

G. P. SPOONER.  
Car-Couplings.

No. 150,367.

Patented April 28, 1874.

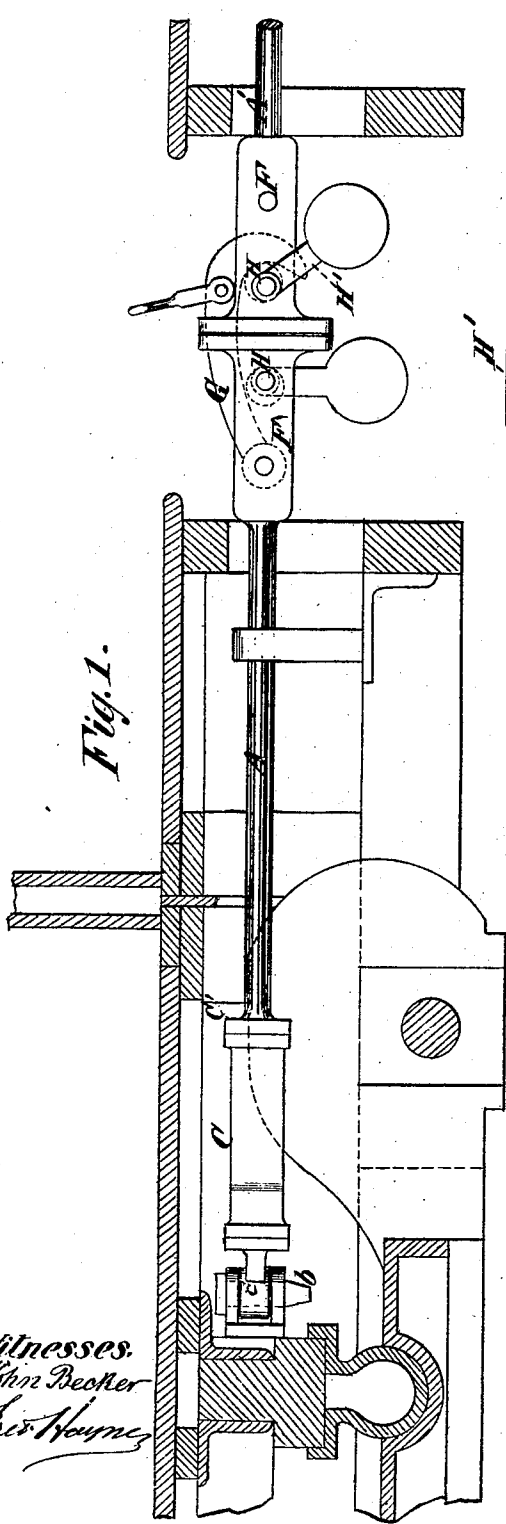


Fig. 1.

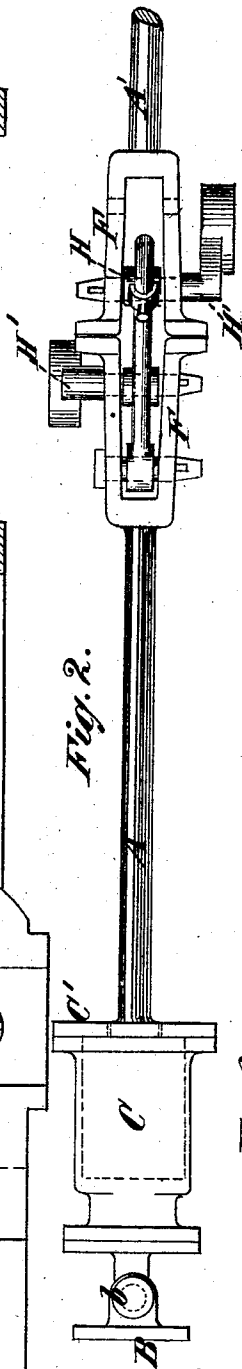


Fig. 2.

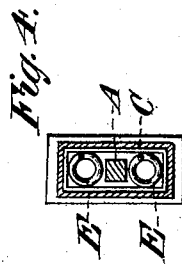


Fig. 3.

