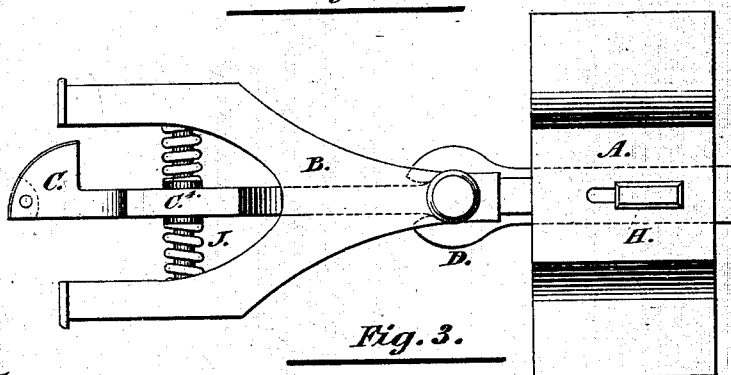
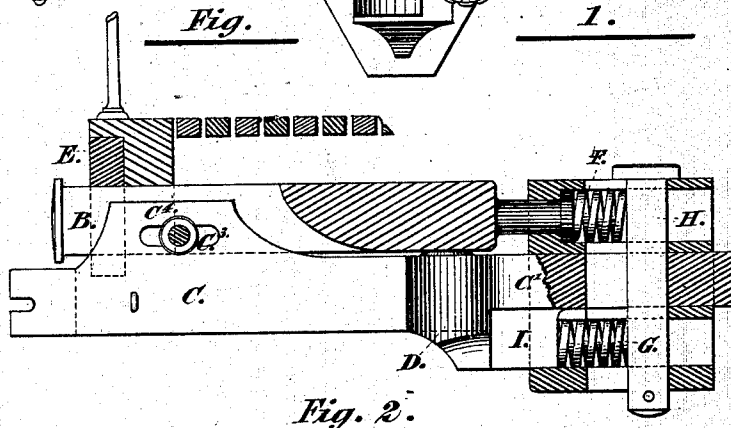
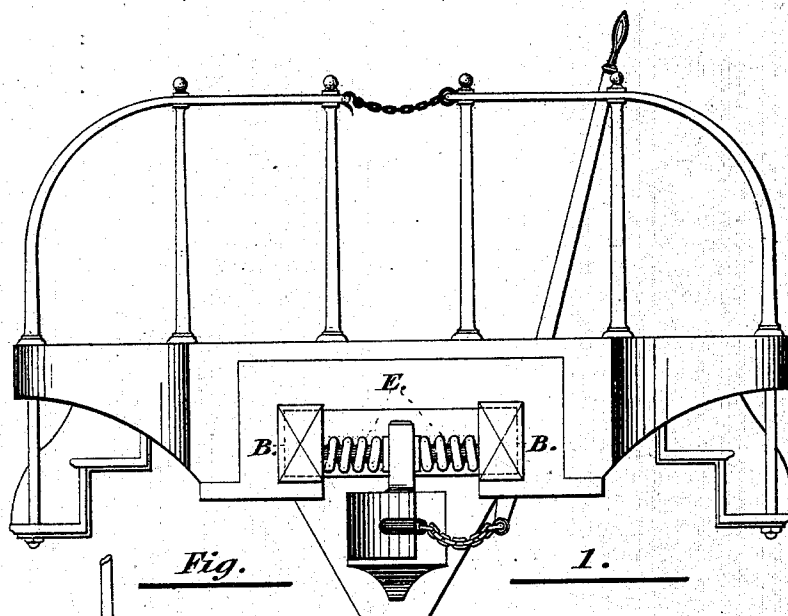


A. WILLSON.
Car-Couplings.

No. 146,154.

Patented Jan. 6, 1874.



Witnesses:

George Bird
Hugh Bird

Inventor:

Alfred Willson.
per H. B. Kidout and Co. attys

UNITED STATES PATENT OFFICE.

ALFRED WILLSON, OF BELL EWART, CANADA, ASSIGNOR OF PART INTEREST TO E. M. LAW AND P. E. DRAKE, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **146,154**, dated January 6, 1874; application filed January 16, 1873.

