

(No Model.)

J. ARNOLD.
CAR COUPLING.

No. 341,396.

Patented May 4, 1886.

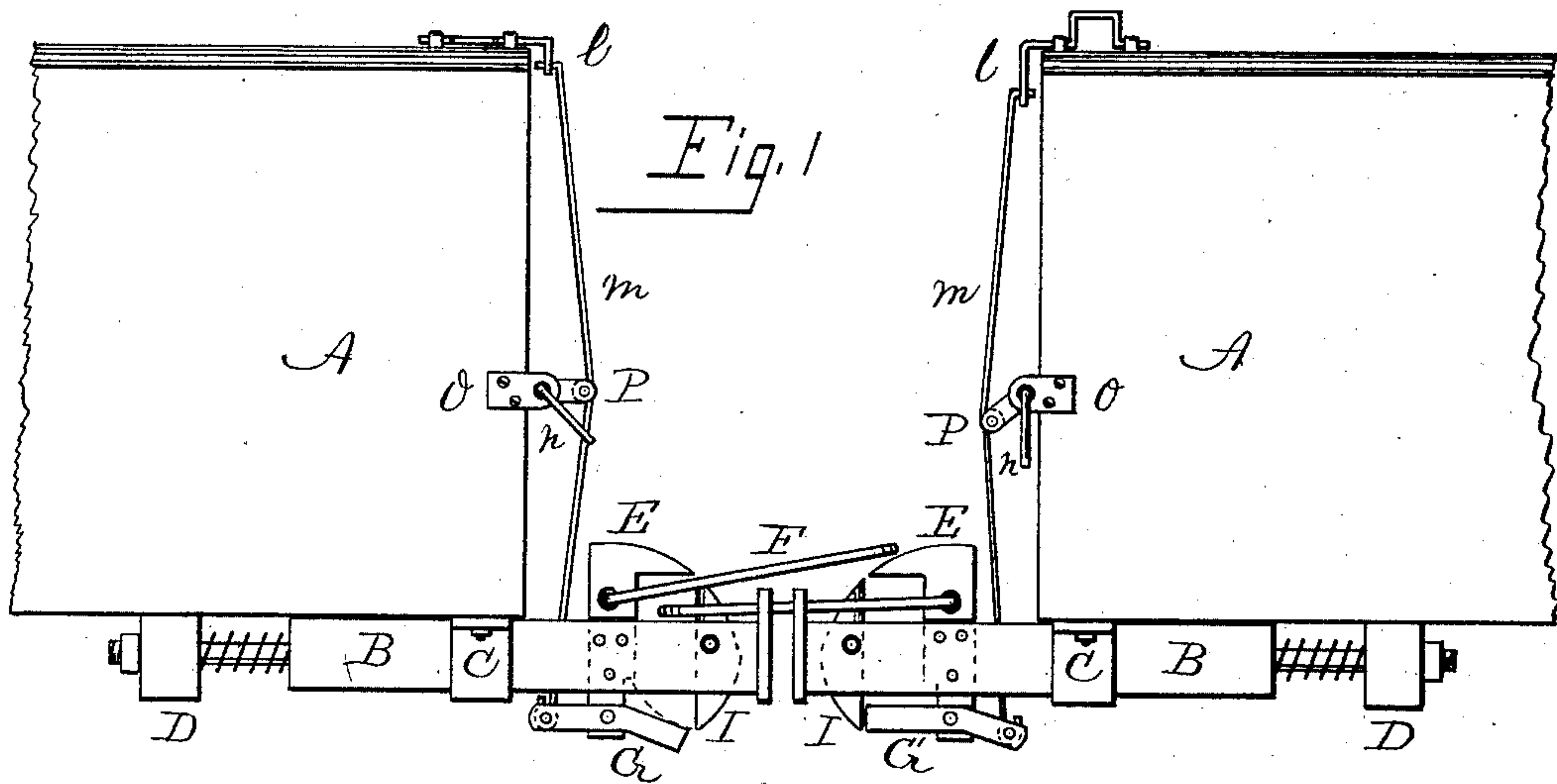


