(No Model.)

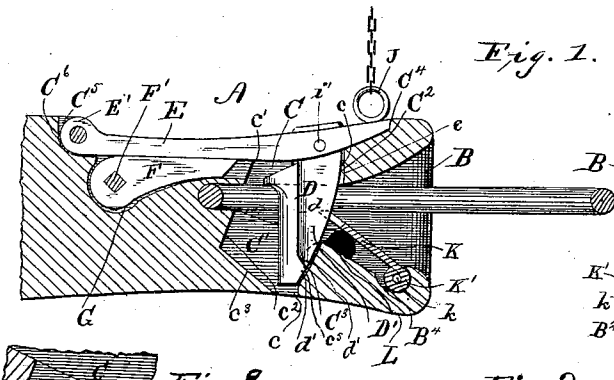
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R. S. WHEELER.

CAR COUPLING.

No. 312,310. Patented Feb. 17, 1885.

Fig. 1.



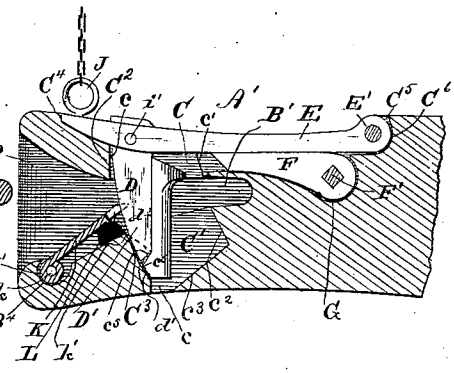
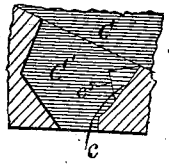
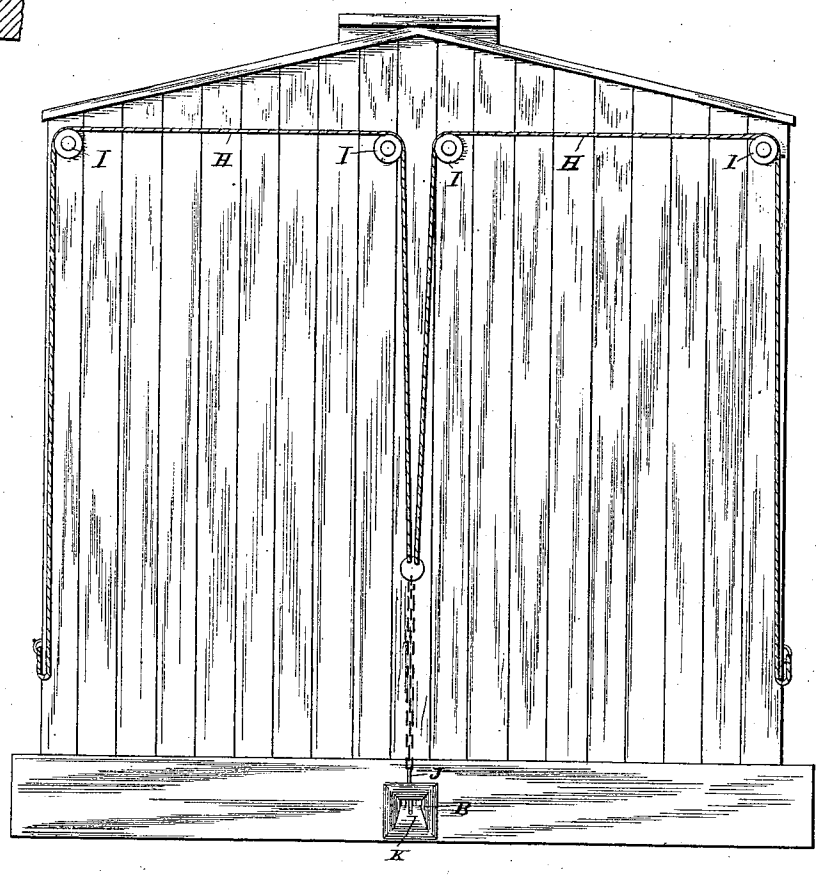


Fig. 2.

Fig. 3.





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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

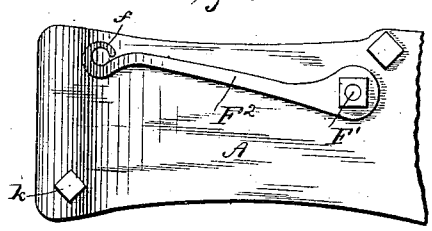


Fig. 4.

