

W. H. DARLING.

Car-Couplings.

No. 154,127.

Patented Aug. 18, 1874.

Fig 1.

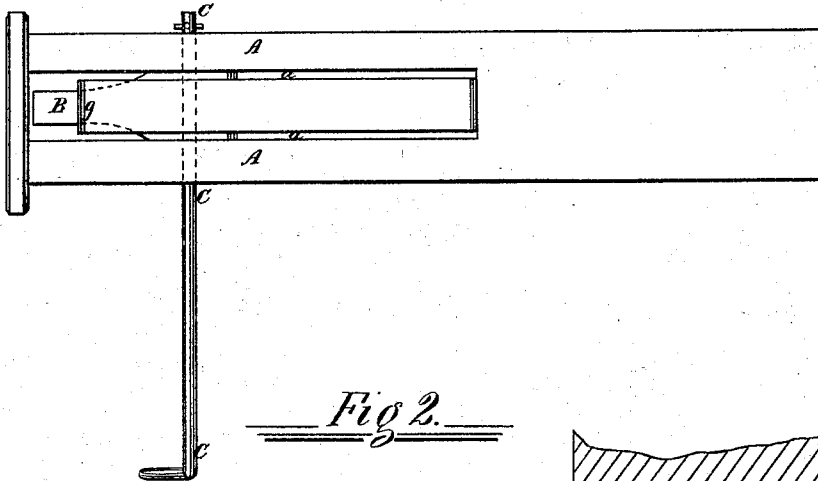


Fig 2.

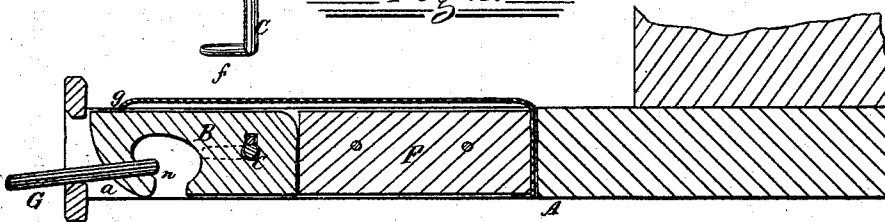


Fig 3.

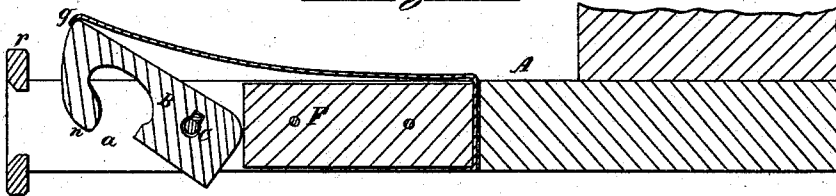
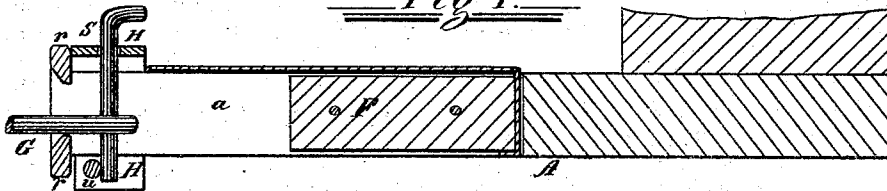


Fig 4.



Witnesses.

Wm Edwards

William B. Phair

Inventor.

W. H. Darling

UNITED STATES PATENT OFFICE.

WILLIAM H. DARLING, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **154,127**, dated August 18, 1874; application filed May 5, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. DARLING, of the city, county, and State of New York, have invented certain Improvements in Car-Couplings, of which the following is a specification:

This invention consists in certain novel combinations of parts, whereby is provided a railway-car coupling which may be operated to couple or uncouple the cars without involving the necessity, on the part of the operator, of passing between the cars, whereby the coupling-hook may, as occasion requires, be either held down to its place or be retained in a position elevated therefrom, and whereby, in case of accident to, or breakage of, or disability on the part of, the coupling-hook, the usual pin may be substituted, for the time being, in order to prevent serious delay from such casualty.

