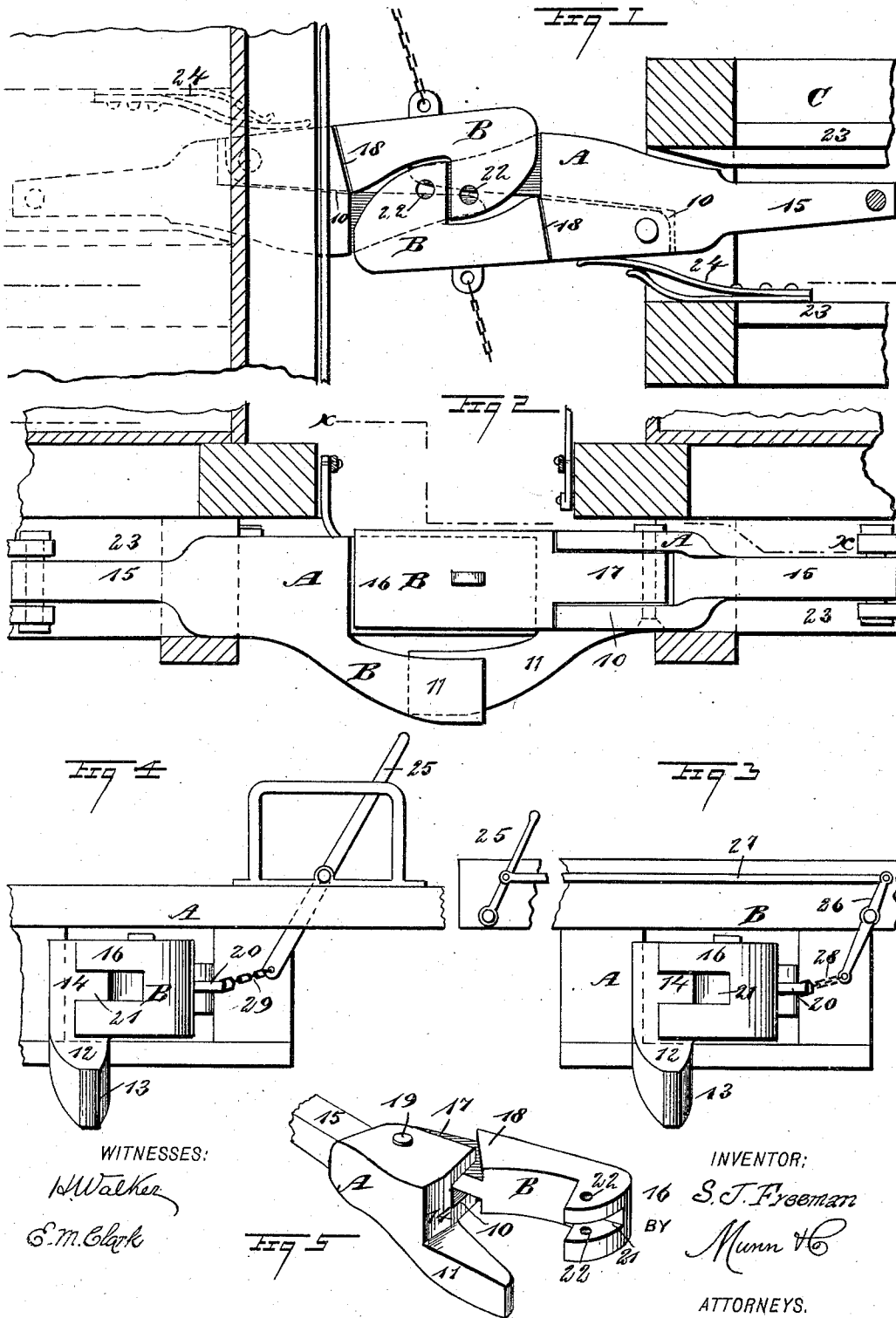


(No Model.)

S. J. FREEMAN.
CAR COUPLING.

No. 474,730.

Patented May 10, 1892.



UNITED STATES PATENT OFFICE.

SIMON J. FREEMAN, OF BRADFORD, PENNSYLVANIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 474,730, dated May 10, 1892.

Application filed January 28, 1892. Serial No. 419,518. (No model.)

To all whom it may concern:

Be it known that I, SIMON J. FREEMAN, of Bradford, in the county of McKean and State of Pennsylvania, have invented a new and useful Improvement in Car-Couplers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-couplers, and has for its object to provide a coupler of simple, durable, and economic construction, capable of application to either a freight or a passenger car.

Another object of the invention is to provide a coupler which will couple automatically, and when coupled will be forced to remain in that position until purposely uncoupled.

Another object of the invention is to provide a means whereby the uncoupling may be effected from either side of the car or from the top, if desired.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a plan view of two couplers in a coupled position, the car-bodies to which they are attached being in section and the section being taken, practically, on the line *x* of Fig. 2. Fig. 2 is a side elevation of two couplers in their coupled position, the car-bodies to which they are attached being in vertical section. Figs. 3 and 4 are front elevations of a coupler, and in connection with the couplers therein shown two forms of levers are illustrated adapted for use in uncoupling; and Fig. 5 is a detail perspective view of one of the couplers.