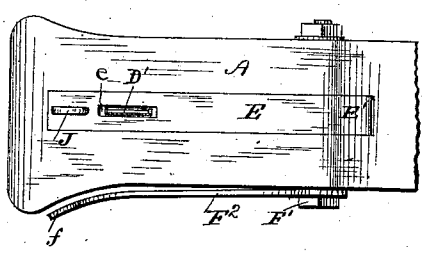


Fig. 5.

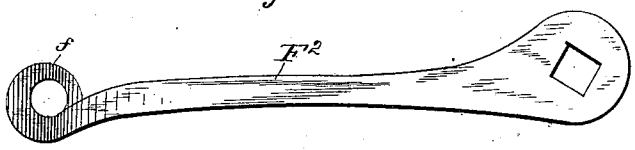


Fig. 6.

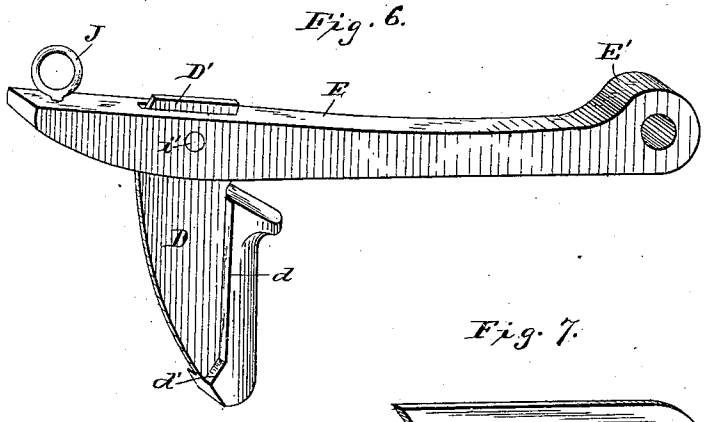
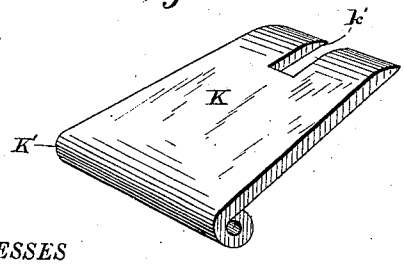


Fig. 7.



Fig. 8.



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UNITED STATES PATENT OFFICE.

RANSOM S. WHEELER, OF RED OAK, MISSOURI.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 312,310, dated February 17, 1885.

Application filed October 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, RANSOM S. WHEELER, a citizen of the United States, residing at Red Oak, in the county of Lawrence and State of Missouri, 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.

Figure 1 is a longitudinal section taken through two opposing draw-heads containing coupling devices embodying my improvements. Fig. 2 is an end elevation of one of the draw-heads and the car carrying the same. Fig. 3 is a side elevation. Fig. 4 is a top plan view. Figs. 5, 6, 7, 8, and 9 show several of the parts detached.

In the drawings, A A′ represent opposing draw-heads, which, as shown, are both constructed with my improved coupling devices, although a car with my improved draw-head can be coupled with any of the ordinary cars, as the link is of the old and well-known form and adapted to engage with the common pin. A draw-head adapted to attain most of the ends at which I aim may be cast in one piece by the employment of coring; but I prefer to form it in two halves substantially similar one to the other and adapted to be bolted together.

In the front end of the draw-head there is formed a chamber or cavity, B, having a flaring mouth, which, in general, is substantially similar to that in the ordinary draw-head. The walls of the cavity are extended backward at or near the center to form an inner chamber, B′, adapted to receive the inner end of the coupling-link. An aperture is formed through the draw-head for the purpose of admitting the coupling-pin with which the link engages. The main part of this aperture is represented at C C′, the part C lying above the chamber B′ and the part C′ below the chamber. The front and back walls of this aperture are flared somewhat downwardly, so as to permit the coupling-pin (to be described) to oscillate sufficiently to permit the ready automatic engagement of the link.

As shown, the part C has vertical walls *c* on the front side and *c′* on the rear side, and the part C′ of the aperture has an inclined wall, c^2, corresponding in direction with the wall *c′*, and at the lower end it terminates in a wall, c^3, inclined in the opposite direction. In front of the part C of the aperture there is a slot or elongated passage at C^2 to receive the web of the coupling-pin to be described, and on the lower side of the link a similar slot is provided, as shown at C^3. At C^4 the upper part of the draw-head is recessed to receive the forward end of the pin-carrying bar, and at C^5 there is a recess for the rear portion of this bar, this recess preferably terminating in a parti-cylindrical cavity at C^6, in which is fitted the journal of the pin carrying bar. The essential part of the device with which the link engages to prevent the escape of the latter consists of the pin D, the rear face of which is preferably curved in section to conform to the opening in the link. With the pin portion D there is cast, or to it is secured, a web or plate, D′, which acts to guide the former under some circumstances and under others to strengthen it. This web is preferably considerably thinner than is the pin part D. The front walls, *d*, of the latter do not extend all the way down on straight lines, but have inclined parts at *d′*, which bear against the inclined shoulders c^5 (see Fig. 9) at the edges of the slot *c*, these inclined opposing walls or edges acting to prevent the pin from being thrown upward by the jolts or jars which it experiences. The plate or web D′ (when the pin is in place) fits in the slots C^2 and C^3, above described, the front edge of the said plate or web and of the said slots being preferably of a form substantially such as shown—that is to say, somewhat rounding, curved, or inclined backward—so that the pull of the link upon the pin shall be received by the draw-head to the greatest advantage.

