

T. W. DEFREES.
CAR COUPLING.

No. 103,850.

Patented June 7, 1870.

FIG. 1.

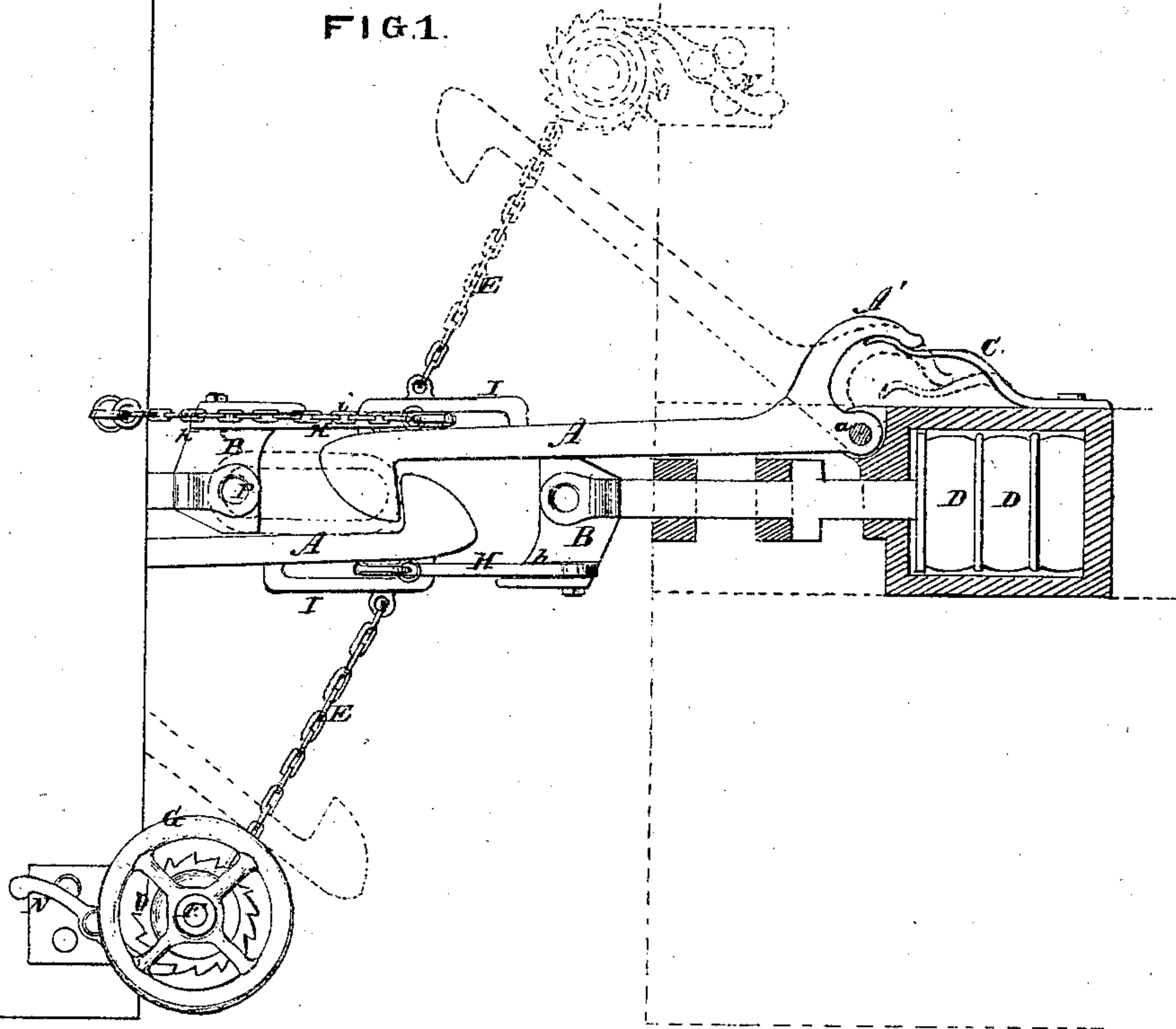
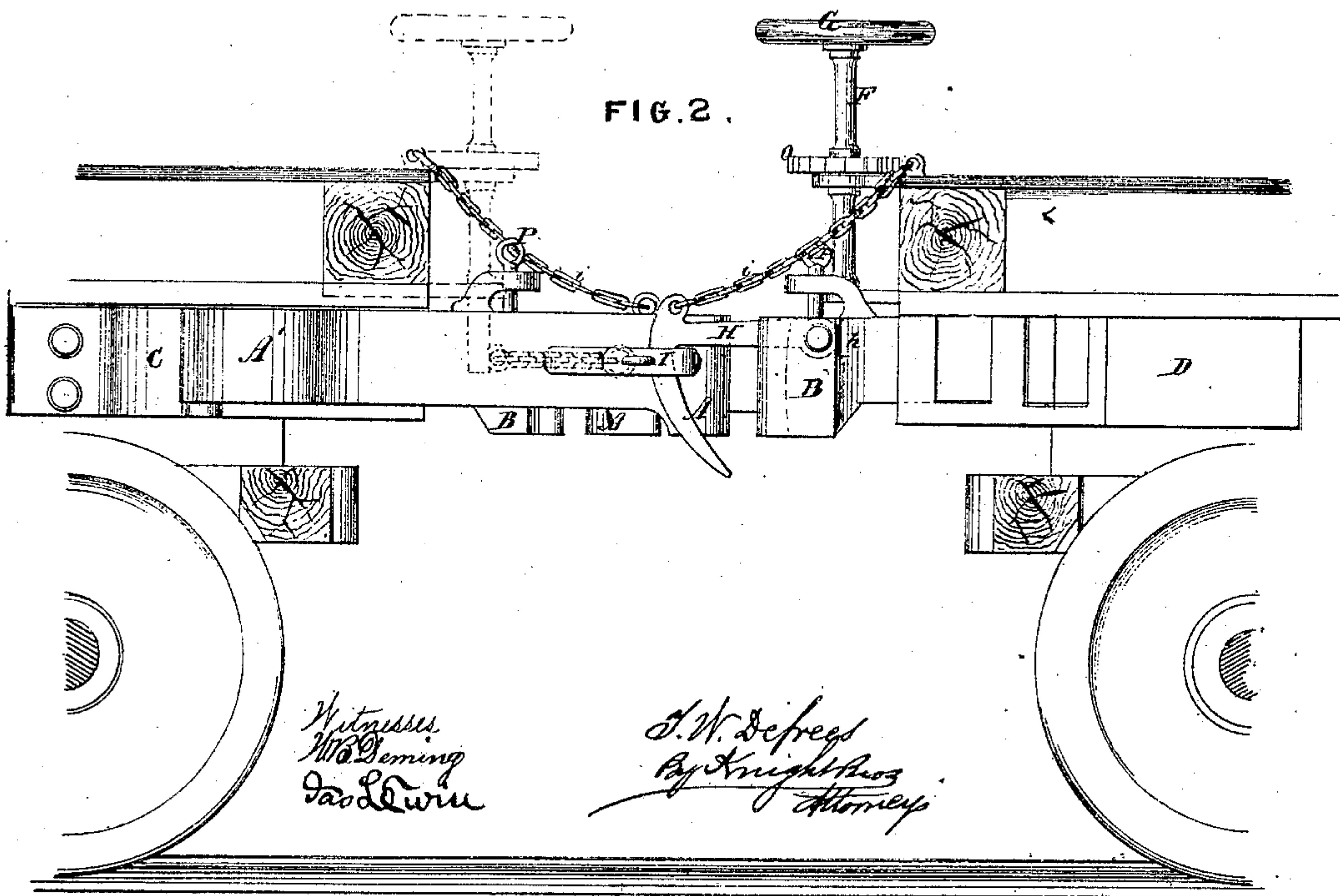


