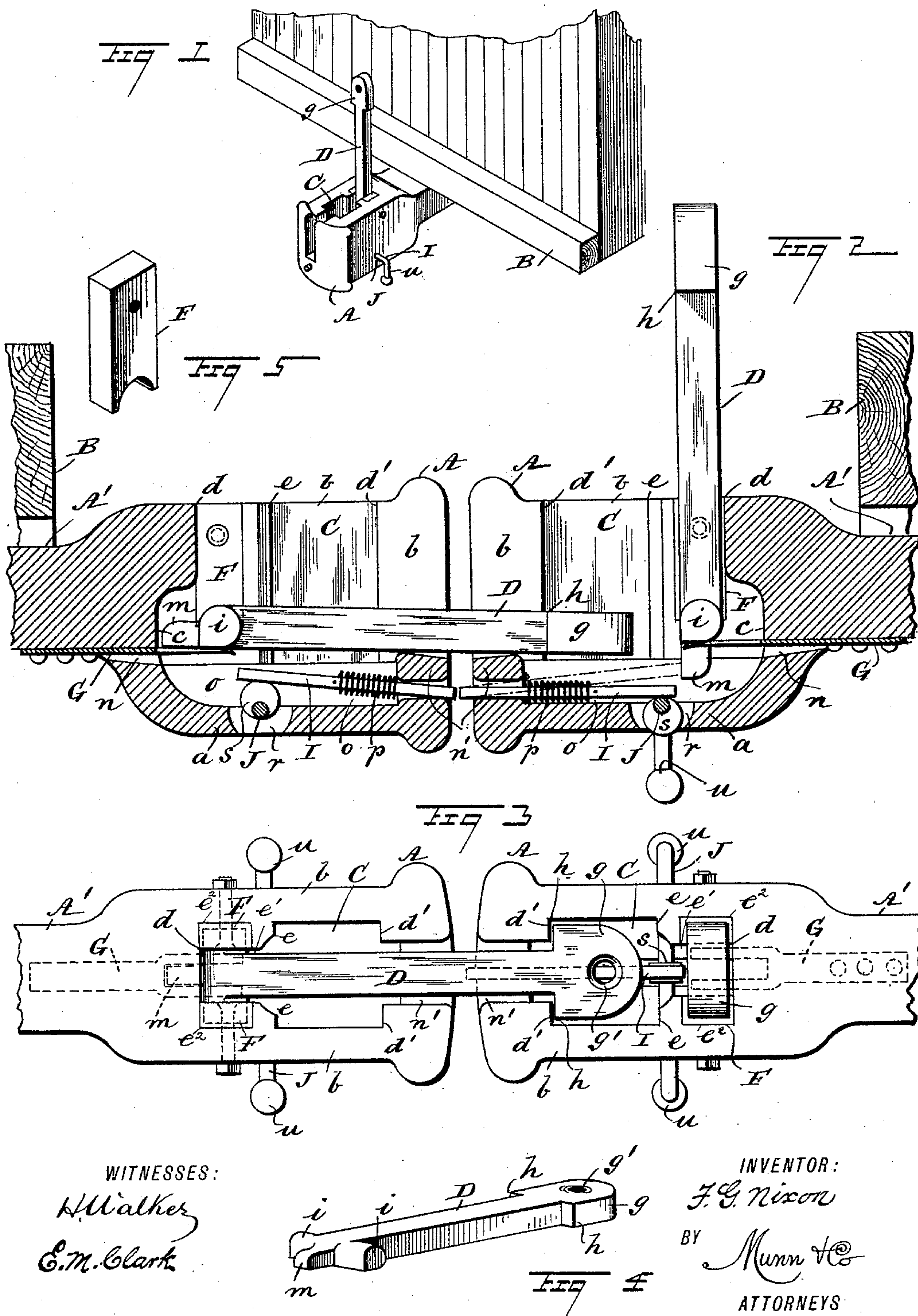


(No Model.)

F. G. NIXON.
CAR COUPLING.

No. 452,680.

Patented May 19, 1891.



WITNESSES:

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FRANK G. NIXON, OF CHALK MOUND, KANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 452,680, dated May 19, 1891.

Application filed December 29, 1890. Serial No. 376,059. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. NIXON, of Chalk Mound, in the county of Wabaunsee and State of Kansas, have invented a new and useful Car-Coupling, of which the following is a full, clear, and exact description.

The objects of this invention are to provide a simple practicable car-coupling which will be automatic in action when used in pairs to couple adjacent cars, and that will also afford means for the convenient connection of a car having the improved coupling to one provided with an ordinary coupling and a coupling-pin.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

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

Figure 1 is a perspective view of the device in position upon the front end of a car shown broken. Fig. 2 is a longitudinal section of two of the improved couplings in coupled condition. Fig. 3 is a plan view of two couplings embodying the improvements shown in coupled adjustment. Fig. 4 is a perspective view of the coupling-link of the improved coupling detached, and Fig. 5 represents one of a pair of keeper-blocks that are portions of the coupling.

The draw-head A is preferably cast into form and has its rear portions A' suitably elongated and adapted to be secured upon the under side of the car-frame, of which B is a front cross-timber.

The portion of the draw-head A that is forward of the timber B is laterally and vertically enlarged and provided with a chamber C, open at the top and of a proper depth, there being a substantial bottom wall *a* and side walls *b* thereto. The rear portion of the chamber C is rounded and undercut, as at *c* in Fig. 2, leaving a forwardly-projecting portion above, as at *d* in said figure. The chamber C is contracted laterally from the front face of the draw-head to afford two equal opposite shoulders *d'* a proper distance from said face, and near the rear a similar contraction of the chamber is produced to form shoulders *e* and a narrow recess *e'*, which extends to the rear wall *d* of said chamber.

