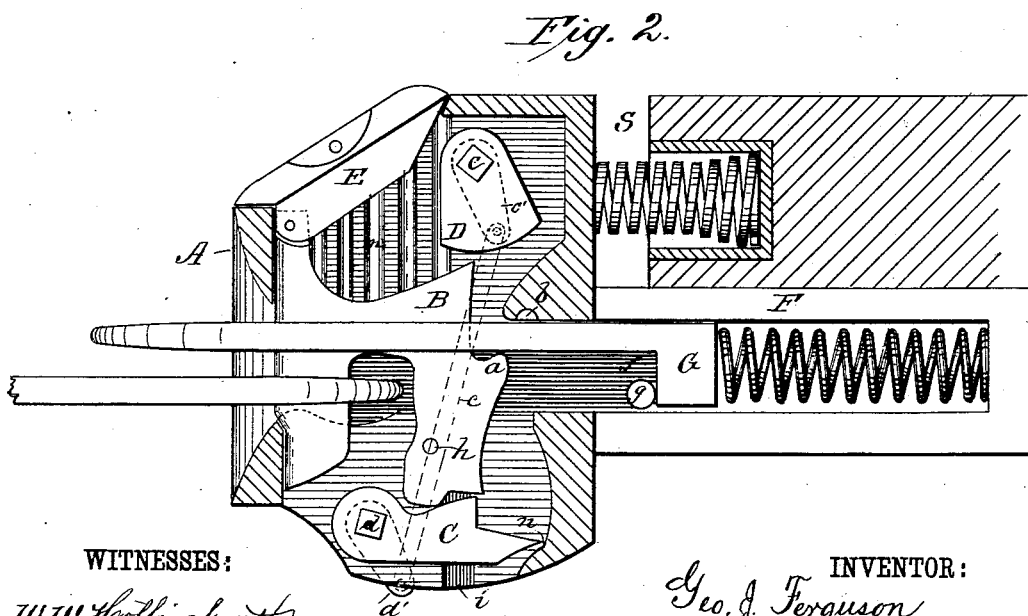
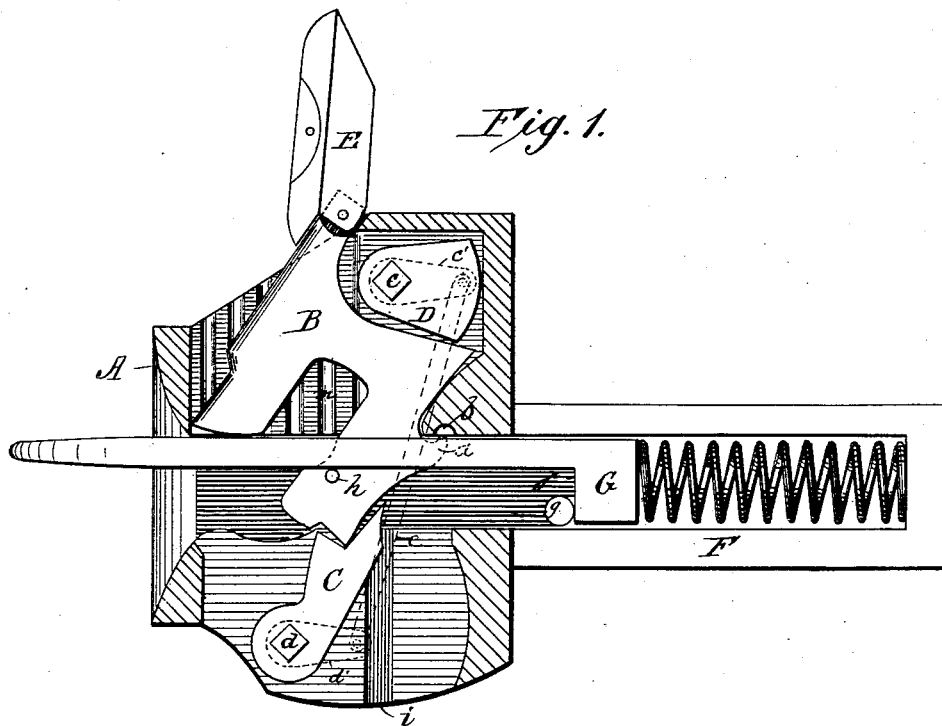


G. J. FERGUSON.

CAR COUPLING.

No. 343,806.

Patented June 15, 1886.



