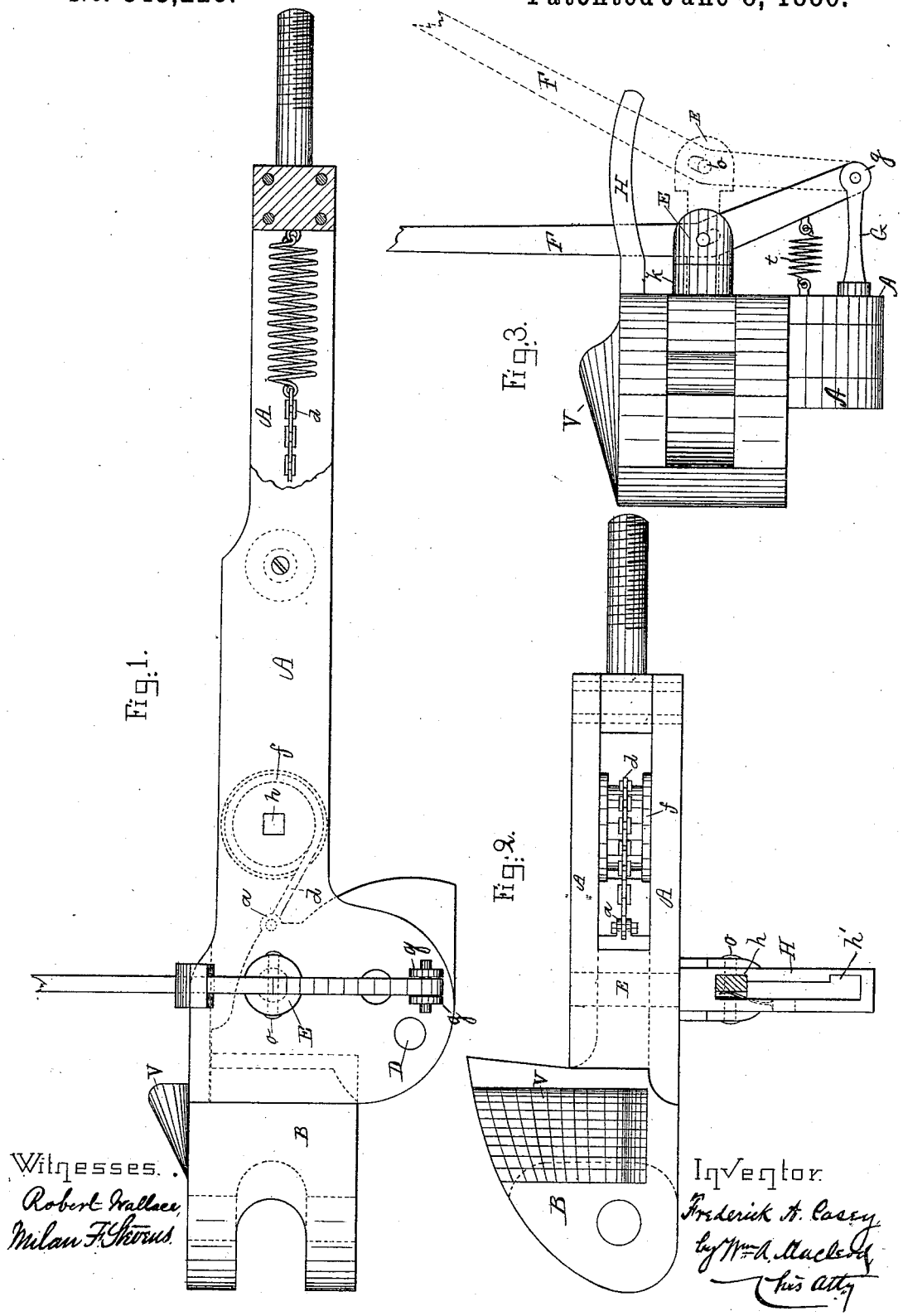
(No Model.) 2 Sheets—Sheet 1.