The draw-head A of the coupler is provided at one side with a chamber 10, and at the opposite side of the draw-head a finger 11 is located, the said finger being made to project forwardly from the lower edge of the head. The said finger is slightly concaved upon its upper surface and beveled outward upon its inner side surface, the concaved sur-

face being indicated by the reference-numeral 12 and the inner side-beveled surface by the numeral 13. The draw-head is ordinarily made wider at the front than at the back, and the front surface 14, immediately above the finger 11, is straight, while that front surface in which the chamber 10 is produced is beveled to extend outwardly. The draw-bar 15 is preferably made integral with the rear end of the draw-head.

In connection with the draw-head a knuckle B is employed. This knuckle is in hook form and its head 16 curves over the finger 11. The rear end of the knuckle is cut away to form a shank 17 of reduced diameter and beveled shoulders 18. The shank is entered in the chamber 10 of the draw-head and pivoted therein through the medium of a pin 19 or the equivalent thereof, and when the knuckle is in its coupled position the shoulders engage closely with the beveled front surface of the draw-head, as shown in Fig. 1, at which time the outer straight side face of the knuckle will be practically flush with the corresponding surface of the draw-head, as illustrated in Fig. 2.

Upon the outer straight surface of the knuckle an ear 20 is ordinarily produced, and the head of the knuckle is preferably provided with a longitudinal slot 21 and apertures 22, extending vertically through it and communicating with the slot 21, the slot being adapted to receive a link and the apertures a coupling-pin when the coupler is to be connected with an opposing coupler of the loop type.

The draw-bar 15 is pivoted at or near its rear end beneath the body C of the car to which the coupler is to be applied, and the coupler moves between two vertical timbers 23, as is shown at the right in Fig. 1, which may or may not have facings of metal or wear-plates attached; or, instead of timbers the guides between which the coupler has movement may be constructed entirely of metal. One guide has secured thereto springs 24 of any approved construction. Preferably, however, leaf or strap springs are used, as illustrated in Fig. 1, and the outer ends of the springs have bearing against the pivoted portion of the knuckle, the bearing being such

that it normally maintains the knuckle in the coupling position.

The knuckle is uncoupled through the medium of a lever 25, connected with the knuckle. In freight-cars the lever is located at one side of the car, being pivoted, for instance, upon the sill, as shown in Fig. 3, and a second lever 26 is pivoted at the knuckle side of the coupler upon the sill, the pivotal point of this lever being near its center, and the upper end of the centrally-pivoted lever is connected by a link 27 of the outer lever, the lower end of the centrally-pivoted or inner lever being attached by a chain 28 to the knuckle, preferably through the medium of the ear 20, formed thereon. In passenger-coaches a single lever 25 is employed, pivoted at or near its center, one end of the lever extending down through the platform, as shown in Fig. 4, and this end of the lever is connected by a chain 29 with the knuckle of the draw-head. Thus by moving the lever 25 in one direction the knuckle is drawn outward to effect an uncoupling between opposing draw-heads. When the lever is released, the knuckle is returned by the spring 24 to its normal position.

In the act of coupling, as two draw-heads approach, their knuckles engage and force one another apart sufficiently to permit the heads to slide in such a manner as to effect a grapple, as shown in Fig. 1, and this grapple connection is made when the straight inner faces of the heads are brought in engagement. At the same time the fingers 11 of the opposed draw-heads slide into engagement with each other, as illustrated in Figs. 1 and 2, and when the fingers are in this position it is evident that an uncoupling of the cars cannot be effected by the cars moving around a curve, no matter how sharp, or in the event that a car should jump the track or be elevated at either end. In fact, an uncoupling can ordi-

narily be effected only through the medium of the lever 25.

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

1. A car-coupler the draw-head of which is provided with a knuckle pivoted within it and extending beyond the front at one side and also provided at the lower portion of the opposite side with a finger which extends beneath the head and the knuckle when the latter is in a coupling position, as specified.

2. In a car-coupler, the combination, with a draw-head, of a knuckle pivotally connected therewith and a finger located upon the front of the draw-head at the opposite side from the knuckle and extending beneath the same, the inner face of which finger is beveled, as and for the purpose set forth.

3. The combination, with a draw-head, of a spring-pressed knuckle pivoted therein, the spring normally holding the knuckle in a coupling position, and a finger projected from the front of the draw-head opposite the knuckle, which finger extends outward below or beneath the knuckle, substantially as and for the purpose set forth.

4. In a car-coupler, the combination, with a draw-head, a spring-pressed knuckle pivoted therein and extending forwardly therefrom, and a finger attached to the front of the draw-head at the side opposite that at which the knuckle is pivoted, said finger extending forward below and beneath the knuckle, of a shifting-lever, and a connection, substantially as shown and described, between the shifting-lever and the knuckle, whereby the latter may be carried to an uncoupled position, as and for the purpose set forth.

SIMON J. FREEMAN.

Witnesses:

T. F. MULLIN,
GEO. FREEMAN.