WITNESSES:

*W. W. Hollingsworth*  
*Edw. W. Byrnes*

INVENTOR:

*Geo. J. Ferguson*  
BY *Munn & Co*

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

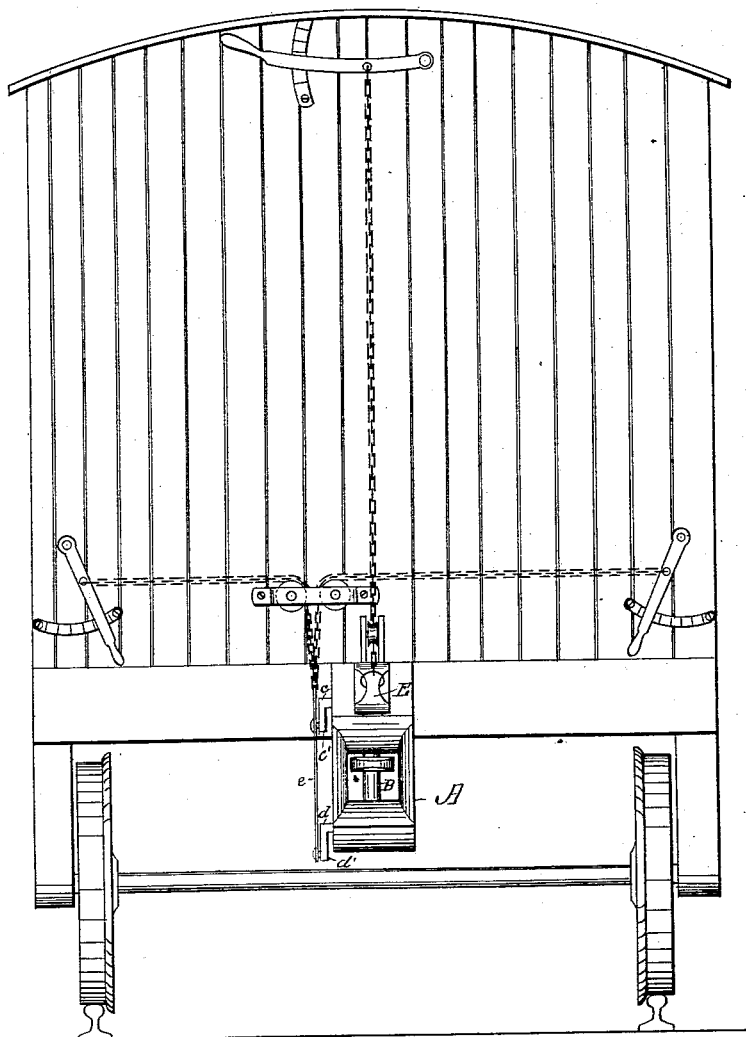
G. J. FERGUSON.

CAR COUPLING.

No. 343,806.

Patented June 15, 1886.

*Fig. 3.*



WITNESSES:

*W. W. Hollingsworth*  
*Edw. W. Byrnes*

INVENTOR:

*Geo. J. Ferguson*  
BY *Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

GEORGE JONES FERGUSON, OF GREENVILLE, TEXAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 343,806, dated June 15, 1886.

Application filed October 3, 1885. Serial No. 173,947. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE JONES FERGUSON, a citizen of Great Britain, residing at Greenville, in the county of Hunt and State of Texas, United States, have invented a new and useful Improvement in Car-Couplings, of which the following is a description.

Figure 1 is a vertical section with the devices in position for automatic coupling. Fig. 2 is a similar view showing the coupled position, and Fig. 3 is an end view of a car equipped with my improved coupling.

My invention is designed to provide an improved positive automatic car-coupling for coupling cars without involving the necessity of going between the same; and it consists in the peculiar construction and arrangement of parts, which I will now proceed to fully describe.

In the drawings, A represents the draw-head, which is provided with a tapering opening at the front for the link, and with a vertical channel intersecting the link-throat, in which channel the coupling devices are contained. These consist of the inverted-U or hook shaped coupling B, lift-arm C, and stop-abutment D. On the back of the U-shaped piece is formed a hook, *a*, which is designed to catch under a hook-shaped projection, *b*, formed on the back wall of the draw-head. The object of this hook *a* is to cause the U-shaped coupling B to tilt when it is raised by lift-arm C, and throw the front end of said coupling B above the throat of the draw-head, as shown in Fig. 1, so that when the link of the opposing car enters this draw-head said link will strike the rear branch of the U-shaped coupling and force it and the lift-arm C back and down, forcing its front branch through the entered link, and couple the cars. When the U-shaped coupling is down, the stop-abutment D drops or gravitates to a position above the U-shaped coupling, which holds it from rising out of the engaged link. The lift-arm C and also the stop-abutment D are each rigidly fixed to their rock-shafts *c* and *d*, which have, outside of the draw-head, cranks *c'* and *d'*, (see dotted line,) which are connected together by a cord, *e*, (or link,) and which are operated together to lift the arm C and U-shaped coupling and turn the stop D back out of the way