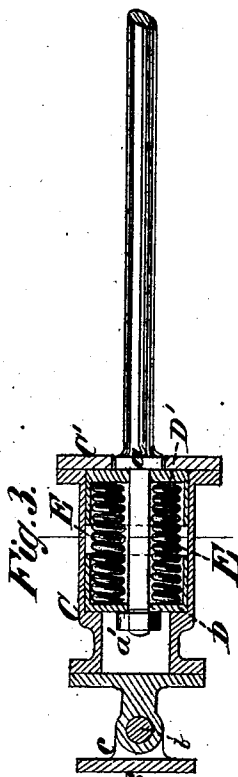


Fig. 4.

Witnesses.  
John Becker  
Chris Hynes

George P. Spooner  
by his Attorneys  
Brown & Allen

# UNITED STATES PATENT OFFICE.

GEORGE PERCIVAL SPOONER, OF PORTMADOC, ENGLAND.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **150,367**, dated April 28, 1874; application filed September 23, 1873.

*To all whom it may concern:*

Be it known that I, GEORGE PERCIVAL SPOONER, of Portmadoc, in the county of Carnarvon, England, engineer, have invented a certain Improved Coupling and Buffing Apparatus for Railway-Carriages, of which the following is a specification:

This invention relates to an improved coupling and buffing apparatus, in which the coupling-rod is caused to act both as a buffer-rod and as a draw-bar.

In the accompanying drawing, Figure 1 is a side elevation of a coupling apparatus as applied to a carriage-frame fitted with a bogie-carriage, and Fig. 2 is a plan view of the same detached. Fig. 3 is a horizontal section through the spring-box, and Fig. 4 is a transverse section of the same.

A A' are rods forming at once the buffer-rods and draw-rods of two adjoining carriages. Near the point of its connection with or at the center of motion of the bogie-carriage I make fast a lug, B, to receive a vertical coupling-pin, b, which, passing through an eye, c, of wrought-iron, bolted to a cast-iron plate forming the end of a spring-box, C, secures this spring-box to the carriage-frame, and allows it to swing freely or yield to deviations in the direction of the draft without affecting the carriage to which it is attached. The spring-box is cast with a shoulder, against which bears one of two hollow pistons, D D', the latter of which bears against a cover, c', bolted to the spring-box C. These pistons are held apart by coiled or other springs E E, which, with the pistons, are retained within the box by the cover c'. A central opening is made in this cover to allow a shoulder, a, of the coupling-rod to play through it, and bear upon the back of the adjacent piston D'. A squared continuation of this rod passes through the two pistons, and in rear of the piston D it receives a retaining-nut, a'. The opposite or outer end of each coupling-rod is formed with a U-shaped head, F, which heads are intended to act as buffer-heads and to be coupled up in pairs, and held in close contact. These heads are similarly fitted with two transverse pins, the innermost of which forms the pivot for a connecting or draw hook, G, and the other car-

ries or is formed with an eccentric, H, for receiving the hook of the adjacent head (when it is desired to couple up the carriages) and retain a hold thereof. To effect the holding of the hook, the pin is fitted with a weighted arm, H', which, when allowed to drop toward a vertical position, will bring round the eccentric, and cause it to bind upon the hook overlying the coupling-pin.

The action of this coupling and buffing apparatus is as follows: When pressure is put upon the buffer-head, that pressure will be transmitted through the shoulder a of the rod A to the piston D', and the coiled springs in the spring-box will be compressed. When the rod acts as a draw-bar, the nut a' on its extremity will press against the rear of the piston D, and in like manner the springs in the spring-box will be compressed. To facilitate the making up of trains, I propose to fit the draw and buffer rods of all the carriages similarly with a draw-hook and weighted eccentric binder, as indicated by dots in Fig. 1.

I am aware that the draw-bar or bumper has been arranged on a car, so as to have a lateral yielding motion; but such of itself is not claimed by me.

Having now set forth the nature of my invention of improved coupling and buffing apparatus for railway-carriages, I wish it to be understood that I claim—

1. The lug B, eye c, and coupling-pin b, combined with the spring-box C, for attaching said box to the carriage, substantially as described.

2. The lug B, eye c, coupling-pin b, and box C, combined with the movable pistons D D', and springs E E on opposite sides of the bar A, all constructed to operate substantially as described.

3. The draw-hook G and weighted eccentric H, in combination with the buffer-heads of the rods A A', in the manner and for the purpose above described.

London, August 15, 1873.

GEORGE PERCIVAL SPOONER.

Witnesses:

H. K. WHITE,  
66 Chancery Lane, London.

J. B. WYNN,  
24 Royal Exchange, London.