Fig. 11

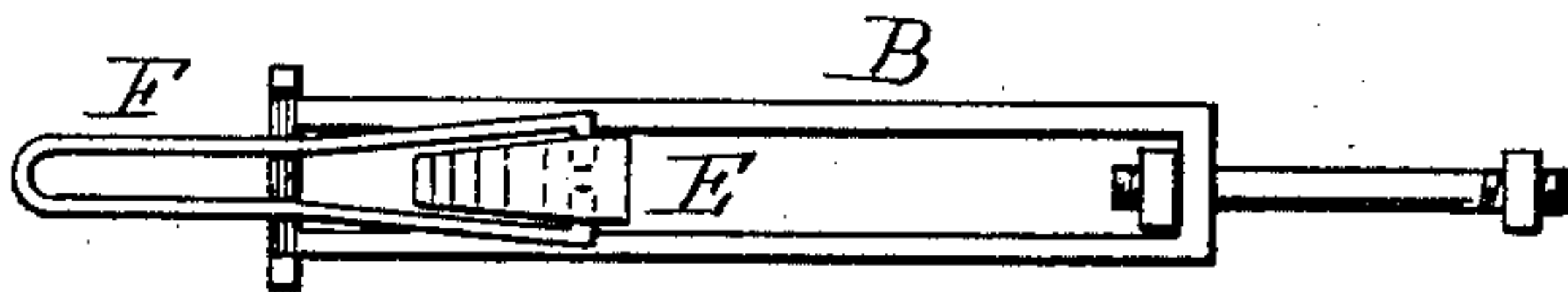
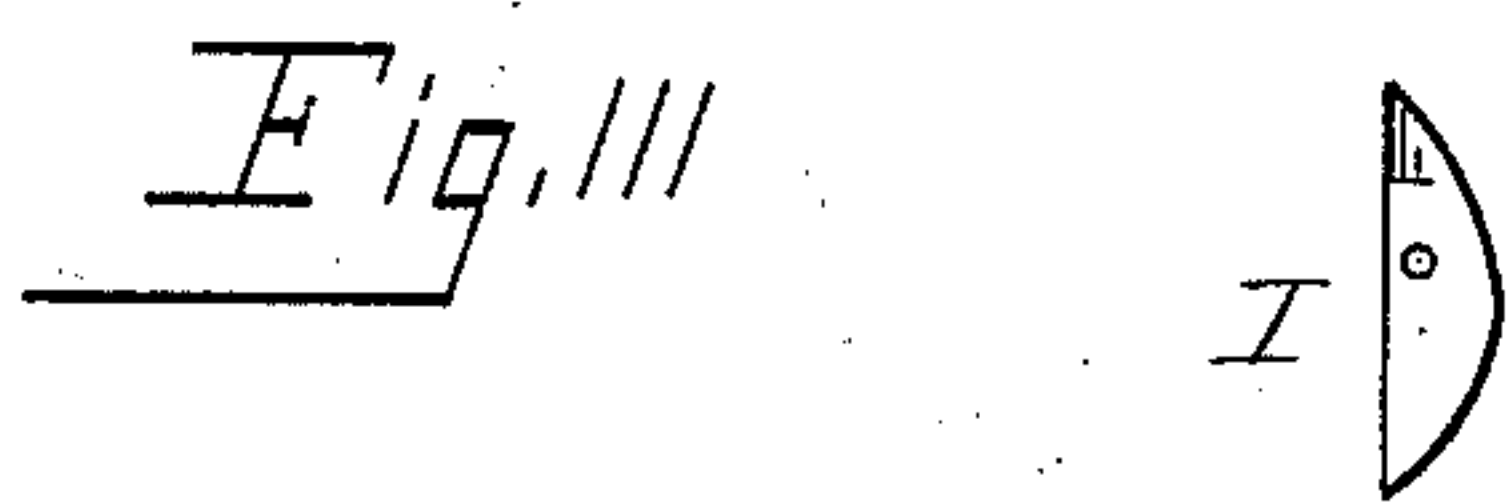