of the rising U-shaped coupling. In this motion it will be seen that the hook *a* of the coupling, by catching beneath the stationary hook *b* of the draw-head, tilts the U-shaped coupling and holds it, as shown in Fig. 1, maintained upon the end of the lift-arm C. To prevent the lift-arm from descending too low, a shoulder, *n*, stops it in a horizontal position.

Instead of raising the coupling by the lift-arm, a cover or cap-piece, E, is jointed to the top of the U-shaped coupling, and provided with a cord or chain, and serves the double purpose of a cover to the top of the channel in the draw-head, to keep out snow, dirt, and sleet, and also a means for raising the coupling when it is desired to uncouple the cars, the stop-abutment being deflected to permit this action by the other cord. Back of the draw-head there projects a hollow extension, F, in which is contained a spiral spring, and against which bears the end of a stationary link, G, fixed in the draw-bar and surrounding the coupling device B. The rear end of this link is provided with a hook or shoulder, *f*, which pulls against a horizontal pin, *g*, which is detachably fixed in the draw-bar back of the draw-head. It will therefore be seen that the draft-strain of the links is borne at a point back of the draw-heads, so that if the draw-head gets broken the cars are still held together by the coupling. The object of the spring behind the link is to allow the latter to yield when it strikes the opposite draw-bar. This spring, to prevent being doubled up, should have a guide-stem within its coils. When the link G is to be entered into the mouth of the opposing draw-head, it is adjusted to height, raised, and held in horizontal position by pins *h* on the sides of the rear branch of the U-shaped coupling, which pins slide in grooves *i* in the side of the draw-head when the coupling is closed. The sides of the vertical channels of the draw-head are serrated or grooved at *m*, to permit dirt and grit to pass down beside the coupling B without causing the latter to grip.

From the coupling as thus described the cords or chains may be run to the sides and top of the car, as shown in Fig. 3, so as to permit it to be coupled or uncoupled from the top or either side. A tapering spiral spring, S,

Fig. 2, is placed in dead-wood or bumper-block, so that upward-projecting part of draw-head will bear against it, so that the head as well as stem portions of draw-head will have spring to receive shocks from cars butting together. Said spiral spring should project out of dead-wood or bumper-block till it touches projection on draw-head, and said spring should have heavy cast seat to protect the end sill of car, and also a cast sleeve surrounding it in dead-wood. When necessary to move cars without coupling, the link can be removed and hung on a convenient hook on end of car, and be at hand when needed. Extra links can be carried in the same way.

Having thus described my invention, what I claim as new is—

1. The combination, with a draw-head having a hooked projection, *b*, of the inverted-U-shaped coupling B, having hook *a* on its rear side, and means for raising and holding the U-shaped coupling, substantially as described.

2. The combination, with a draw-head having a hooked projection, *b*, of the inverted-U-shaped coupling B, having hook *a* on its rear side, and the lift-arm C, for raising and sustaining the coupling device, as described.

3. The combination, with a draw-head having a hooked projection, *b*, of the inverted-U-shaped coupling B, having hook *a* on its rear

side, the lift-arm C, and the swinging stop-abutment D, as and for the purpose described.

4. The combination, with the draw-head having a vertical channel and the inverted-U-shaped coupling B, of the cover E, jointed to the coupling B, and serving the double purpose of a cap or cover to the vertical channel, and means for raising the coupling device, as described.

5. The combination, with a draw-bar having a horizontal pin back of the draw-head, of a link fixed in the draw-head and having its rear end formed with a projection, *f*, hooked around said pin, as and for the purpose described.

6. The combination, with a draw-bar having a pin back of the draw-head, of a link fixed in the draw-head and having its rear end hooked around said pin, and a spring arranged in rear of said link, as and for the purpose described.

7. The inverted-U-shaped coupling B, having pins *h* projecting from its sides, in combination with a link secured back of the draw-head and arranged to be lifted by said pins, as and for the purpose described.

GEORGE JONES FERGUSON.

Witnesses:

M. J. BIRDSONG,  
J. E. INGRAM.