway-Train; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a top view of my improved coupling and coupling link as connected together. Fig. 2 is a vertical central and longitudinal section of the same. Fig. 3 is a view of the front end of the coupling box.

In the said figures A denotes the box of the coupling, the said box being made with a suitable socket or passage B, the same being for the purpose of receiving the coupling link when introduced into it. The said socket is provided with a flaring mouth or opening D, in order to insure the admission of the coupling link into it. The said box B is to be attached to one end or at each end of a car and generally speaking to the draw spring thereof, the front part I, I of the box being made sufficiently large or of proper diameter to operate as a buffer. The horizontal length of the socket B should be made equal to or a little greater than half the length of the connecting link C, the same being to allow the front I I, of the box A, to come in contact with the corresponding part or buffer of the car succeeding that to which the coupling box is applied, one-half of the link C being within the socket of coupling box of the said succeeding car.

A series of four arms E, F, G, H is applied to the box A, as represented in the drawings, and in such manner as to revolve on a common pin or axle K, extended through the lower part of the box A, the box being cut out or so formed as to permit the free revolution of the series of arms on their common pin R. A pawl L made capable of being raised and depressed on a pin M, is fixed in the upper part of the box A, and with respect to the series of arms E, F, G, H, as seen in the drawings, the box A, being so formed or made as to allow of the said pawl being raised or lowered as circumstances may require. The link C is provided with a cross bar N, or other equivalent placed at some distance from each end of it, there being two of the said cross bars, as seen in the drawings, and particularly in Fig. 4, which denotes a top view of the link. The pawl L is provided with an angular notch *a*, *b*, *c*, which receives the top part of either one of the arms when said arm is uppermost.

While one end of the link C is forced through the opening D, into the socket B, the entering end of the said link strikes against that arm E, F, G, or H, which may be uppermost, and as the link advances it will so act against the arm as to force it over and down from a vertical toward and into horizontal position. In doing this it will revolve the series of arms, and thereby elevate that arm which is nearest to the middle part of the link or what in Fig. 2 is termed the arm G. While such arm is being elevated it will pass through the space or opening O, which is made in the link, between the part P and the adjacent cross bar N. I would here remark that if the link is made solid with the exception of two openings O, O, it will answer as well as if made with two cross bars N, N.

While the said arm (before mentioned as G,) is in the act of rising upward through the space O, it is met by the cross bar N, or rear end of the space O and forced forward against the underside of the pawl L and so as to elevate the pawl until the arm passes by the side *b*, *c*, of the notch *a*, *b*, *c*, which being done, the pawl will drop downward by its own gravity, and in such manner that the part *a*, *b*, of the notch will be received upon or rest on the upper end of the arm as seen in the drawing. This being accomplished the link C becomes connected to the box A, and when drawn forward its end P, is carried against the arm which extends through the opening O and abuts against the pawl. By lifting up the pawl so as to elevate the notch of it entirely above the arm, the link may be disconnected from the box.

I lay no claim to the combination of a tumbler cylinder or roller a catch hook, a coupling bar and box, as combined constructed, and alleged to have been invented by A. G. Heckrotte of Washington, D. C., the same being described in a paper termed the "Scientific American" published at New York or Washington on the twenty-ninth day of January, eighteen hundred and forty-eight, nor do I claim the combination of a hook box and coupling link as described in

the application for a patent which Daniel R. Pratt of Worcester has lately made to the Commissioner of Patents at Washington, and as lately patented by him in England, but

What I do claim as my invention is—

The revolving series of arms E, F, G, H, and the link C, constructed with an opening O or cross bar N, at one or each of its ends in combination with the box A and pawl L all substantially as above specified.

In testimony whereof I have hereto set my signature this thirteenth day of March, A. D. 1849.

ALBERT G. SAFFORD.

Witnesses:

R. H. EDDY,

F. GOULD.