Figure 1 is a plan view of a car-coupling made according to my invention. Fig. 2 is a longitudinal section, taken in a vertical plane, showing the coupling-hook depressed; and Fig. 3 is a similar view of the same, with the said hook elevated. Fig. 4 is a like view, representing the use of the devices designed to substitute the coupling-hook in case of accident to the latter.

A is the draw-head, attached to the car in the usual manner. The outer-end portion of this draw-head is slotted vertically, as shown at *a*. Placed within this slot *a*, as shown in Figs. 1, 2, 3, is the coupling-hook B, shaped as shown more clearly in Figs. 2 and 3. This hook has its axis of movement at its inner end *b*, its pivot being constituted by the innermost portion of a transverse rod, C, passed through suitable bearings in the draw-head, and through a suitable socket in the coupling-hook itself, the hook being rigidly attached to the rod either by a key, *c*, or by any other suitable means. For example: In practice the socket in the hook may be of rectangular form, and the inserted portion of the rod be squared to fit the same. The rod C is extended laterally to such length or distance that its outer end, which should be bent at right angles to its main length, as shown at *f*, in Fig. 2, may be grasped by the hand, and an axial movement thereby be given to the

rod, which movement may lift or depress the hook, according as it is exerted in one direction or the other. The hook is, of course, arranged immediately behind, and in line with, the throat or entrance *d* of the draw-head.

It will be noted that the rod thus serves a double function: That of actuating the hook, and of serving as a pivot for the coupling-hook.

D is a spring, the main length of which is above, and longitudinal with, the adjacent part of the draw-head, and which has its fixed inner end bent downward and clamped in the innermost end of the slot *a* by a block, F, bolted fast on the said portion of the slot. The free end of this spring is curved downward, as shown at *g*. In its depressed or normal condition this spring holds the hook B down to its place; but, when forced upward by the lifting of the hook, this part *g* of the spring catches over or upon the upper corner of the hook, as represented in Fig. 3, and thereby holds the said hook in its elevated position until, by the exercise of a sufficient force applied to the rod C, as hereinbefore explained, the hook is depressed, and the spring brought to act again upon the upper surface of the said hook, to hold down the same. It will be seen, therefore, that the spring D serves a double purpose.

The coupling-hook being depressed, it is only necessary to thrust the link G inward, through the throat of the draw-head, against the inclined surface of the outer end of the hook. This, forcing the hook upward, enables the link to pass until the end of the link passing beyond the nose *n* of the hook, the hook descends, and passes its nose *n* through the link, to hold the same, the hook being pressed down by the spring D, as described.

When it is desired to uncouple, it is only necessary to exert a force, in the proper direction, upon the rod C, to lift the hook, thereby releasing the link, the hook, when raised to the requisite height, being caught by the curved end of the spring and retained, as hereinbefore explained.

To meet those uncertain contingencies—the breaking or disabling of the hook—I provide a detached collar, H, designed to pass upon the upper and lateral sides of the draw-head, behind its external molding *r*, and to have its

two ends connected by a bolt, *u*, passed underneath, as indicated in Fig. 4. In the upper side of this collar is a vertical hole. The coupling being detached, a bolt, *S*, is thrust through such hole, through the link previously inserted, and behind the bolt *S*. The bolt *S*, therefore, holds or couples the link, the collar being held to the draw-head by pressing against its molding *r*.

What I claim as my invention is—

1. The spring *D*, formed with the curved extremity *g*, combined with the coupling-hook, and serving the double purpose of holding down the said hook when it is depressed, and

of retaining it when raised, substantially as and for the purpose set forth.

2. The combination, with the vertically-slotted draw-head *A*, of the hook *B*, actuated by the pivoted and laterally-projecting rod *C*, and the spring *D* serving the double purpose of pressing down the coupling-hook when it is depressed and of holding it up when elevated, substantially as set forth.

WM. H. DARLING.

Witnesses:

JAMES A. WHITNEY,
WILLIAM B. PHAIR.