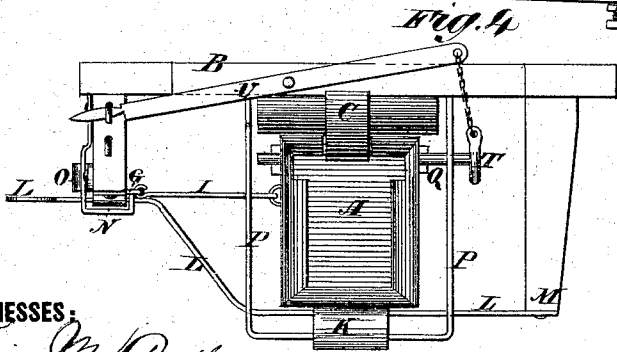
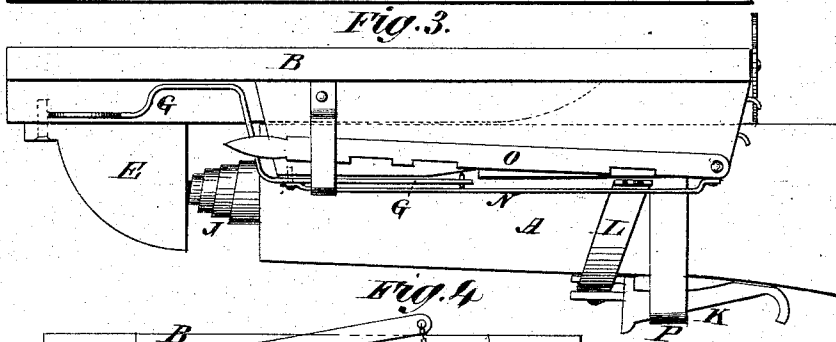
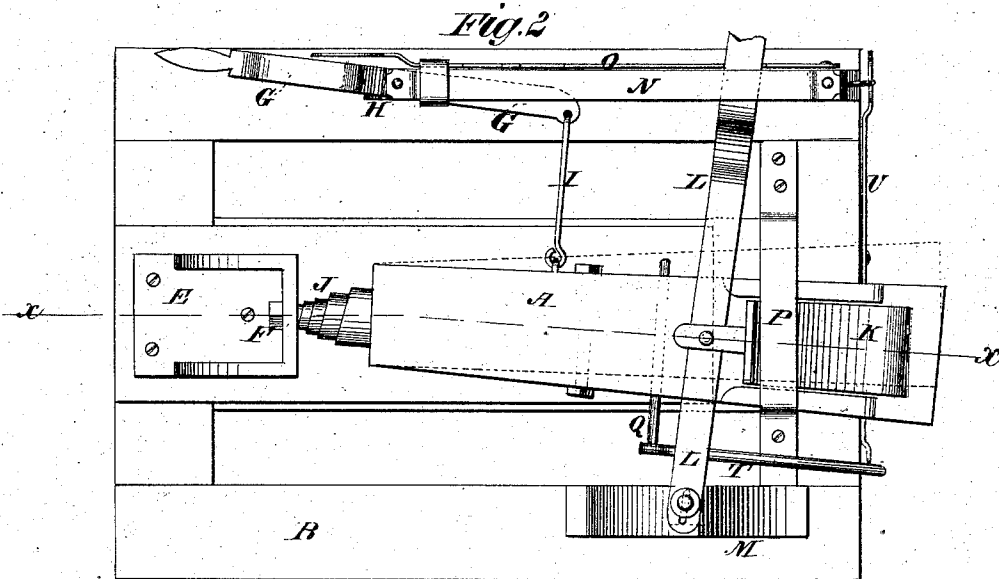
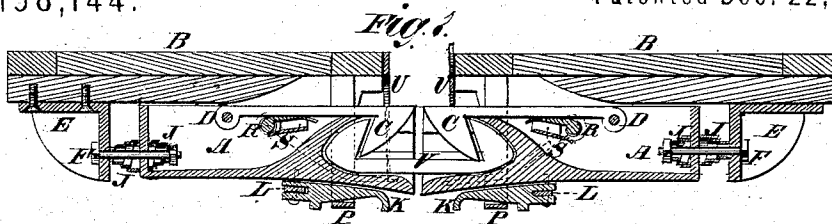


Car-Couplings.

No. 158,144.

Patented Dec. 22, 1874.



WITNESSES:

Francis McArdle.
A. J. Terry

INVENTOR:

INVENTOR:
L. Gurplice
BY *Munn*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES SURPLICE, OF LUDINGTON, MICHIGAN.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **158,144**, dated December 22, 1874; application filed October 24, 1874.

To all whom it may concern :

Be it known that I, CHARLES SURPLICE, of Ludington, in the county of Mason and State of Michigan, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

In the accompanying drawing, Figure 1 represents a longitudinal section taken on the line *x x* of Fig. 2. Fig. 2 is a top or plan view. Fig. 3 is a side view. Fig. 4 is a front-end view.

Similar letters of reference indicate corresponding parts.

A is the draw-head, which is made adjustable laterally and vertically. In Fig. 1 the two parts of coupling are seen connected together as when in use, these parts being duplicates of each other. B is the frame-work of the truck. C are the coupling-hooks, attached at the points D D. The draw-heads are connected with fast brackets E by loose bolts F, which allow them to be turned in any direction to accommodate the position of the opposing coupling. G are levers, by means of which the draw-heads are moved laterally. The fulcrum of this lever is at H, and it is attached to the draw-head by the rod I. J are scroll-springs at the back ends of the draw-heads, which give them flexibility when they come together in coupling the cars. The draw-heads are allowed to rise by means of the wedge-shaped keys K, which are made to slide on the top sides of the draw-heads, and are operated by the lever L, the fulcrums of which are on the stands M. The other ends of these levers work beneath the horizontal

bars N and on the horizontal levers O, which levers are recessed to receive the levers L and hold them in any desired position. P are angular plates attached to the frame, which extend up over the draw-heads. The keys K work under these plates, and the sides of the plates limit the lateral movement of the draw-head. The coupling-hooks C are raised by means of shafts Q, which have upon them arms R. The keepers S are on the hooks. T are arms on the ends of these shafts, which are for raising the hooks C by the levers U at the front ends of the coupling. V is the coupling-bar, which is made to engage with the hooks C, as seen in Fig. 1. This coupling-bar is retained in a horizontal position by the shape of the cavity in the draw-head and the form of the hook, so that the cars will couple automatically when they come together.

An ordinary coupling-link may be used in place of this coupling-bar in case of necessity.

I do not confine myself to the precise construction and arrangement of all the parts shown, as variations may be made without departing from my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the key K, plate P, stand M, and lever L, for the purposes described.

2. The shaft Q, arm T, and lever U, in combination with a hook, C, as and for the purposes set forth.

CHARLES SURPLICE.

Witnesses:

J. C. TOTMAN,
F. B. PIATT.