(No Model.)

J. T. FRIEND.

CAR COUPLING.

No. 456,809. Patented July 28, 1891.

Fig. 1.

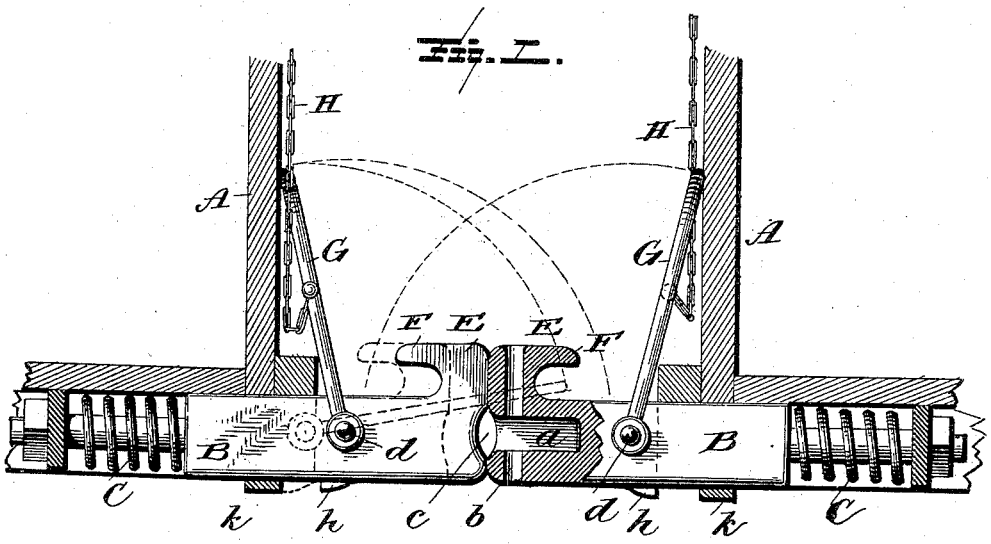
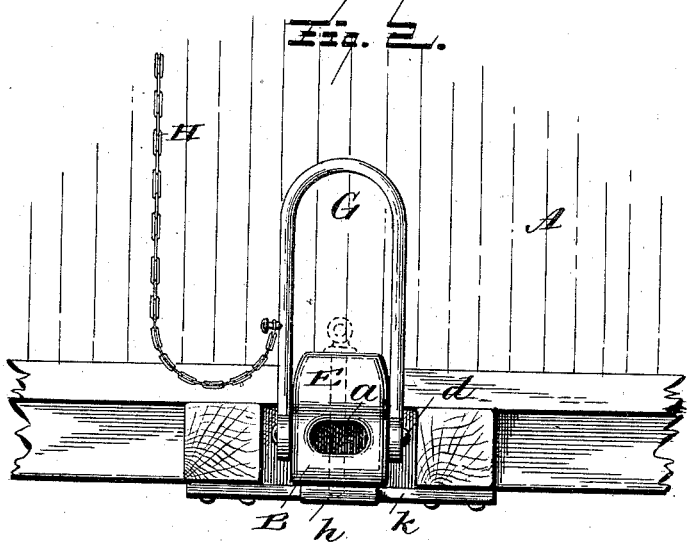


Fig. 2.



Witnesses
L. C. Hills.
E. A. Bond.

Inventor:
John T. Friend.
E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

JOHN T. FRIEND, OF IRVINE, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 456,809, dated July 28, 1891.

Application filed December 31, 1890. Serial No. 376,319. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. FRIEND, a citizen of the United States, residing at Irvine, in the county of Estill, State of Kentucky, 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.

This invention relates to certain new and useful improvements in car-couplings; and it has for its objects, among others, to provide an improved device of this character which shall be automatic in its action and which shall be composed of few parts and those readily applied to cars of ordinary construction. I provide a hook-shaped mouth to the draw-head and pivot a gravity coupling rod or arm to engage the same. The said coupling-rod normally stands substantially vertical and is designed to be thrown into a horizontal position upon contact of the draw-heads. Means are provided for coupling or uncoupling from the top of the car.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claim.

The invention in the present instance resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a vertical longitudinal section through portions of two cars provided with my improved coupler. Fig. 2 is an end view of a portion of one of the cars.

Like letters of reference indicate like parts in both views.

Referring now to the details of the drawings by letter, A designates the end portions of two cars, and B the draw-heads thereof. These draw-heads are provided with the usual springs C, arranged in the ordinary manner, the said springs being designed to be compressed as the draw-heads are brought into contact as the cars approach each other. The mouths of the draw-heads are formed with inwardly-extending chambers *a* to permit of the use thereof with the ordinary link and pin when occasion may require, the said draw-heads being also provided with the usual pin-openings *b*. The mouths of the draw-heads are also cut away, as shown at *c*, to allow of the passage of the hand for coupling. Each draw-head is formed with a vertical extension E at its outer end, and the pin-opening extends through this extension, as shown at the right of Fig. 1. These extensions terminate in rearwardly-extending hooks F above the upper face of the draw-head proper, as seen more clearly in Fig. 1. The point of the hook overhangs, so as to prevent vertical displacement of the coupling arm or clevis when the cars are coupled.

G is the coupling arm or clevis, which is substantially U-shaped, as shown in Fig. 2, being pivotally connected with the draw-head by means of a transverse pin *d*, the said arm being arranged to normally stand in substantially a vertical position, as seen in Fig. 1, being supported against the front end of the car. As the cars come in contact, the draw-heads are forced inward and the coupling-arms are thrown down into a horizontal position, and the springs then force the draw-heads outward, when the said draw-heads will be separated slightly and the cross-bars of the coupling-arms engage the hooks of the draw-heads beneath the overhanging portions thereof and the cars are coupled.

The dotted lines in Fig. 1 illustrate the movements of the coupling-arms in the act of coupling. I may sometimes attach a chain H to the coupling-arm, so that the cars may be uncoupled from the top of the car.

In order to limit the inward movement of the draw-head and to give a sudden jar thereto, so as to be sure that the coupling-arm will fall when the cars come together, I provide a lug *h* on the under side of the draw-head, which is designed to engage a fixed piece *k* on the under side of the car, as clearly seen in Fig. 1. Should either of the coupling-arms break, the other would hold the cars together, and thus there is double security against accidental uncoupling or breaking away of the cars.

What I claim as new is—

The improved car-coupling herein de-

scribed, consisting of the spring-actuated draw-head formed with integral lug *h* upon the under side and with the mouth cut away, as at *c*, and formed with chamber *a*, vertical extension E, with vertical pin-opening *b* extending through the extension and chamber, the rear face of the extension above the upper face of the draw-head proper terminating in rearwardly-extending hook F, and the U-shaped coupling-arm pivotally connected to the draw-head substantially over the said lug, and provided with a lateral pin or extension substantially near the center of its height for the attachment of a chain or cord and adapted for use with a draw-head of similar construction, substantially as shown and described.

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

JOHN T. FRIEND.

Witnesses:
PARK L. HUME,
GEORGE W. FRAZIER.