(No Model.)

C. M. HOAG.

CAR COUPLING.

No. 301,987. Patented July 15, 1884.

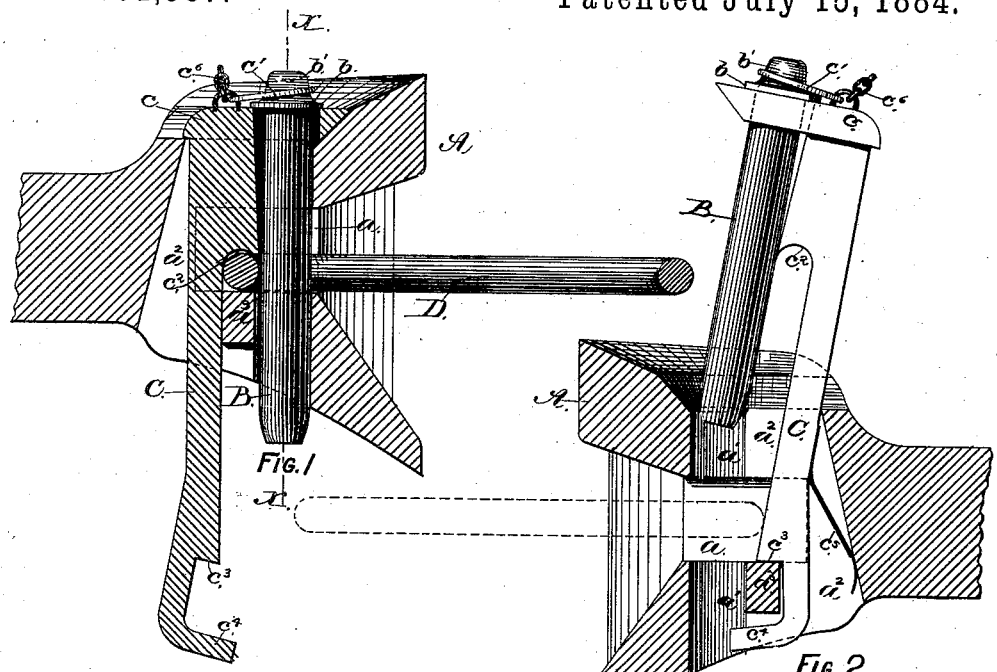

Fig. 1.

Fig. 2.

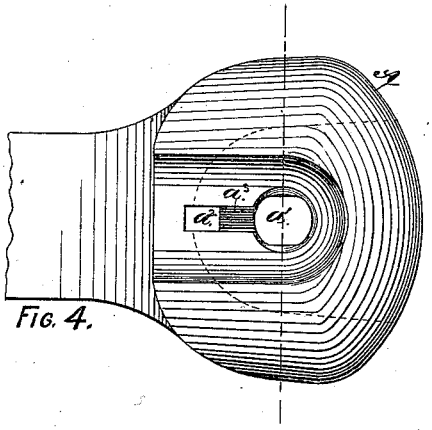

Fig. 4.

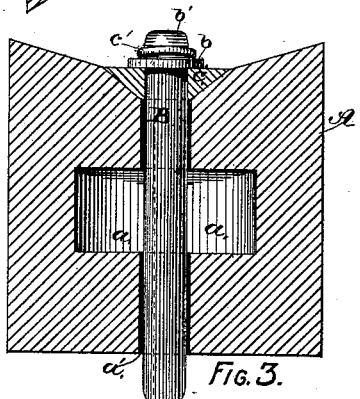

Fig. 3.

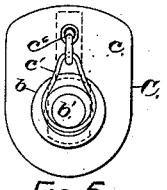

Fig. 5.

Witnesses:

S. B. Brewer.

H. V. Scattergood.

Inventor:

Chas. M. Hoag,

by William H. Lowe,

Attorney.

UNITED STATES PATENT OFFICE.

CHARLES M. HOAG, OF GREENBUSH, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 301,987, dated July 15, 1884.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. HOAG, of Greenbush, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to improvements in automatic car-couplings; and the object of my invention is to provide a strong and durable coupling mechanism which will be prompt and certain in its action, which will not endanger the safety of the persons engaged in its manipulation, and in which the old and common form of coupling pins and links, either or both—such as are used in the old and well-known style of car-couplings—may be employed when occasion requires. This object I attain by means of the mechanism illustrated in the accompanying drawings, which, being referred to herein, form part of this specification, and in which—

Figure 1 is a longitudinal section of the draw-bar head, with the coupling-pin and carrier in position to engage the coupling-link; Fig. 2, a like section showing the coupling-pin and carrier in their raised positions, as when the coupling-link is removed from the draw-bar head; Fig. 3, a transverse section of Fig. 1 at the line *x x;* Fig. 4, a plan view of the draw-bar head; and Fig. 5, a plan view of the upper end of the coupling-pin and carrier.

