J. C. MITCHELL.

CAR-COUPLING.

No. 186,057. Patented Jan. 9, 1877.

FIG. 1

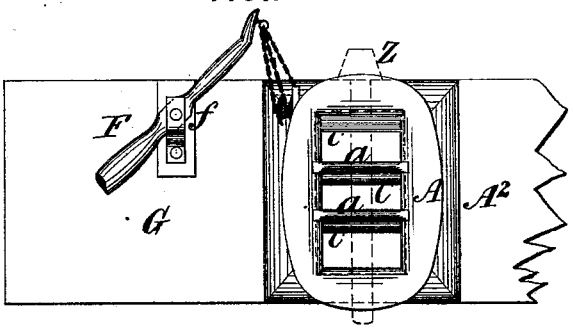


FIG. 2

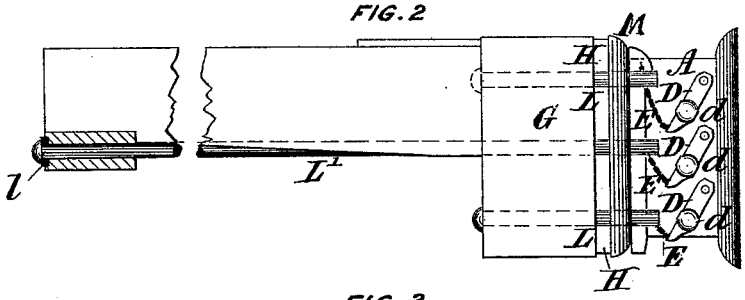


FIG. 3

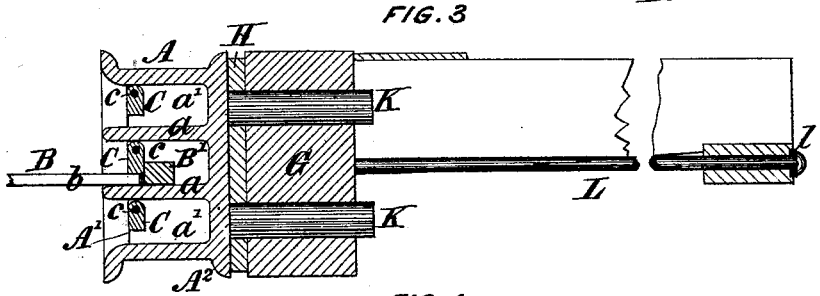
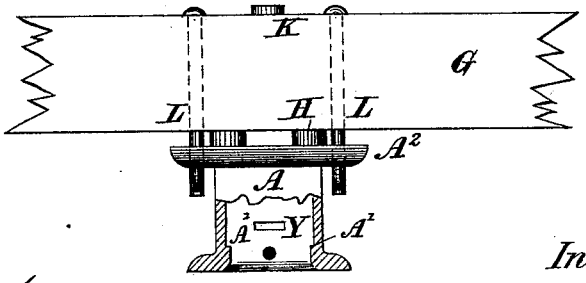


FIG. 4



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UNITED STATES PATENT OFFICE.

JAMES C. MITCHELL, OF LANCASTER, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES WILLIAM ROBY, OF SAME PLACE.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **186,057**, dated January 9, 1877; application filed July 3, 1876.

To all whom it may concern:

Be it known that I, JAMES CHARLES MITCHELL, of the town of Lancaster, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention embraces certain improvements on the invention for which Letters Patent of the United States (169,720) have already been granted to me, and applies more particularly to the construction of the draw-bar, and the arrangement by which it is attached to the car, which will be so fully described hereinafter that a more specific preliminary statement thereof is unnecessary.

For fuller comprehension, however, of my invention, reference must be had to the annexed drawings, in which—

Figure 1 is a front view of my improved draw-bar. Fig. 2 is a side elevation of my improved draw-bar. Fig. 3 is a longitudinal sectional elevation of my improved draw-bar. Fig. 4 is a plan view of my improved draw-bar.

