

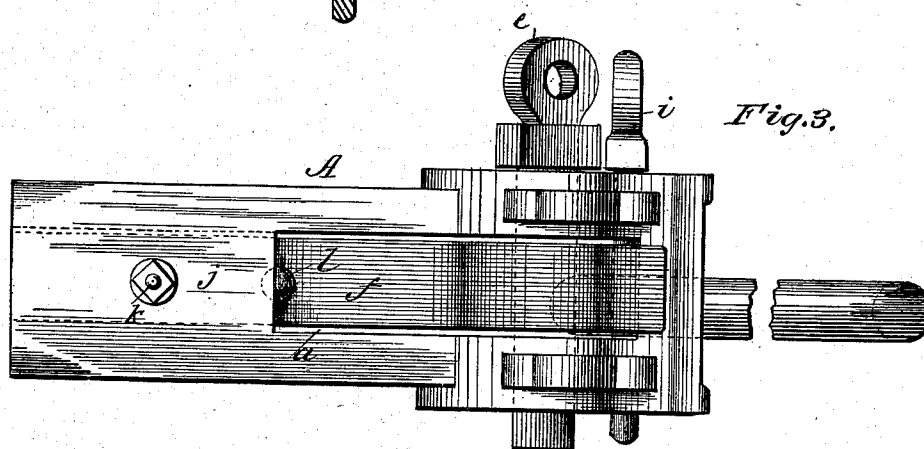
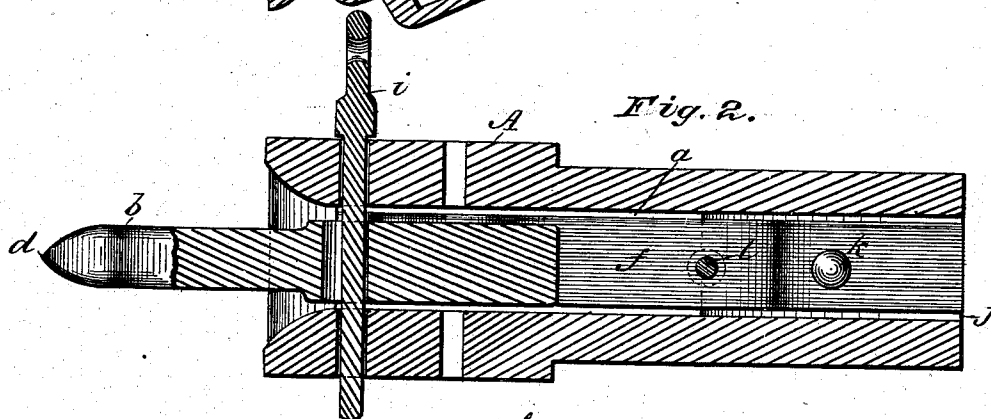
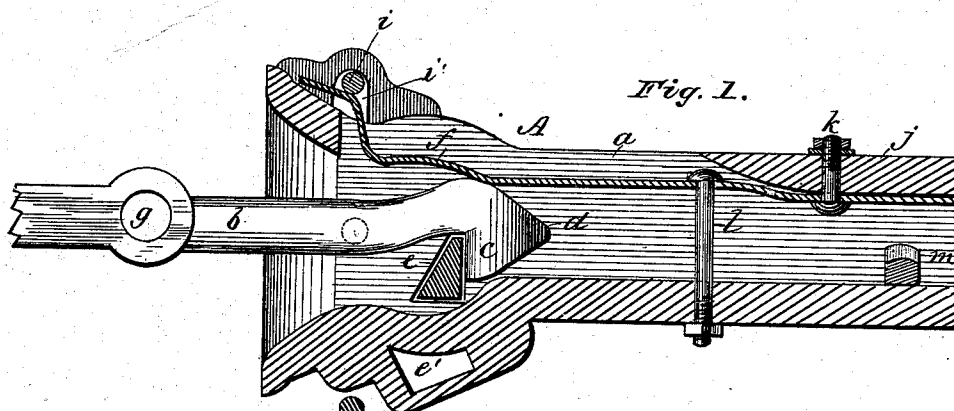
(No Model.)

W. T. VAN DORN.

CAR COUPLING.

No. 258,160.

Patented May 16, 1882.



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 253,160, dated May 16, 1882.

Application filed February 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. VANDORN, of Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to car-couplings which are adapted to couple cars together automatically; and the invention consists of a coupling-bar of novel construction, combined with a bevel coupling-pin and a retaining-spring, and means for adjusting the tension of the spring, as hereinafter described.

In the accompanying drawings, Figure 1 is a horizontal section of the draw-head coupled with one end of the coupling-bar. Fig. 2 is a vertical section of the draw-head coupled with the opposite end of the coupling-bar, and Fig. 3 is a side elevation of the draw-head, showing its adaptation to an ordinary coupling-link.

