L. BROWN.
Car-Coupling.

No. 208,457. Patented Oct. 1, 1873.

Fig. 1.

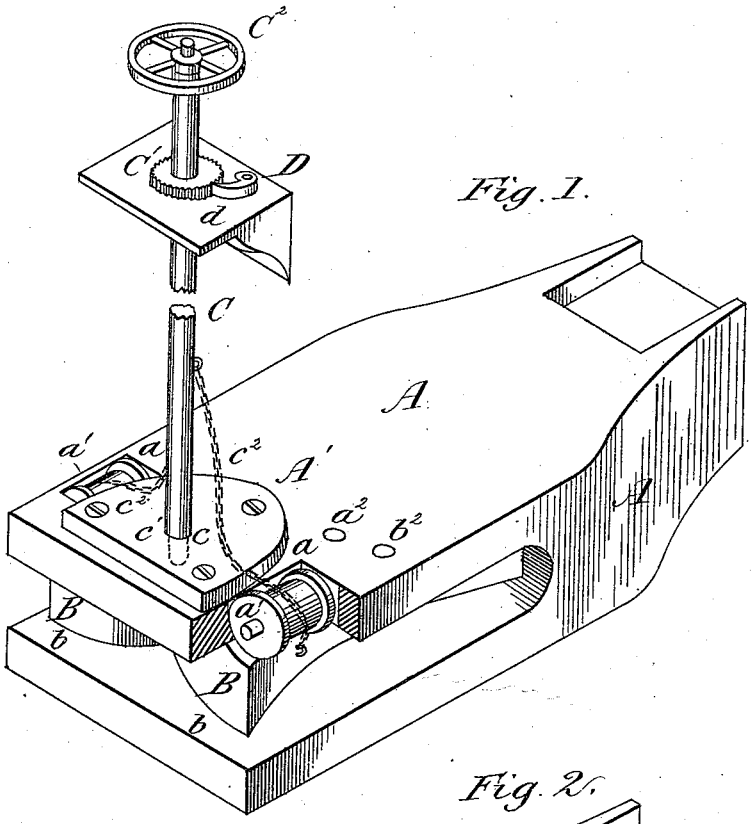



Fig. 2.

Fig. 4.

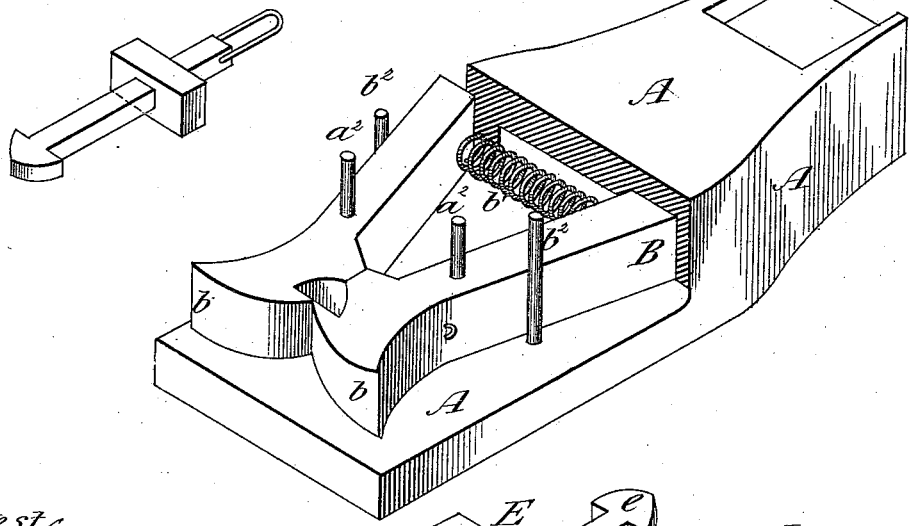
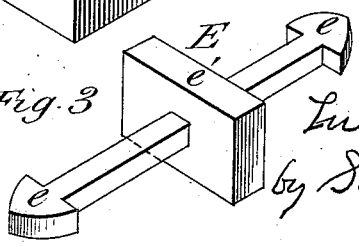



Fig. 3

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# UNITED STATES PATENT OFFICE.

LUTHER BROWN, OF BLOOMFIELD, IOWA.

## IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **208,457**, dated October 1, 1878; application filed July 10, 1878.

*To all whom it may concern:*

Be it known that I, LUTHER BROWN, of Bloomfield, in the county of Davis and State of Iowa, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of my invention, a portion of the draw-head being broken away. Fig. 2 is a similar view, a portion of the draw-head being also broken away. Figs. 3 and 4 illustrate the coupling-link or draw-bar.

