

J. W. BATES. J. W. BATES, Jr. R. & C. O. BORGERSRODE.
CAR-COUPLING.

No. 178,986.

Patented June 20, 1876.

Fig. 1.

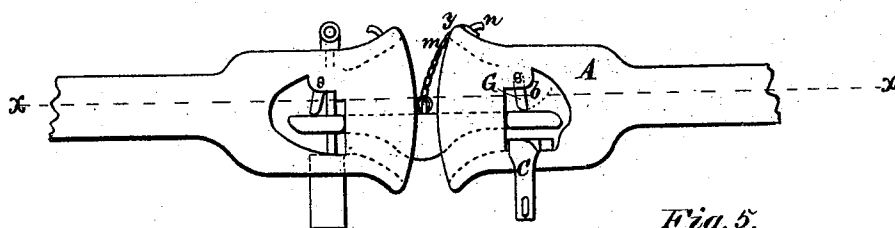


Fig. 5.

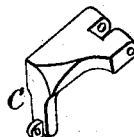


Fig. 2.

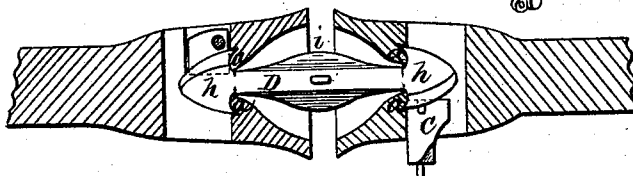


Fig. 3.

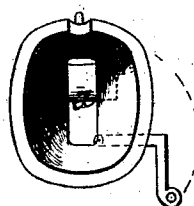
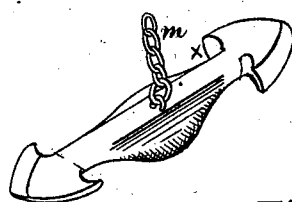
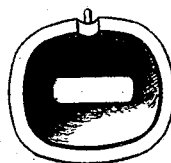
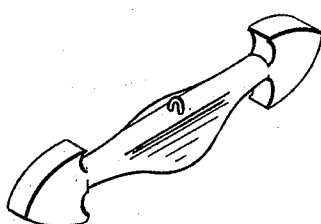


Fig. 4.



WITNESSES

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JOSEPH W. BATES AND JOSEPH W. BATES, JR., OF MINNEAPOLIS, MINNESOTA, AND RUDOLPH BORGERSRODE AND CHARLES O. BORGERSRODE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **178,986**, dated June 20, 1876; application filed December 23, 1875.

To all whom it may concern:

Be it known that we, JOS. W. BATES and JOS. W. BATES, Jr., of Minneapolis, Hennepin county, Minnesota, and RUDOLPH BORGERSRODE and CHAS. OTTO BORGERSRODE, of Philadelphia, in the county of Philadelphia, and in the State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in certain improvements upon the car-coupling for which Letters Patent No. 147,888 were granted to J. W. Bates, J. W. Bates, Jr., and H. E. Knight, February 24, 1874, as will be herein-after more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of our improved car-coupling. Fig. 2 is a horizontal section of the same through the line *x x*, Fig. 1. Fig. 3 shows the front of the draw-head with the coupling-bar in perspective. Fig. 4 shows a modification of the same, and Fig. 5 is a perspective view of the tripper for uncoupling the cars.

A represents a draw-head, constructed substantially as shown, and provided with interior jaws *a a*, which are rounded on their inner faces. In the sides of the draw-head A are apertures *b b*, giving access to the jaws of the draw-head, thus enabling the operator to remove ice or other obstructions to the free working of the tripper and coupling-bar, hereinafter described, and also to give room for the necessary manipulation in chilling the jaws of the draw-head. Back of the jaws *a a* is an L-shaped tripper, C, hinged to the bottom of the draw-head. This tripper is hinged in such a position near the rear of one of the jaws that when it is thrown up for the purpose of reversing the action of the coupler it

may stand parallel with the side of the slot *d* in the draw-head. To the outer end of the tripper C is to be attached a rod or chain to extend upward to a lever, which is to be pivoted on the top of the draw-head in such a manner that when necessary, by raising said lever, the tripper is brought into contact with the lower edge of the head of the coupling-bar, and gradually assuming a position parallel with the side of the slot, it turns the coupling-bar on its axis, and brings it also into the position necessary for uncoupling. D represents the coupling-bar, provided at each end with a spear-shaped head, *h*, the rear shoulders *x x* of which are made concave to fit the rounded jaws *a* on the interior of the draw-head. In the center the coupling-bar D is formed with a bulge, *i*, made in a spheroidal or other suitable form, substantially as shown. This coupling-bar is preferably made of Bessemer steel, but may be made of any suitable material possessing sufficient strength. The bulge *i* is applied in order that the coupling-bar may recover its position by its own gravity upon being released from the tripper, after the process of uncoupling is performed, or during the process of coupling. The bulge also serves the purpose of preventing telescoping of adjacent cars by interposing a heavy mass of metal between the two concave connected draw-heads, which are thus enabled to pass each other as long as the bumper is connected with the car. The heads *h h* may stand at right angles with the bulge *i*, as shown in Fig. 3, in which case the slot or opening *d* in the draw-head must be vertical; or the heads may be in the same plane as the bulge, in which case the slot or opening *d* must be horizontal, as shown in Fig. 4. The sides of the heads *h* are preferably made beveled, so as to make the coupling self-acting; but they may be made straight, as shown in Fig. 4, and in this case the tripper C must be used for coupling as well as for uncoupling. To the center of the coupling-bar is attached a chain, *m*, which is sunk into a notch, *y*, in the bumper, and fastened to a hook, *n*, on the top thereof. This chain assists the weight to throw the draw-bar to its flat position, and also to direct the bar when

coupling. The draw-bar may be worked on either car by changing the chain from one draw-head to the other. In the draw-head, back of the jaws *a*, is suspended a hinged apron, *G*, which hangs directly over the coupling-bar head, so as to prevent it from detaching while in motion.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the draw-head *A*, provided with the interior rounded jaws *a a*, and the coupling-bar *D*, provided with the spear-shaped heads *b*, having concave shoulders *x*, substantially as and for the purposes herein set forth.

2. The L-shaped tripper *C*, hinged within

the draw-head, and having an arm which extends through an opening in the side of the draw-bar, and operating in combination with the coupling-bar *D*, constructed as described, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 1st day of December, 1875.

J. W. BATES.

J. W. BATES, JR.

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