(No Model.)

W. DAVIS.

CAR COUPLING.

No. 302,547. Patented July 29, 1884.

Fig. 1.

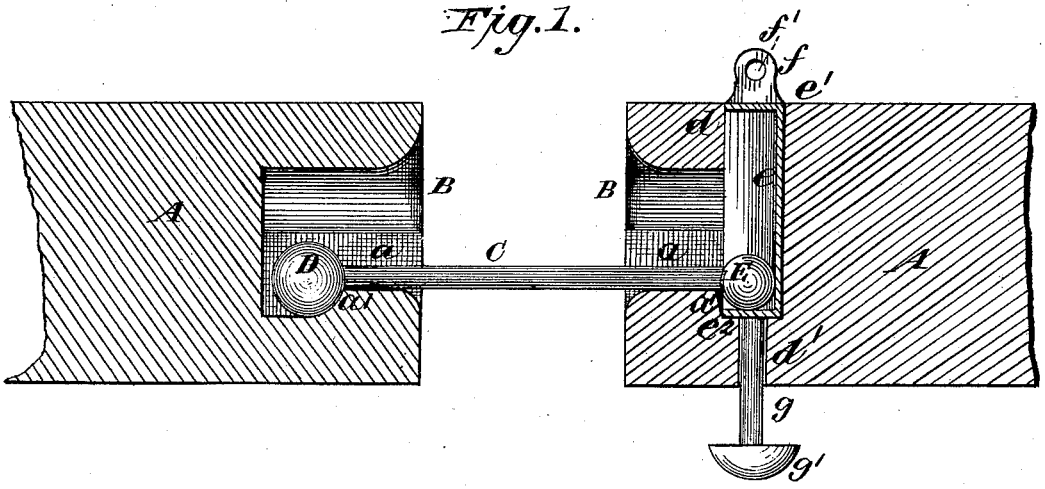


Fig. 2.

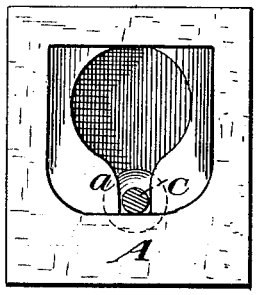
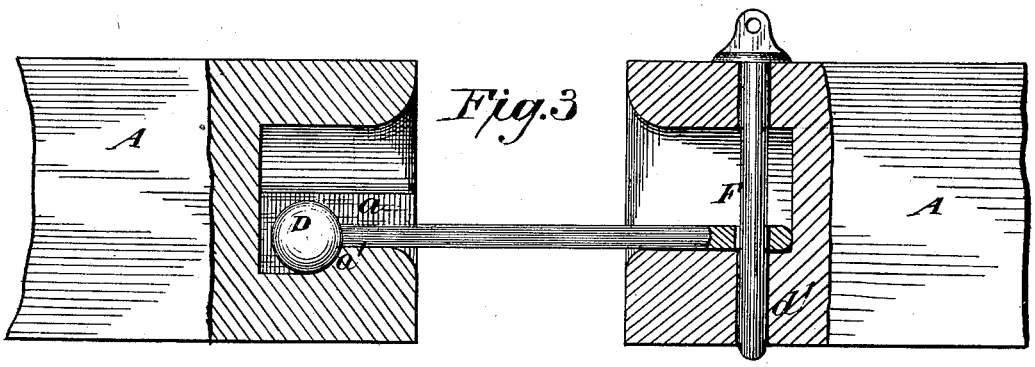


Fig. 3



Attest
Wm. A. Tanner
Alfred T. Sages

Inventor
William Davis
by
H. J. England his
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM DAVIS, OF ABILENE, KANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 302,547, dated July 29, 1884.

Application filed March 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DAVIS, a citizen of the United States, residing at Abilene, in the county of Dickinson and State of Kansas, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in car-couplings; and it consists in arranging the various parts of my device in such a manner that cars may be coupled automatically or coupled and uncoupled at will.

The object of my invention is to couple cars in a secure manner and permit lateral play or movement of said cars in rounding curves; and, further, that said cars will securely couple themselves when shunted together; or they may be coupled by the aid of an operator, or uncoupled, as desired. I attain these objects by means of the peculiar construction and arrangement of the various parts of my device, which I term a "cannon-ball coupler." Said device and parts will be more fully pointed out and described in the specification and claim.

Reference being had to the drawings accompanying this application and forming part of the same, Figure 1 is a vertical sectional view of my invention, showing the draw-heads coupled. Fig. 2 is a vertical cross-section showing the form of the inner part of the draw-head, and Fig. 3 is a vertical sectional view showing draw-bar and pin.

Similar letters refer to similar parts throughout the drawings.

Referring to the drawings, A represents an ordinary draw-head that is formed with a concavity in its end extending inward a suitable distance, said concavity being inclined inward and formed with a central slot, *a*, said slot extending in a vertical position about one-half the height of the concavity. The upper portion of the inclined cavity is enlarged at the inner end, circular in form, as shown at Fig. 2, said circular cavity *b* extending inward to a vertical cylindrical cavity, *c*. The front walls, *a'*, of said cavity at their upper edges are formed flat for the purpose of forming a rest or bearing for the ball on the draw-bar. One of said draw-heads is formed as above described, and the opposite one is formed with a vertical cavity, *d*, extending from the upper face of said draw-head downward to within a short distance of the lower face of the same, from whence a smaller circular perforation, *d'*, extends to the lower face of the same. A semi-cylindrical plate or lifting-loop, *e*, is formed of metal, having a top, *e'*, and bottom e^2, and a rounded projection, *f*, having a perforation, *f'*, on its upper face. Projecting from the bottom e^2 is a pin, *g*, having a rounded cap, *g'*, on its outer end, as shown in Fig. 1. The purpose of this construction is to permit of the plate *e* being raised at the will of the operator until the end *g'* abuts against the under face of the draw-head. It will drop of its own weight.

A draw-bar or connecting-rod, C, is formed of metal and of proper size and length. On each end of said bar C are formed round balls D and E, said balls adapted to pass loosely into the upper parts of cavities B and drop down in one vertical cavity to the bottom of the same, while the opposite ball will drop into the plate *e*, thus bringing the rod C within the walls of the slot *a*. The balls drawing against the inner walls of said slots hold the cars together, and form a secure and reliable coupling, that will couple automatically or by the aid of an operator, that will uncouple only by the aid of an operator. This construction will permit the cars to assume different angles or positions on the road when rounding curves; but in case either car is derailed or flies the track, then the coupling will instantly separate and leave the balance of the train on the track.

In case it is desirable to couple with ordinary cars having the common draw-head, with central pin, F, only one end of bar C is provided with a ball, the opposite end being slotted to receive said pin F, when the coupling is completed, as shown in Fig. 3.

I denominate my invention the "cannon-ball coupling" from the fact that balls similar to cannon-balls are placed on each end of the draw-bar.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

The combination, with the draw-head having a cavity provided with a central slot and a vertical slot at the rear of the cavity, of the lifting-plate adapted to receive the ball at one end of the draw-bar, and provided with a downwardly-extending pin and stop and an upwardly-extending projection, whereby the cars may be uncoupled when desired, substantially as specified.

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

WILLIAM DAVIS.

Witnesses:
LLOYD VANSCOYOE,
J. G. ARMITAGE.