The draw-head A is constructed with a flaring mouth in the usual manner, and is provided with an opening, *a*, in one side, in which a retaining device for the coupling-bar *b* is to be arranged. The coupling-bar is provided at one end with a lateral catch, *c*, having a straight bearing-surface for the pin, and the said end is beveled to a point, *d*, to facilitate the entrance of the same into coupling position.

The coupling-pin *e* is to be so constructed or arranged that it shall present a beveled or inclined surface to the beveled end of the bar *b*, while its bearing-surface shall be made straight to correspond with the bearing-surface of the catch *c*. The pin *e* is placed near the center of the draw-head, so that the end of the bar *b*, in coupling, will strike its inclined surface and be deflected aside against a retaining-spring, *f*, which will yield sufficiently to allow the catch to pass behind the said pin. The opposite end of the coupling-bar *b* is provided with a perforation, *g*, which is located at a short distance from the said end, in order that the bar shall be balanced or supported in a nearly horizontal position to enable the catch at the opposite end to couple automatically. As a means of better insuring this object, the end having the perforation *g* may be made larger or heavier than the opposite end. If

desired, the perforation *g* may be elongated to allow any desired amount of play between the draw-heads.

The bar *b* may be reversed end for end, and the end having the perforation *g* is to be coupled with either draw-head A by means of a pin, *i*, passed through a central vertical perforation in the draw-head at a point between the flaring portion thereof and the perforation for the pin *e*, above described. The pin *e*, of course, is to be removed when the pin *i* is used, and for safe-keeping when not in use these pins are to be put in suitable perforations, *e'* *i'*, formed at the sides of the draw-head. When the draw-head is coupled with an ordinary coupling-link, as shown in Fig. 3, there will be sufficient room between the pins to accommodate the link, and the pin *e* need not in such case be removed.

The retaining-spring *f* is arranged in the opening *a* of the draw-head, with its inner end secured to the inner surface of the wall *j* by one or more bolts, *k*, while the outer end of the spring *f* rests against the outer surface of the flaring mouth. The spring is provided with a suitable curve, which is adapted to project inward toward the center of the draw-head sufficiently to retain the catch *c* of the coupling-bar in engagement with the pin *e*. Although the spring is shown in contact with the bar in Fig. 1, it is designed that a slight space shall be left between them practically to allow the necessary amount of easy play between the draw-heads. As a means of increasing the degree of tension in the spring, a bolt, *l*, is secured thereto and passed through the opposite side of the draw-head and adapted to be tightened by a nut to draw the spring inward. By this means the flexible portion of the spring is shortened in its vibration, and the spring may be kept at a uniform degree of tension.

The wall *j* is cut with a beveled surface to form the opening *a*, and it is designed that instead of the spring *f* a suitable bar of wrought-iron, having one end beveled to fit against the wall *j*, shall sometimes be used as a substitute. In this case a suitable spring will be fulcrumed upon the block *m*, with one end against the wrought-iron bar and the opposite end secured to the opposite side of the draw-head by a bolt arranged in the manner of bolt *l*, whereby the

tension of the spring may be increased. As the bar of wrought-iron is to be pivoted to the draw-head at a point near its inner end, the action of the spring will tend to press the outer
5 end of said bar inward to hold the catch, so that the bar will operate in precisely the same manner as the spring *f*, while the tensioning device is substantially the same in both. When either retaining device is used
10 the pin *i*, when placed in the perforation *i'*, will serve as a safety-pin to prevent the catch from becoming accidentally disengaged.

Having thus described my invention, what I claim, and desire to secure by Letters Patent,
15 is—

1. In a car-coupling, the coupling-bar having a catch at one end and a perforation near the opposite end, which opposite end is made heavier or larger than the first to balance the
20 bar and hold the catch end in position for automatic coupling, substantially as shown and described.

2. The combination, with a coupling-bar having a lateral catch, of a vertical coupling-pin
25 which is made with a beveled or inclined surface adapted to deflect the bar to allow the catch

to pass behind the pin, and which is removable to release the catch, substantially as shown and described.

3. The combination, with a coupling-bar having a catch at the end, and a draw-head having means for engaging the catch, of a retaining device having means for increasing the tension of the same, substantially as shown and described.

4. In a car-coupling, the combination of a spring arranged in one side of the draw-head and a bolt connected thereto which passes through the opposite side of the draw-head, whereby the tension of the spring may be adjusted, substantially as shown and described.

5. In a car-coupling, the combination, with a retaining device for a catch-bar, of a safety-pin which is adapted to be inserted in a perforation to hold the retaining device in engagement with the catch-bar, substantially as shown and described.

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