To all whom it may concern:

Be it known that I, ALFRED WILLSON, of the village of Bell Ewart, in the county of Simcoe, in the Province of Ontario, Canada, have invented certain Improvements in Car-Couplers, of which the following is a specification:

My invention relates to certain improvements in self-acting car-couplers, by which they can be made more cheaply, and work with greater efficiency, the buffers and draw-bars working independently and conjointly, operating together in such a manner that the greater the draft on the said draw-bars, the harder the corresponding buffers press against each other, thereby making the whole train one continuous piece, and preventing that lateral and swinging motion, so disastrous to both the rails and wheels, and so extremely disagreeable to the passengers.

Figure 1 is an end elevation of platform, showing my coupling attached. Fig. 2 is a longitudinal sectional elevation of same. Fig. 3 is a plan view.

Like letters indicate like parts in all the figures.

A is the back casting or shoe, which, bolted to the bottom of the car, supports the back end of buffer and draw-bar, and contains the springs for actuating the same, as hereafter described. B is the buffer, which can either be made single or in the shape of a fork, and forming a double buffer, as shown in the drawing. C is the draw-bar, which is made in two parts, connected together by a knuckle-joint, D. E is the front casting or plate, bolted, like A, to bottom of car. F and G are the buffer and draw-bar springs. They are spiral, and fit into recesses made to receive them in the casting A, and back end C¹ of the draw-bar passes between them, as shown; and they are held in position by the cotter H, which passes through an oblong hole in the casting A, and through the back end C¹ of the draw-bar, as will be clearly understood by reference to Fig. 2. The web I, on C¹, fits through a slot in the casting A, and presses against the spiral spring G. The buffer B enters the casting A, and fits against a washer, which has been previously placed into the recess made for the spiral F.

It will thus be seen that the buffer B may be

made to recede without affecting the draw-bar C; but it is again forced forward when the draft is upon the said draw-bar.

I have mentioned before that the draw-bar is divided into two parts, which I have marked, respectively, C and C¹. They are connected together by a knuckle-joint, D. This kind of joint permits the draw-bar C to have the lateral motion necessary in order to couple and uncouple, as hereafter described, while at the same time it enables the back end C¹ of the draw-bar to remain perfectly straight, notwithstanding the motion aforesaid of its front half. J is a rod, fitting across and into the fork of the buffer B, as shown. This rod passes through an oblong hole or slot, C², in a projection, C³, formed on the upper side of the draw-bar C, as may be seen by reference to Fig. 2. This rod, besides serving as a support for the draw-bar, has upon it two springs, E, one on either side of that portion of the draw-bar through which the said rod J passes. These springs keep the bar C always straight; thus, when the noses of the bars about to couple come together, their shape is such (see drawings) that the bars are sprung apart, pass the highest point, and clasp the springs E, connected to each bar, as described, following them both toward the center, and, consequently, together.

I do not claim the hooked-shaped draw-bar, as the same is well known; therefore it is not necessary for me to show the manner in which the draw-bars hook together, nor to describe the manner in which the cars couple together. It is sufficient to say that, when coupling, the buffers B come together before the noses of the coupling-bars C pass, as described, the spring F, behind the said buffers B being compressed till the bars C clasp. Thus, even when the cars are standing still, their respective buffers press tightly together; but when the cars are in motion, and the draft is upon the draw-bar C, the buffers are drawn still tighter together, the connection between the draw-bar C and buffer B being such as before described. Thus the connection between the two cars is made more rigid as the draft on the draw-bars C is increased. This peculiarity I consider of the greatest importance.

My whole invention consists in constructing a car-coupler which will not only be self-act-

ing, but which will couple the cars firmly together, their rigidity being increased in proportion to the draft on the draw-bars, thus binding the train closely together, and preventing, in a great measure, lateral motion, which is, as before stated, so disastrous both to the roadway and wheels.

I claim as my invention—

1. The combination of the buffer B, casting A, draw-bar C D C¹ I, cotter H, and springs F and G, relatively arranged so that the draw-bar and buffer will operate independently as

the cars couple, but conjointly as the pulling strain is exerted upon the draw-bar, substantially as and for the purposes specified.

2. The combination of the draw-bar having the slotted projection C⁴ with the bumper B and centering devices J, substantially as set forth, for the purposes specified.

Toronto, 8th January, 1873.

ALFRED WILLSON.

Witnesses:

J. HERBERT BARTLETT,
DONALD C. RIDOUT.