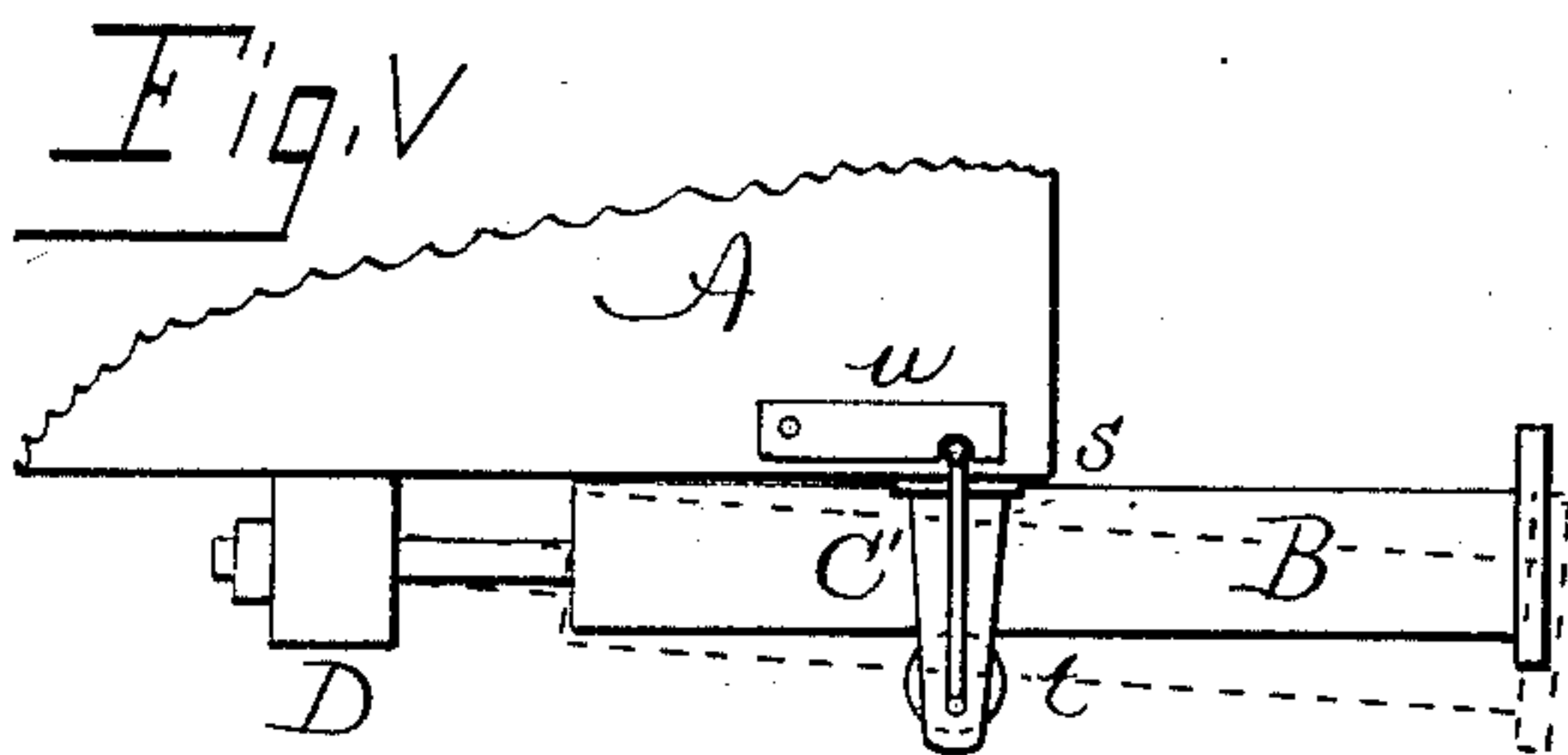
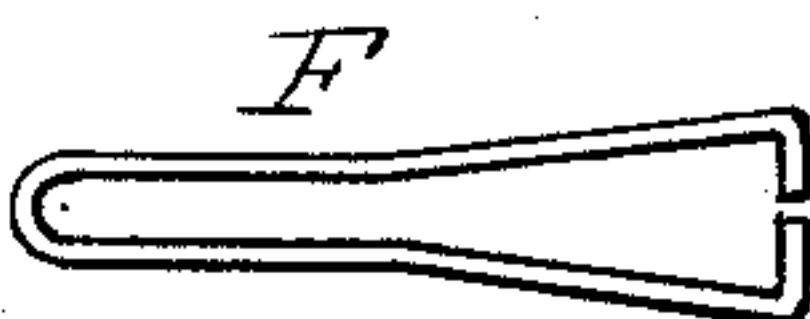