The link-holder D D′ is carried by a bar, E. The latter is concealed in the aforesaid cavity or recess C^4 C^5 in the top of the draw-head, its upper face being preferably flush with that of the former. It is pivoted at its rear end in the cavity C^6, it being formed with a cylindrical journal part E′, as shown. Near the front end it has a slot, *e*, (see Fig. 4,) through which projects the plate D′, the latter being held by a riveted pivot, *i′*.

With the devices above described there are combined means for lifting the bar E and the link-holder, and by which these can be thrown

up to disengage the link, either by devices carried at the end of the car or by means more directly applied.

F represents a dog or swinging bar seated within the draw-head in a recess adapted to receive it immediately beneath the bar E. The recess is represented by G. The lifter F is supported upon a through pivot-bolt, F′, which at the outer end carries a lever, F^2, that lies snugly against the outer face of the draw-head and is provided with an eye, *f*, or equivalent means for engaging a lifting-stick or other suitable device therewith for rocking the lever and throwing up the lifter; or the bar E may be thrown up by means applied directly to the end.

H H are ropes or chains which run over pulleys I I, and thence down to rings or other suitable means for permitting an operator to exert a pull upon the rope. Each rope passes downward from its pulley to an eye, J, from the end of the bar E, or they may both be united by a chain extending a short distance up from said eye.

I have combined with the draw-head also devices for receiving with yielding action the link as it is thrust in, and adapted also to hold the outer end of the link upward with a yielding force, so that it may be more readily guided to the desired position than can the links in draw-heads as ordinarily constructed.

K represents a plate which is mounted in the mouth of the draw-head, preferably by means of a through pivot-bolt, *k*, the plate at the lower end having an enlargement, as at K′, seated in a cavity, B^4. I do not wish to be limited to this exact means for fastening the plate in position, as others will readily suggest themselves. The side edges of the plate converge somewhat to conform to the shape of the draw-head, and the rear edge is slotted, as at *k*′, to prevent interference with the movements of the link-holder.

Beneath the plate K are placed one or more blocks of rubber, as shown by black surfaces at L, upon which the plate rests, and which receive the downward thrust of the inner end thereof. By examining Fig. 1 it will be seen that a support of this character holds the outer end of the link up, so that it is ready for entrance into an opposing draw-head without the necessity of its being lifted or held up by hand, and yet it can be readily moved down or up, as is indicated by dotted lines. If the central line of the aperture in one draw-head is a little above or below that of the opposing head, the link can nevertheless enter freely, as the projecting end will be thrown properly by the flaring walls of the opposing head, the plate K and the rubbers not interfering with sufficient downward movement.

What I claim is—

1. A draw-head having a long receiving-aperture formed with the part B′, and having a vertical aperture for a pin-holder formed with the part C and C′ and the slot C^2, and the recess C^4 C^5 in the upper part of a link-holder, having the part D, the web or plate D′, and the lifting-bar E, pivoted to the link-holder, and pivoted to the draw-head at its rear end, the front end thereof being permitted to rise and fall, substantially as set forth.

2. The combination, with the draw-head having the pin-receiving chamber and an aperture for a link-holder transverse thereto formed with the part C C′, and the forwardly-projecting slot C^2, of the link-holder adapted to fit the said aperture and slot, the bar E, pivoted to the said holder, the lifter F, seated within the draw-head in a cavity having the bar E, and a lifting-lever, F^2, on the outside of the draw-head and connected with the lifter, substantially as set forth.

3. The combination, with the draw-head, and the devices for fastening the link, of the supporting-plate K, pivotally mounted in the mouth of the draw-head, and the rubbers situated between the draw-head and the plate and adapted to receive the downward thrust of the inner end thereof, substantially as set forth.

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

RANSOM S. WHEELER.

Witnesses:
A. B. McPHERON,
JANIE A. WEAVER.