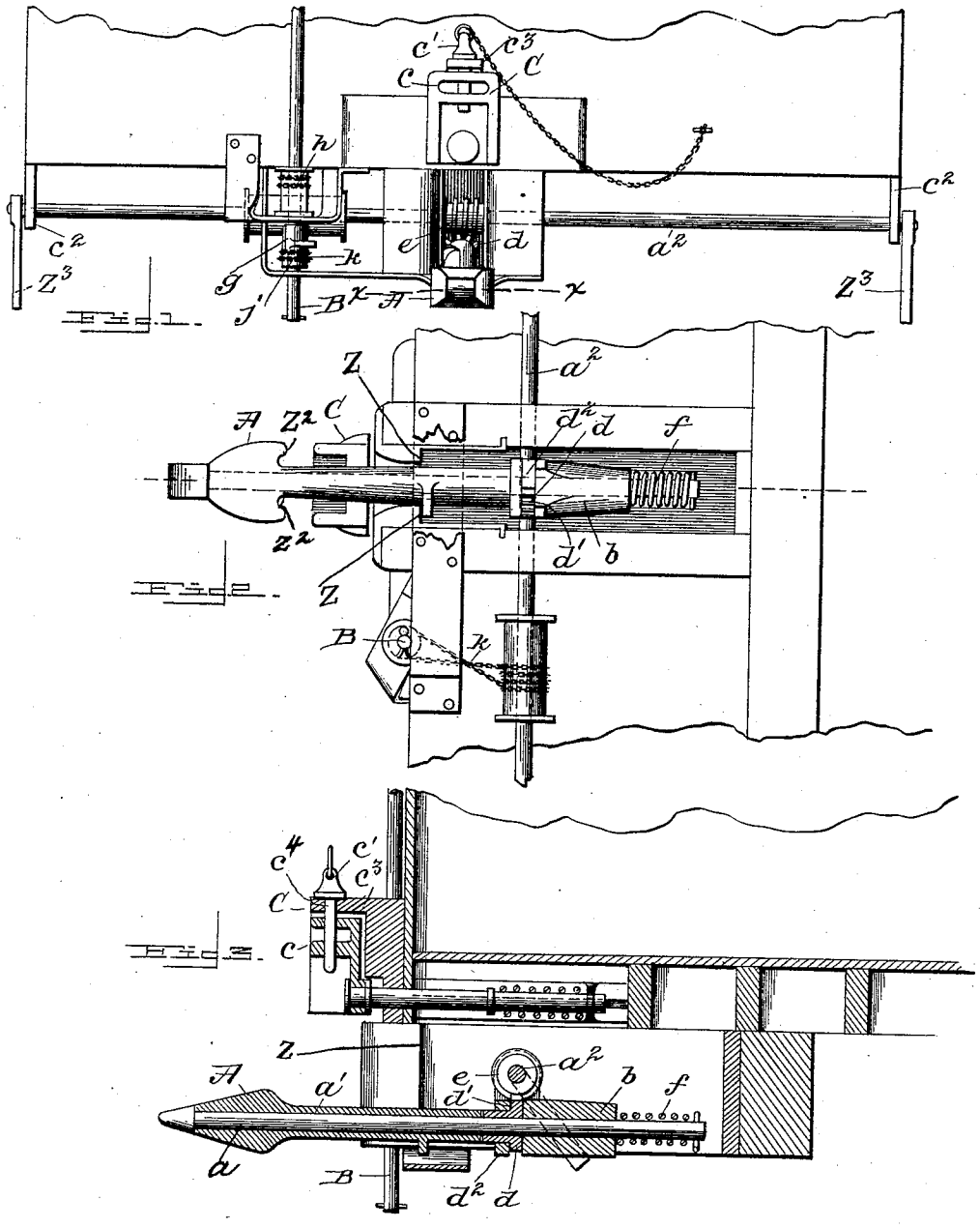
(No Model.)

G. C. HARLIN.

CAR COUPLING.

No. 482,125. Patented Sept. 6, 1892.



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UNITED STATES PATENT OFFICE.

GEORGE C. HARLIN, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-TENTH TO ALEXANDER DENSMORE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 482,125, dated September 6, 1892.

