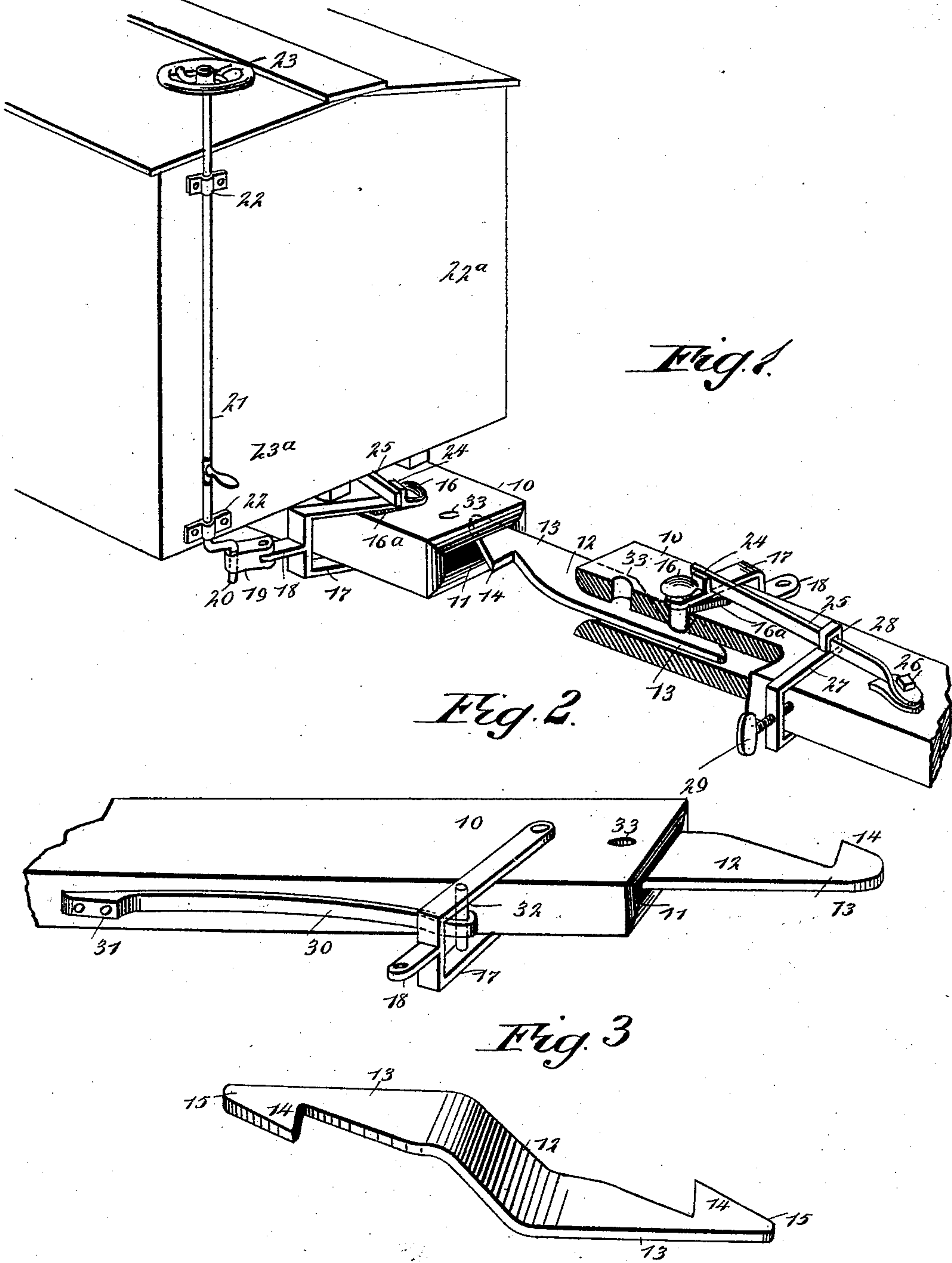


(No Model.)

N. J. HOPKINS.
CAR COUPLING.

No. 498,117.

Patented May 23, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

NICHOLAS J. HOPKINS, OF OWEN SOUND, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 498,117, dated May 23, 1893.

Application filed January 26, 1893. Serial No. 459,839. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS J. HOPKINS, of Owen Sound, in the county of Grey, Province of Ontario, and Dominion of Canada, have
5 invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

My invention relates to improvements in car couplings, such as are adapted to couple
10 automatically; and the object of my invention is to produce an extremely cheap, simple, and strong coupling of this kind which is positive in its operation, and which may be quickly and easily uncoupled from either the
15 top or sides of the car.

To this end my invention consists in certain features of construction and combinations of parts, as will be hereinafter described and claimed.

20 Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken perspective view, partly
25 in section, showing one coupling in position upon a car and an opposing coupling in position to couple with the coupling on the car. Fig. 2 is a broken perspective view of a slightly modified form of the coupling; and Fig. 3 is
30 a detail perspective view of a modified form of coupling link, bent as required for coupling cars of unequal height.