F. A. CASEY.

CAR COUPLING.

No. 343,223. Patented June 8, 1886.



(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

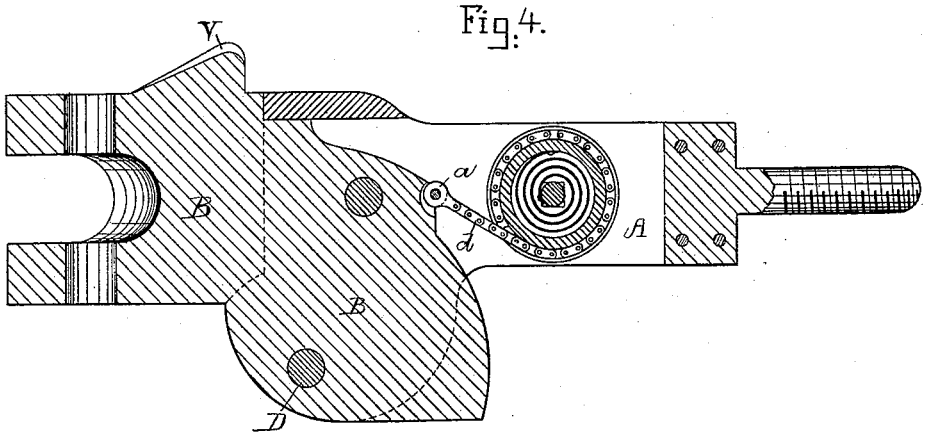
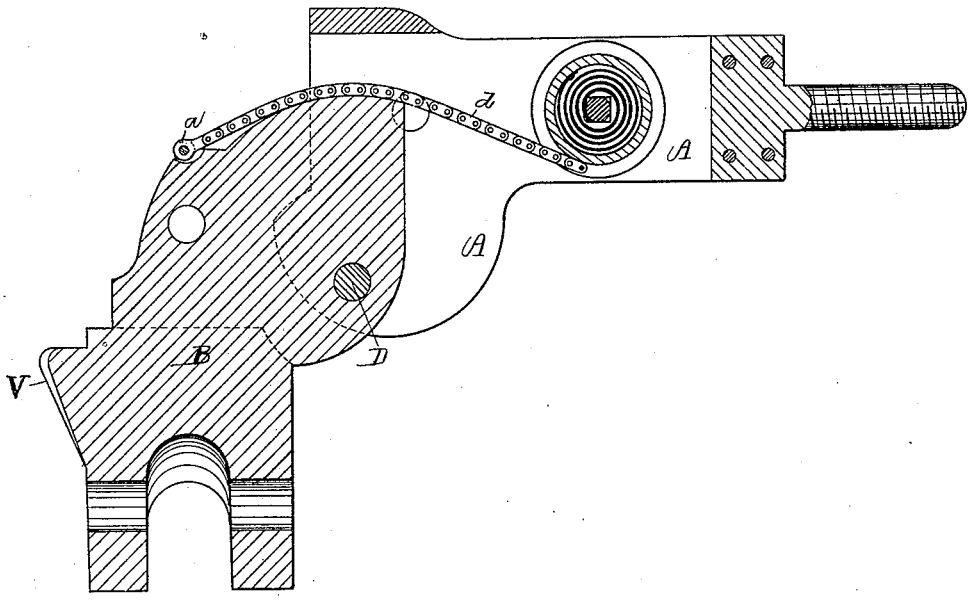


Fig. 5.



Witnesses.
Robert Wallace,
Milan F. Stevens.

Inventor
Frederick A. Casey
by Wm. A. Macleod
his atty.

UNITED STATES PATENT OFFICE.

FREDERICK A. CASEY, OF REVERE, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 343,223, dated June 8, 1886.