The link D is formed substantially as shown in Fig. 4, and consists of an elongated rectangular bar of metal, having a laterally enlarged head portion *g*, which extends from *h*, where two opposite shoulders are produced, the head being preferably rounded on the edge forwardly, as shown in Fig. 3. The head *g* of the link D is designed to loosely fit within the chamber C of the draw-head between the shoulders *e* and *d'* thereon, the latter-named offsets being adapted to engage with the shoulders *h* on the link when the parts are in a coupled condition. The length of the link D is so proportioned to that of the chambers in two similar draw-heads A as to enable a ready connection between the latter to be effected by the link, as shown in Fig. 2, and to allow a short distance to intervene, so that curving on the railroad will not cramp the action of the couplings, there being sufficient side play afforded between the link and narrowed forward portion of the chambers C to permit the insertion of the head and body of the link into place when a coupling of two cars is effected automatically.

The rear end of the link D is provided on the side edges with trunnions *i* of the same thickness, said trunnions being rounded on the upper side and flat on the lower side. From the rear end of the link, between the trunnions *i*, projects a tongue *m*, having its lower face in the plane of the bottom of the link and its upper face rounded toward the end.

Between the shoulders *e* and the rear wall of the chamber C the side walls of recess *e'* are cut away vertically of a proper depth, so as to provide a groove *e''* on each side wall for the introduction of a keeper-block F of a like form in each groove, which blocks consist of rectangular blocks having their lower ends provided with a curved recess to fit the rounded portions of the trunnions *i* on the link D, said blocks being bolted in place, as shown in Figs. 2 and 3.

A plate-spring G extends through a longitudinal channel *n*, formed in the draw-head A through the rear wall of the chamber C, the rear end of said spring being secured upon the lower side of the portion A' of the draw-head, and the forward end, which bears upon the under face of the link D, is bifur-

cated to allow of the movement of the tongue *m* of the link. The draw-bar is supported upright or held depressed by the spring when rocked on its trunnions, as represented in Fig. 2.

A pusher-bar *I* is located in a longitudinal groove *o* in the bottom of chamber *C*. Said pusher-bar *I* extends through a perforation formed in the upwardly-projecting front wall *n'* of the chamber *C*, whereon the link rests when in a coupled condition. The pusher-bar *I* is held forwardly projected a proper distance exterior of the draw-head front wall by an encircling spring *p*, which is attached at one end to the bar and at the opposite end to the draw-head front wall, the inner end of the pusher-bar being near to the tongue *m* on the link *D* and in alignment with it.

A transverse rock-shaft *J* is journaled in perforations of the draw-head side walls *b*, and within a cavity *r*, formed in the lower wall of the chamber *C*, aligning with the groove *o*, an eccentric *s* is formed on or secured to the rock-shaft, whereon the pusher-bar *I* rests, said rock-shaft being provided exterior of the sides of the draw-head with the arms *u*, both extending in the same direction and weighted at their ends to hold them normally pendent and the eccentric *s* removed from contact with the pusher-bar.

In operation the links of approaching couplings on cars are elevated and will so remain if the eccentrics *s* are left in the position shown at the right-hand side in Fig. 2. On the coupling, which is to be secured by its link to a similar coupling on another car, the rock-shaft *J* is manipulated to throw its eccentric up, as represented at the left-hand side in the same figure, which will elevate the inner end of the pusher-bar *I*, so that the abutment of the draw-heads *A* will shove this pusher-bar inward, causing it to strike the tongue *m* and rock the upright link downwardly, so as to enter its head within the chamber of the other draw-head, and thus attach the cars automatically. There is a perforation *g'* made in the head *g* of the link *D* to enable a connection of said link with a car-coupling of the ordinary link-and-pin type. The coupling-pin of such a draw-head may be inserted through its walls and the hole *g'* of the link *D*, and thus connect the improved coupling with one of the common kind.

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

1. The combination, with a draw-head having a chamber that is open forwardly and above and keeper-blocks secured therein, of a link provided with trunnions that are engaged by the keeper-blocks, and a plate-spring which is secured to the draw-head and bears upon the link, substantially as set forth.

2. In a car-coupling, the combination, with a draw-head, of a pivoted link, a spring for holding the link either in a horizontal or vertical position, and a spring-actuated pusher-bar for throwing the link into a horizontal position, substantially as described.

3. In a car-coupling, the combination, with a draw-head, of a pivoted and spring-pressed link, a spring-actuated pusher-bar, and means for raising and lowering the pusher-bar, substantially as herein shown and described.

4. In a car-coupling, the combination, with a recessed draw-head, of a headed link pivoted in the said recess, a spring engaging the pivoted link, a spring-actuated pusher-bar, and an eccentric for raising the inner end of the pusher-bar, substantially as herein shown and described.

5. The combination, with a draw-head having a chamber open on top and in front and contracted to form a narrow front passage and forward shoulders and a narrow rear recess, and a spring extending into said rear recess, of a link journaled in said rear recess and provided with a head having shoulders, substantially as set forth.

6. The combination, with a draw-head having a chamber open on top and in front and contracted to form a narrow front passage and forward shoulders and a narrow rear recess, a spring extending into said recess, and a spring-actuated push-bar located in a groove in the bottom of said chamber, of a link journaled in said rear recess having a rearwardly-extending finger and provided with a head having shoulders, and a transverse shaft journaled in the draw-head beneath said push-bar and having an eccentric adapted to engage said bar, substantially as set forth.

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Witnesses:

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