E. A. HOWLAND.

Car Coupling.

No. 202,261. Patented April 9, 1878.

Fig. 1.

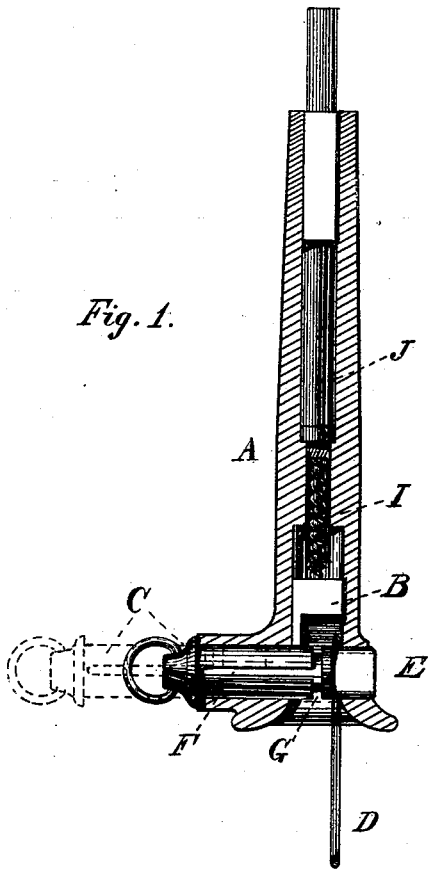
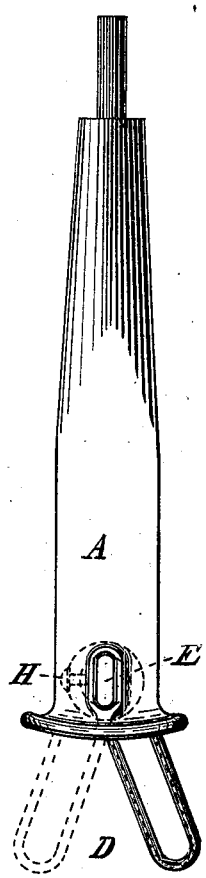


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ESTHER A. HOWLAND, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **202,261**, dated April 9, 1878; application filed June 25, 1877.

To all whom it may concern:

Be it known that I, ESTHER A. HOWLAND, of the city and county of Worcester, State of Massachusetts, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full description, due reference being had to the accompanying drawing and the letters of reference marked thereon.

My invention relates to that class of couplings in which a link is used between two draw-bars of similar construction, and is designed to be used as a self-coupler or non-coupler, as desired, to give sufficient strength, with great freedom of movement, to the link, and to have the pin always at hand for use.

The nature of my invention consists in the peculiar construction and combination of a round weighted pin with the common link and flaring-mouthed draw-bar, by which I obtain several important advantages over the couplings shown in Patents Nos. 39,927 and 47,108, on which mine is an improvement, the round weight-pin obviating the danger of bending or breaking the link, as the shock is received on the round surface of the pin, and, glancing, strikes the side or mouth of the draw-bar, which receives the main part of the thrust, relieving the pin, while in the patents referred to the pin receives the whole shock, frequently resulting in a bent or broken pin and useless coupling.

By my construction I overcome the practical objections to the devices shown in these patents, and combine their advantages with improvements in simplicity and operation, enhancing the practical utility and durability.

The accompanying drawing shows two views of a coupler or draw-bar embodying my invention, Figure 1 showing the outside in section, exposing the internal arrangement; and Fig. 2, a view of the under side.

The same letters indicate the same parts wherever they occur.

A is the draw-bar, fastened under the end of the car, in the usual manner, and having a flaring mouth, as shown, and a socket on its upper side for the pin C, and an oval opening in the under part, into which the end E fits loosely. B is a slide, held forward by the springs I and J, the latter quite stiff to receive the heavy shocks, while I operates to allow of coupling by the link D, which is of the common form.

The pin C is made round, and large enough to give the necessary weight, and also to make sufficient shoulder above the oval part E to rest on the link D and hold it horizontally, and has a longitudinal slot or groove, H, nearly its whole length, and near the shoulders another transverse one, G, connected to F, and with it forming an L-shaped slot, in which the end of the screw or pin H enters; and C has also a ring at its upper end, for convenience in lifting and turning.

The oval point E is made narrow, to enter the link D easily, and left full size in the direction of the pull or strain.

The operation is as follows: When the two cars are prepared to couple, the pin C of one is raised to the position shown in broken lines in Fig. 1, and the spring I pushes the slide B forward, ejecting the link, if one was in place. The end of C rests on B, which holds it up; the link of the other coupler, striking B, pushes it back, allowing the pin C to fall and the point E to pass through the link and the bottom of A, thus coupling the cars.

In switching, or at other times when it is desirable to push cars without coupling, one pin is raised and turned partly round, so that the end of H enters the horizontal part of its groove, and holds it up, preventing it from coupling; and when desired to couple, the pin is turned back and at once operates as before.

The operation of the springs I and J is similar to their use as in couplings heretofore made. The one, I, being lightest, operates for the coupling, while J operates only when the cars are pushed close together, thus relieving the shock or blow.

The advantages of the oval point E of the pin C are to give great freedom to the link, as shown in Fig. 2, and retain the strength in the direction of the pull or strain, and allow broad shoulders to rest on the link to hold it up for coupling.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The coupling described, consisting of the

bar A, round weight-pin C, having the oval point E and shoulder, the slide B, and link D, when constructed and operating as one, for the purposes above set forth.

2. The combination, in a car-coupling, of the round pin C, having the oval point E and square shoulders, with the L-shaped groove and its pin, substantially as and for the purposes described.

3. The combination, in a car-coupling, of the round pin C, having an oval point, E, and square shoulders, with the spring-slide B, substantially as and for the purposes set forth.

4. The combination, in a car-coupling, of the round pin C, having the oval point E and square shoulders, with the spring-slide B and L-shaped groove F G, when constructed and operating substantially as and for the purposes described.

In testimony whereof I hereunto set my hand this 23d day of May, 1877.

ESTHER A. HOWLAND.

Witnesses:
S. A. HOWLAND,
JAS. G. ARNOLD.