

S. A. OTIS.
Car-Couplings.

No. 143,459.

Patented Oct. 7, 1873.

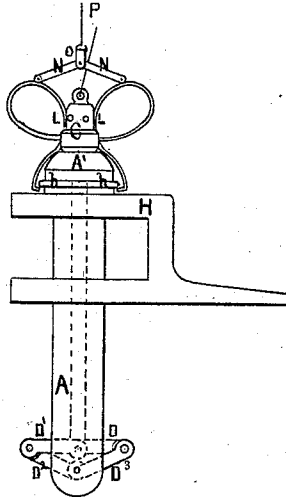


Fig. 1.

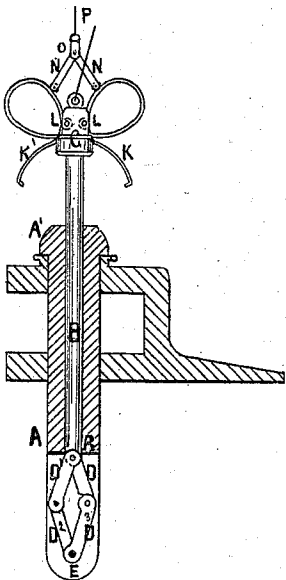


Fig. 2.

WITNESSES

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SAMUEL A. OTIS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **143,459**, dated October 7, 1873; application filed May 6, 1873.

To all whom it may concern:

Be it known that I, SAMUEL A. OTIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Shackle-Pin for Cars, of which the following is a specification:

The object of my invention is to prevent the shackle-pin of a car from being thrown out of place by the jar or shock of the car; also, to some extent, to prevent mischievous people from drawing it, and thus causing accidents.

The nature of the invention consists in combining with the pin a toggle-latch or grapple to lock it in place.

Figure 1 shows in elevation the draw-bar of a car with one of my pins. Fig. 2 shows the same in section.

Let H represent the draw-bar of a car made in the ordinary manner, except the addition of the small collar and flange *h h*. The pin A A' has a central hole through it, as shown in Fig. 2. Through the center of the pin A A' I pass a rod, B, which has at the top a head, C. D D¹ D² D³ are four toggle-pieces united to each other, and at the lower end E to the pin A, as shown. The upper end of the toggle is united to the lower end of the rod B at R. When the rod B is in the position represented in Fig. 1, then the arms of the toggle D D¹ D² D³ project, as shown, so that the pin A cannot come out of the draw-bar. But if the rod B be first drawn up it will cause the toggle D D¹ D² D³ to assume the position indicated in Fig. 2, and

thus leave the pin free to pass up through the hole in the draw-bar. To double-lock the pin I have the following-described device: K and K' are bent grapples hung at L and L' to the head C of the rod B. These grapples K and K' are connected by the links N N' and loop O to the chain or rope P. The lower ends of the grapples engage with the flange *h h* on the draw-bar H, and thus hold the pin A in place. To unlock the grapple it is only necessary to pull the chain or rope P. This action throws the lower ends out and frees them from the flange *h h* on the draw-bar H, and admits of the withdrawal of the pin. It is the double-locking of the pin that I rely upon for preventing mischievously-inclined persons from drawing the pin.

I claim as my invention—

1. The combination of the pin A with the toggle D D¹ D² D³ and rod B, substantially as described, and for the purpose set forth.
2. The combination of the pin A with the grapple K K' and draw-head having the flange *h h*, substantially as described, and for the purpose set forth.
3. The combination of the grapple K K' and the pin A with the toggle D D¹ D² D³ and the rod B, substantially as described, and for the purpose set forth.

SAMUEL A. OTIS.

Witnesses:

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