Application filed March 15, 1892. Serial No. 424,982. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. HARLIN, a citizen of the United States of America, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improved car-coupling; and it has for its object to provide for the coupling of the cars in an expeditious and effective manner either from the top of a horse or other car or from the ground without the operator or trainman having to pass in between the cars; and it therefore consists in the novel construction of the draw-bars and the means for their manipulation or actuation, comprising the coupling, all substantially as hereinafter more fully disclosed, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an end view of my coupling as applied for use. Fig. 2 is an inverted view thereof. Fig. 3 is a longitudinal section.

In the organization of my invention I employ an arrow-headed draw-bar with knuckle-hook A axially mounted upon a like-headed rod or stem a, passing through a longitudinal passage a' in said draw-bar. The stem or rod a also passes through and is supported in position in a bracket or support b, secured upon an axially-pivoted and cranked or handled rod or shaft a^2, supported in the usual pieces or timbers secured to the under side of the car and in pendants c^2, secured to the sides of the car.

The draw-bar A is provided with a cogged segment or pinion d, adapted to mesh with a worm e on the shaft or rod a^2, thus providing for the axial turning of the draw-bar to effect the engagement and disengagement of the heads of opposite or meeting draw-bars in effecting the coupling and uncoupling operation. The draw-bar A, also, to a limited extent is let into an enlargement of the passage in the support b, which receives the stem or rod a, and has a cam-stop d^2, adapted to turn with the draw-bar in a slot d' in the support b, and after the draw-bar has received the requisite movement to effect the coupling or uncoupling operation, as may be the case, is adapted to engage with the end walls of the said slot d', and thus arrest further turning or movement of the draw-bar by the operator. The rod or stem a is fitted with a spring f in rear of and holding it with the draw-bar more or less yieldingly to prevent sudden jarring or concussions as the draw-bars meet. The ordinary hand-wheel brake shaft or staff B, supported, as usual, upon the end of the car, has a sliding connection g with its drum or spool h for winding the brake-chain and with an additional drum or spool j, both spools or drums being independent of said shaft or staff. The spool or drum j has a chain or cable connection k with the shaft a^2, and therefore as the hand-wheel shaft or staff B is slid into engagement by means of its spline g with said spool the latter is adapted to be turned or revolved by turning said shaft B, and thus effect the winding of the chain k upon the spool or drum j, and consequently turn the draw-bar for the purpose aforesaid.

Upon the end of the car, just above the draw-bar, is pivotally hung at one end a draw-head C, adapted to be held with its socket c in either of two positions or at different heights by the disengagement therefrom or the engagement therewith of a pin c', passing through an apertured arm c^4 of a bracket or casting c^3, secured to the end of the car and forming for convenience the support for the pivot of the draw-head C, said pin also engaging an aperture in said draw-head. When the pin c' is disengaged from said draw-head, the latter swings downward to permit the reception or coupling therewith of the ordinary coupling-link when required.

The operation of coupling is as follows: The arrow-heads being properly adjusted, (one elevated and the other horizontal, with the major axis $x\ x$ vertical,) the cars are brought together. It will be readily understood that as the shoulders Z^2 of the arrow-heads pass between the walls Z Z of the draw-heads by a partial revolution the one is made to engage the other, thereby obviating all tendency toward lateral movement and effecting an efficient and satisfactory coupling. To un-

couple the cars, it is necessary to manipulate either the levers Z^3 or the rod B, thereby imparting a revoluble movement to one of the heads A until it assumes a position with its major axis $x\,x$ horizontal, as in Fig. 1.

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

1. The car-coupling having the draw-bar provided with a worm-and-gear connection with its actuating-shaft, substantially as set forth.

2. The car-coupling having the draw-bar provided with a segmental gear and the actuating-shaft provided with a worm adapted to mesh with said gear, substantially as specified.

3. The car-coupling having the draw-bar provided with a segmental gear and a cam-stop, the support for said draw-bar having a slot to receive said cam-stop and the actuating-shaft having a worm meshing with said gear, substantially as specified.

4. The car-coupling having its actuating-shaft adapted to be operated by a hand-shaft having a spline connection with the drum or spool, the drum having a chain or cable connection with the first-named shaft, substantially as set forth.

5. In a car-coupling, the ordinary link-receiving draw-head having at one end a socket to receive said link and hung or pivoted near one end upon an apertured bracket and a pin adapted to effect engagement between the draw-head and bracket, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE C. HARLIN.

Witnesses:

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