As represented in the drawings, A indicates the head of the draw-bar; B, the coupling-pin; C, the carrier for the coupling-pin, and D the coupling-link.

The draw-bar head A is made substantially in the form shown, and has in its outer end a recessed opening, *a*, for the purpose of receiving the coupling-link D. A vertical opening, *a'*, formed in said head, is adapted to receive the coupling-pin B, and a narrow vertical mortise, a^2, which opens into the rearmost side of the opening *a'*, and extends therewith entirely through from the top to bottom of said head, excepting the space occupied by the bridge-bar a^3, which forms a back for the opening *a'*, near the lower end of the latter, and which is used for a purpose hereinafter explained.

The coupling-pin B is of an old and well-known form which has been in use for many years in coupling mechanisms, wherein the operations of coupling and uncoupling are effected by hand by an operative who stands between the cars.

The carrier C, which constitutes an important feature of this invention, consists of a flat bar that is fitted to slide freely in the mortise a^2 of the draw-bar head. Said carrier is provided with a head, *c*, having an opening, in which the coupling-pin B is fixed, as shown in Fig. 1, and in which said coupling-pin (supported by its collar *b*) is secured by means of the yoke *c'*, which is jointed to the head *c*, and engages over the head *b'* of the coupling-pin in such manner as to prevent any accidental separation of the coupling-pin and carrier. The upper part of the flat bar of the carrier C, against which the coupling-pin bears while said carrier is raised, as shown in Fig. 2, is provided with a shoulder, c^2, that is so proportioned that when the link D is coupled in place, as shown in Fig. 1, said shoulder will bear upon the bend of the link, and retain said link in, or nearly in, a horizontal position. Below the shoulder c^2 the carrier is reduced in width, and a second shoulder, c^3, is formed to engage upon the upper side of the bridge-bar a^3 for the purpose of sustaining the carrier in a raised position, as shown in Fig. 2, wherein it will hold the coupling-pin B entirely out of the path of a coupling-link as it enters the opening *a* of the draw-bar head. Below the shoulder c^3 the flat bar of the carrier, after being further reduced in width, is given a rearward inclination, and is then bent forward to form the hook c^4, which is adapted to engage under the bridge-bar a^3, so as to prevent the accidental displacement of the carrier from the mortise a^2. As I preferably construct it, the carrier C is provided with a spring, c^5, which is attached to its rear edge, as shown in Fig. 2, for the purpose of imparting to said carrier a tilting motion in the operation of raising it, so as to insure a positive engagement of the shoulder c^3 on the top of the bridge-bar a^3; but when the lifting-chain c^6, which is connected to the head of the carrier C, is led backward toward the upper part of the end of the car on which this coupling device is used, the angular strain on said

chain in the operation of lifting will produce the requisite tilting motion of the carrier. The carrier C should be connected to the end of the car either by means of chains, and sheaves, levers, or any of the usual appliances that can be operated from the top or sides of a car in such manner that an operative can manipulate said carrier without being obliged to enter the space between two conjoining cars.

The connecting-link D is of the old and well-known form—like an elongated straight link of a chain—that is commonly used in the usual style of coupling mechanisms.

The carrier C and its coupling-pin B of one coupling being held in the raised position shown in Fig. 2, and the coupling-link D of the next coupling being held in a horizontal position, as shown in Fig. 1, the mode of coupling cars is as follows: One of the cars is moved so that the free end of the link D will enter the opening *a* of the draw-bar head, as indicated by dotted lines in Fig. 2, and strike the carrier C with sufficient force to dislodge the shoulder c^3 from the bridge-bar a^3, whereupon said carrier and the coupling-pin B will drop into the position shown in Fig. 1 and automatically effect the engagement of the two parts.

Whenever for any reason it is necessary to dispense with the use of the carrier C, my coupling can be operated in the same manner as an ordinary old-style coupling by simply inserting a coupling-pin into the vertical opening *a'*, so as to secure the coupling-link D; but in such cases my device will lose its automatic character, and its manipulation will be attended by the dangers which accompany the use of that class of couplings.

I claim as my invention—

1. In a car-coupling, the combination, with a draw-bar head, A, provided with recessed opening *a*, a vertical opening, *a'*, having the vertical mortise a^2, opening thereinto, and the bridge-bar a^3, all as herein described, of the carrier C, adapted to contain a removable coupling-pin B, and provided with shoulders c^2 and c^3, and hook c^4, all being constructed and arranged to operate as and for the purpose herein specified.

2. In a car-coupling, the combination, with a separate coupling-pin, B, of the carrier C, having the yoke c' jointed thereto, the said yoke being adapted to engage with the coupling-pin B, in the manner and for the purpose herein specified.

CHARLES M. HOAG.

Witnesses:
WM. H. LOW,
S. B. BREWER.