The drawhead 10 is hollow and has a flaring mouth 11. The drawhead is secured to the
35 car bottom in the usual way so as to project forward slightly from the car, and its width is preferably somewhat greater than its height. The coupling is provided with a flat link 12, the end portions 13 of which slope in opposite directions, one extending slightly to the
40 right and the other to the left, and the link terminates at its ends in notches 14 which are adapted to engage the coupling pin 16, and the extreme end portions of the link are
45 pointed, as shown at 15, thus giving each end of the link a wedge shape to the end that the link may pass readily inward beyond the coupling pin, as hereinafter described. The link may be bent vertically in the center as
50 shown in Fig. 3 to enable cars of different heights to be conveniently coupled.

The drawhead 10 is provided with a coupling pin 16 which slides nearly transversely in slots 16^a in the top and bottom of the drawhead, but these slots extend at a slight angle
55 to the sides of the drawhead, so that the coupling pin may swing freely in them. The coupling pin is carried in the ends of a bail or clasp 17 which has its opposite members arranged on the upper and lower portions of the
60 drawhead, and the outer end of the bail merges in a shank 18 which is pivotally connected by a link 19 with a crank 20 on the lower end of a vertical rod 21, which rod turns in suitable keepers 22 on the end of the
65 car 22^a, and the upper end of the rod terminates in the customary hand wheel 23 by which the rod may be turned from the car top, while near the lower end of the rod is a lever or handle 23^a which may be reached
70 from the side of the car and which thus enables the car coupling to be uncoupled from the side, as described presently. The arms of the bail 17 are provided with outwardly extending lugs 24 against which press the
75 free ends of the springs 25 which are secured to the upper and lower sides of the drawhead, as shown at 26 in Fig. 1, and the pressure of the springs throws the bail and coupling pin
80 16 inward or toward one side of the drawhead so as to hold the pin in position to engage the notch of the coupling link.

On the opposite side of the drawhead from the bail 17, is a U-shaped clasp 27, the ends of which are turned up to form keepers 28,
85 and these embrace the springs 25 near the central portion of the springs, thus serving as fulcrums for the springs. In the outer portion of the clasp 27 is a thumb screw 29, the inner end of which abuts with the side of the
90 drawhead, and by adjusting this screw the tension of the springs 25 may be regulated so as to cause the springs to press with the necessary force upon the bail 17 and coupling pin 16. Instead, however, of having two springs
95 as described above, a single spring 30, (see Fig. 2) may be employed to press the coupling pin into place, and this spring has one end fixed to the side of the drawhead, as shown at 31 in Fig. 2, while its free end presses
100 against a cross bar 32 with which the bail 17 is provided.

The drawhead is provided, near its front end, with a hole 33 in which the ordinary coupling pin may be inserted to connect the coupling with an old-fashioned link and pin coupling.

In using the coupling one end of the link is held fast in the coupling by the pin 16, and when the opposite end of the link enters an opposing coupling the wedge shaped end of the link as it enters the drawhead of said coupling, crowds the pin 16 to one side against the pressure of the springs 25 or 30, as the case may be, and after the notch 14 passes the pin, the springs return the pin to its normal position so that it engages the hook and the latter cannot be accidentally withdrawn. The pressure of the springs is constant, so that the pin is always in place, and to uncouple the coupling it is only necessary to turn the rod 21 by means of the hand wheel 23 or lever 23^a, as this causes the bail 17 to be drawn outward so as to pull the pin 16 out of the path of the hook 14, after which the link may be withdrawn.

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

1. A car coupling comprising a hollow draw head provided in its top and bottom walls with slot 16^a, a pin 16 extending through said draw-head and slots, a freely swinging and sliding yoke 17 embracing the exterior of the draw-head (but having no positive connection therewith) and secured to the ends of the pin, and a plate or bar spring secured at one end to the exterior of the drawhead and at its free end engaging the yoke and pressing it inwardly, substantially as set forth.

2. A car coupling, comprising a hollow draw-head, having transverse slots therein, a bail held to slide on one side of the drawhead, a coupling pin secured to the inner end of the bail and held to move in the slots, springs secured to the drawhead and held to press the bail and coupling pin inward, a coupling link having terminal notches to engage the pin, and a revoluble crank rod mounted vertically on the car and operatively connected with the bail, substantially as described.

3. In a car coupling, the combination with the transversely slotted drawhead, the coupling pin held to move in the slots of the draw-head, and the springs secured to the draw-head and arranged to press the coupling pin in place, of a screw mechanism for adjusting the tension of the springs, substantially as described.

4. The combination with the transversely slotted drawhead, a coupling pin held to move in the slots of the drawhead, and the springs secured to the drawhead and arranged to press the coupling pin in place, of a clasp secured to the springs and embracing one side of the drawhead, and an adjusting screw extending through the clasp and impinging on the drawhead, substantially as described.

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