Application filed September 28, 1885. Serial No. 178,419. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. CASEY, of Revere, county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full, clear, concise, and exact description, taken in connection with the drawings accompanying and forming a part hereof, in which—

Figure 1 is a side elevation of my improved car-coupler attached to a long draw-bar, and showing two forms of springs for raising the hook. Fig. 2 is a top view showing a short draw-bar such as is used in locomotives and provided with a form of spring which I prefer to use with short draw-bars. Fig. 3 is a front elevation. Fig. 4 is a vertical section on line *x x*, Fig. 2; and Fig. 5 is a similar section with the hook swung down.

The object of my invention is the construction of an automatically-acting coupler; and it consists in a coupler provided with a hook, pivoted between the plates below the line of draw, and adapted, when the retaining-pin is withdrawn, to be swung down out of contact with the hook of the adjoining car, and when the hook of the adjoining car has moved away from it to be drawn back into its normal position by a spring and locked ready for coupling again.

My present invention is an improvement on the device shown and described in Letters Patent of the United States, dated the 15th day of September, A. D. 1885, No. 326,401, granted to me; and as some of the features of my present invention are fully shown and described in said patent, it will be unnecessary for me in the following description to describe them in detail.

A A are the draw-bar plates. B is the hook, which is pivoted at D between the forward ends of the plates.

To lug *a*, on the rearwardly-projecting shank of the hook, is pivoted, as shown, Fig. 2, the end of a chain, *d*, which coils on the drum *f*, which is actuated by a coiled spring secured to the pin *h*, which is square-socketed into the plates A. (See Fig. 1.) This spring acts, through the chain *d*, to draw back the hook B when it has been swung down. It will be obvious that in a long draw-bar in which there is sufficient room a spiral spring, of the form shown at the right of Fig. 1, may be employed in place of the coiled spring, and that in either case a wire or rope may be substituted for the chain *d*.

To hold the hook B in position when the cars are coupled, a retaining-pin, E, is employed, which passes through the plates and through the shank of the hook which lies between the plates.

For the purpose of operating the pin E conveniently, I provide a lever, F, pivoted at its lower end below pin E to the lugs *g* on the end of an arm, G, (see Fig. 3,) projecting from the plate, and secured by a pivot, *o*, to the end of pin E. The upper end of the lever projects upward to a convenient height to be grasped from the car-platform. The lever F, which governs the position of pin E, slides in a slot in the arm H. The edge of the slot is notched, as shown at *h h'*, so that by pressing the lever into the slots it may be locked in a given position, thus holding the retaining-pin E wherever desired. A spring, *t*, is secured at one end to the plate A, and at the other to the lever, and acts to draw the lever toward the plate when the lever is not locked back, thus throwing the pin into position in the shank of the hook. If, therefore, the lever be raised out of notch *h'*, the spring *t* will act to draw it toward plate A, thus showing the retaining-pin E through the shank of the hook and securing the hook in a horizontal position, as shown in Fig. 1. A boss, *k*, on plate A, where the pin passes through it, holds the head of the pin off sufficiently, so that it may be conveniently connected with the lever F. The upper face of the hook B is provided with a projection or buffer, V, having sloping sides, as shown in Figs. 1 and 3, which serves to protect the hook from a direct blow in case the spring should be broken or fail to act, allowing the hook to hang down in the position shown in Fig. 5. This projection serves the same purpose for the hook when swung down as does the round of the end when the hook is horizontal.

What I claim is—

1. A draw-head having a vertically-swinging hook pivoted between the plate below the line of draw and pinned above said pivot, said hook being attached to a rearwardly-placed

spring, whereby, when the hook is released from the pin and depressed by the passage over it of the hook of the adjoining car, it will be raised again into position for coupling as soon as the hook of said adjoining car is clear of it, substantially as shown and described.

2. The combination, with the plates A A and hook B, of the retaining-pin E, its operating-lever F, and the arm H, provided with notches *h h'* for engaging the lever, substantially as shown and described.

3. A vertically-swinging hook for car-couplings, provided on its upper face with a rounded buffer, V, having sloping sides, for the purposes and substantially as shown and described.

FREDERICK A. CASEY.

In presence of—
WM. A. MACLEOD,
ROBERT WALLACE.