The object of my invention is to construct an effective self-coupler for railroad-cars which may be conveniently operated from either side of the car or train of cars when it is desired to uncouple or couple up the cars; and to this end it consists in a novel construction and combination of devices, as will be fully explained.

In the drawings, A is the shell of the draw-head, which may be attached to the car in any usual or preferred manner. *a a* are slots formed in the upper wall of the draw-head, in which are mounted friction-pulleys $a^1$ $a^1$.

B B are griping-jaws, pivoted at $a^2$. The front ends of these jaws are expanded and inclined outwardly, as at *b*, (see Fig. 2,) forming a throat. The rear ends of the jaws are connected with each other by means of a spiral spring, $b^1$.

$b^2$ $b^2$ are stops, which limit the backward movement of the jaws, as will be explained.

C is a shaft, mounted vertically at the front end of the car. The lower end of this shaft is supported upon the draw-head as follows: The shaft is provided with a collar, *c*, and a spindle-point, $c^1$, which rest in a correspondingly-shaped recess or seat formed in the draw-head. $A^1$ is a cap, secured to the draw-head to hold the shaft in place. D is a bracket attached to the end of the car, and provided with a bearing, in which the upper end of the shaft is supported. As the draw-head has some motion independently of the car, all the bearings of the shaft have considerable play to permit the desired freedom of movement. $C^1$ is a ratchet-wheel secured to shaft C. *d* is a spring-pawl mounted upon the bracket D, and engaging with the ratchet $C^1$. $C^2$ is a hand-wheel on the top of shaft C. $c^2$ $c^2$ are chains or cords extending from shaft C around the pulleys $a^1$ $a^1$ to the jaws B, in front of the pivots $a^2$ $a^2$.

From an examination of the drawings it will be seen that the mounting of the lower end of this shaft in the shell of the draw-head insures that it (said shaft) shall always occupy such relation to the chains $c^2$ $c^2$ and pulleys $a^1$ $a^1$ that when the shaft is rotated in the proper direction both chains will be so wound around the shaft as to withdraw both jaws uniformly from the center of the throat, thus insuring the release of a link or draw-bar, which I will now proceed to describe.

E is a draw-bar or link, provided at each end with arrow-heads *e e*, and with an enlarged central portion, *e'*, its sides being at right angles to the bar.

The operation of my coupling is substantially as follows: When the parts are in the position shown, the draw-bar will be firmly held between the jaws, and the forward-projecting end of the bar will stand at a right angle, substantially, to the front end of the car, and in the proper position for entering the opposing draw-head, in consequence of the part *e'* resting against the end of the draw-head, as shown in the drawing.

When it is desired to uncouple the cars, the shaft C is rotated, winding up the chains $c^2$ $c^2$, thus withdrawing both jaws from the draw-bar, as will be readily understood.

The pawl *d* will engage with the ratchet-wheel $C^1$, and thus retain the jaws in such position that the arrow-head of a draw-bar may enter the draw-head and be withdrawn therefrom at pleasure, until such time as the operator desires to couple the cars, when he will release the pawl from the ratchet, thus permitting the spring $b^1$ to move the jaws into the position shown in the drawing.

It will be seen that when the chains $c^2$ $c^2$ are left slack, in consequence of their being unwound from the shaft C, the front ends of the jaws B B will be pressed toward each other

by the action of the spring $b^1$, and that the throat between these jaws is kept in proper position to receive the opposing end of the draw-bar or link by means of the stops $b^2$ $b^2$.

By arranging the shaft C centrally of the car, I am enabled to utilize the shell of the draw-head as a metallic support for the lower end of said shaft, and by thus arranging the shaft and using two chains, $c^2$ $c^2$, I provide that the car can be uncoupled with equal facility from either side.

What I claim is—

1. The combination of the jaws B B, the pivots $a^2$ $a^2$, spring $b^1$, and stops $b^2$ $b^2$, substantially as set forth.

2. The combination of the shell A, having slots $a$ $a$, pivoted jaws B B, shaft C, supported at its lower end between pulleys $a^1$ $a^1$, chains $c^2$ $c^2$, and pawl and ratchet $d$ $C^1$, substantially as set forth.

3. The shell A of the draw-head, recessed to receive the lower end of the shaft C, in combination with the shaft, provided with the collar $c$ and the cap $A^1$, substantially as set forth.

4. The shaft C, supported at its upper end in bracket D, and at its lower end in the shell of the draw-head, in combination with the ratchet-wheel $C^1$, pawl $d$, jaws B B, pivots $a^2$ $a^2$, chains $c^2$ $c^2$, and pulleys $a^1$ $a^1$, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LUTHER BROWN.

Witnesses:
M. B. HORN,
WILLIAM VOTAW.