FIG. 2.



Witnesses
W. D. Deming
Jas. L. Wm

T. W. Defrees
By Knight Bros
Attorneys

United States Patent Office.

THOMAS W. DEFREES OF SOUTH BEND, INDIANA.

Letters Patent No. 103,850, dated June 7, 1870.

IMPROVEMENT IN CAR-COUPPLINGS.

The Schedule referred to in these Letters Patent and making part of the same

I, THOMAS W. DEFREES, of South Bend, in the county of St. Joseph and State of Indiana, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

Nature and Objects of the Invention.

My invention relates to that class of couplings in which hooks are employed to catch automatically when the cars are brought together.

The invention consists—

First, in an improved construction of coupling-hooks or clutch.

Second, in a peculiar combination of coupling-hooks and buffers.

Third, in an improved construction of buffers and their accessories, to permit the use of a common coupling-link when necessary.

Fourth, in a device for retaining the hooks in their locked position.

Fifth, in the mode of constructing and combining the clutches, buffers, and clasp-hooks, as hereinafter described.

Description of the Accompanying Drawing.

Figure 1 is a plan or top view of my improved coupling, partly in section.

Figure 2 represents a side elevation of the same, partly in section.

A A are clutch-hooks, attached, by vertical pivots *a a*, to the car-frame, so as to adapt them to move toward and from each other in a horizontal plane.

Arms *A'*, projecting laterally from the heels of the hooks, are acted on by springs *C*, tending to press the said arms outward, and, consequently, to throw the heads of the hooks toward each other, and cause them to interlock.

B B are concave-faced buffers, pressed outward by gum or other springs *D D*, and adapted to receive the impact of the hooks A A, when the latter are in their operative position, or of each other when the hooks are retracted.

The retraction of the hooks is effected by means of chains *E E*, which may be wound up on shafts *F*, by means of hand-wheels *G*, or suitable cranks.

The shafts *F* are provided with the ratchet-wheels *O*, to be engaged by pawls *P*, similar to those commonly employed to secure the brakes.

In grooves *h h*, in the buffer-heads, are pivoted retaining-hooks *H H*, which fall into elongated eyes *I I* on the backs of the clutch-hooks A A in such a manner as to prevent the accidental escape of the said hooks one from the other, but permit their longitudinal motion between each other and the buffer-heads as the cars run together or draw apart while coupled.

The clasp-hooks *H* may be elevated by chains *i*, or other means.

The buffer-heads are provided with horizontal slots and pins *P*, for connecting them, by means of com-

mon links, with cars not provided with my improved coupling.

Operation.

As the cars move together, the oblique sides of the clutch-hooks A, coming in contact with each other, cause the said hooks to be pressed apart laterally in a horizontal plane until they spring into connection, each hook striking the opposite buffer-head simultaneously. The clasp-hooks *H* are then thrown over into the eyes *I*.

When the cars are to be uncoupled, either while in motion or at rest, the hooks *H* are drawn up and allowed to fall back, and the clutch-hooks A may then be drawn apart, with any necessary force, by means of the winches *F G*, and may be so held by the pawls *N* engaging in ratchet-wheels *O*, as shown by dotted lines in fig. 1.

The retraction of the hooks may, if preferred, be effected by levers at the sides of the cars.

While the clutch-hooks are in this position, the buffers *B* may come together, and be connected by a link and pin, so as to serve as common draw-heads.

The engaging faces of the clutch-hooks A, being slightly dovetailed or inclined backward, causes the said hooks to interlock with perfect security while in operation, without any strain on the clasp-hooks *H*, but the said clasp-hooks are useful to preclude the possibility of the clutch-hooks separating accidentally under any unusual or sudden jar.

The construction and relative arrangement of the hooks A insure their locking together without fail when the cars are run together, although the two cars may vary in height or in parallelism, either vertically or horizontally.

The concave buffer-heads operate in connection with the hooks A with perfect success to prevent jar, or when the hooks are retracted they act with equal effect against each other.

Claims.

I claim as my invention—

1. The hooks A and springs *C*, in combination with separate buffers *B*, when the said hooks are pivoted to the frame independently of the buffers, and the parts are constructed and arranged substantially as herein described, so that the hooks and buffers may act in connection, or the hooks being drawn entirely aside, the buffers may come together and receive a common link and pin-connection.

2. The clasp-hooks *H* and eyes *I*, in combination with the clutch-hooks A, for the purposes set forth.

3. The combination of the clutch-hooks A, springs *C*, buffers *B*, clasp-hooks *H*, and eyes *I*, substantially as and for the purposes specified.

Witnesses:

T. W. DEFREES.

WM. H. BRERETON, Jr.,

I. SCHEITLIN.