Similar letters of reference indicate like parts.

A is the draw-bar, made, as usual, with a slightly-flaring mouth to receive more easily the link B. A^1 A^1 are shoulders formed inside the draw-bar to receive the pressure of the coupling-plates C, hung in gudgeons or pivots *c*, having their bearings in the sides of the draw-bar, all these parts being constructed and arranged mainly as shown in my previous patent, with the exception that the draw-bar is divided up by one or more horizontal diaphragms, *a*, two being shown in the drawings, in order to allow cars of differing heights to be coupled together. Each of the compartments *a'*, thus formed, is provided with a coupling-plate, C, hung therein, and is of sufficient size to allow the body of the link B to pass under the bottom edge of the coupling-plate C. This link is, as described in my previous patent, made with a shoulder, B', which, pressing against the inside of the coupling-plate C, takes the draft-strain. It also has a slot, *b*, formed in it, so as to enable a car with my improved draw-bar to be coupled to one provided with that now in use. Instead, however, of the arrangement which I have previously patented for uncoupling the cars, I propose to secure to one or both ends of the pivots or gudgeons C short arms D, each being connected by a chain, link, or cord, E, to one end of a lever, F, which is pivoted, where shown at *f*, to the cross-head of the car, and may be provided with any suitable device, such as a pin, catch, &c., for holding its outer end down. These arms D are, near their lower end, furnished with buttons or weights *d*, to keep the coupling-plates C in place when not in use.

The principal improvement, however, embodied in my invention is in the construction of the draw-bar, which, instead of being shaped as usual, is provided with a back plate, A^2, between which and the cross-head G is interposed a layer of rubber, H, or other elastic substance, to receive and deaden the shock of the meeting cars. This rubber H, it must be noticed, can be made much smaller than those now required, thus reducing the cost of the draw-bar. From the outer face of the back plate A^2 project two or more pins or guides, K. These play in the cross-head G, and help to take up the spring of the cars when they come together. L L are any suitable number of bolts passing through the flange of the back plate A^2, and securing the draw-bar to the cross-head G. M is a key passing down through the bolts L, and securing them to the flange. By this arrangement the draw-bar may be easily taken off and put on the car. One or more of these, as at L', may be continued back, and secured to a cross-piece placed anywhere near the center of the car, as shown in Figs. 2 and 3, preferably that through which the center pin passes, the rubber *l* also serving to take up the spring. Y Y are apertures formed in the diaphragms *a* and the lower side of the draw-bar, to allow any water which may collect to run off, and Z is a pin which, when only the ordinary link is available, may be used, proper provision being made for it. *l l* are rubbers placed (preferably where shown) on the bolts L L'. Where all the cars are, on any line, provided with

my improved draw-bars, this pin will not be needed.

The operation of my invention will be easily understood by the drawings, and may be thus briefly alluded to. When the cars are run together to be coupled, the coupling link or bar B pushes back the lower edge of the coupling-plate C, which, as soon as the shoulder B′ has passed it, swings forward, receiving and transferring to the shoulders A^1 the draft-strain.

When the cars, in coming together, are not required to be coupled, all that is needed is to secure in a depressed position the outer end of the lever F, and thus keep the coupling-plates C up.

In uncoupling the cars, the lever F, operating the coupling-plates C and releasing the link B, can be worked from either side of the car or the top without stepping inside the rail, thus entirely obviating any chance of accident.

It must be clearly understood that although my invention is especially adapted to freight-cars, it may, with very slight modifications, be used for passenger-coaches.

Having thus described the nature and operation of my invention, what I claim is as follows:

In combination with the draw-bar A, secured to the car by bolts L L′ and key M, the guides or pins K, secured to the back plate A^2, working in the cross-head, as herein set forth.

Lancaster, N. H., this 21st day of June, A. D. 1876.

Witnesses: J. C. MITCHELL.

JOSEPH ROBY, Jr.,

JOSEPH ROBY.