Fig. IV



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN ARNOLD, OF BROOKVILLE, OHIO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 341,396, dated May 4, 1886.

Application filed December 26, 1885. Serial No. 186,712. (No model.)

To all whom it may concern:

Be it known that I, JOHN ARNOLD, a citizen of the United States, residing at Brookville, in the county of Montgomery and State of Ohio, have invented a certain new and useful Improvement in Car - Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in an automatic car-coupling, the nature of which is a pivotal dog to engage the link, said link being permanently attached to a fixed head in the drag-bar, and said dog is locked in position by a clutch, which may be operated both from the top and sides of the cars. To accommodate the varying heights of cars, I use an eccentric supported in guides for the drag-bar, and which is operated by a crank-handle. The object is to couple freight-cars by bringing them together, and to uncouple the same without it being necessary to go between the cars. I attain the object by the mechanism illustrated in the accompanying drawings, in which—

Figure I is a side elevation of the ends of freight-cars with the coupling attached. Fig. II is a top view of the drag-bar with the link attached. Fig. III is a side view of the dog. Fig. IV is a top view of the link. Fig. V is a side view of the device for raising and lowering the drag-bar.

Like letters designate like parts throughout the several views.

A A are the ends of box-cars, and to the frames of which are connected the drag-bars B in the usual manner.

C C are straps bolted to the end pieces of the frame, and which support the forward ends of the drag-bars, the rear ends of said drag-bars being supported by the coupling-rods, which are secured in the cross-pieces D.

When it is necessary to use my raising and lowering device, (see illustration of the same at Fig. V,) I use two standards, C', to embrace

the drag-bar, instead of the strap C, and within which are bearings for the rod S, that terminates in a crank-handle, and on which, between the standards, is attached the eccentric *t*, upon which rests the said drag-bar. When the drag-bar is raised by the action of the eccentric, the notched plate *u* engages the handle of the crank, and thereby holds the said eccentric in a fixed position. When the eccentric is reversed, the drag-bar drops down, as indicated by the dotted lines, and the position is maintained by the gravity of the parts.

The drag-bar is formed of a heavy plate of iron, bent to form an angular end with parallel sides, and on the ends are riveted a head-plate. (See B, Fig. I.) A notch is cut in the upper edge of this plate, thus forming projections which serve as guides to the links. To the rear end is attached a rod, with which to make connection with the cross-piece D of the frame. The usual spiral springs are used on the coupling-rods.

The description thus far of the drag-bar does not differ materially from those in use. The head E fills the space within the drag-bar, and is securely riveted to the sides thereof. The upper part extends above and has a forward projection, the use of which is to prevent the link from rising out of position and to carry the disengaged link out of the way. To an extension beneath the lower edges is pivoted the clutch G. The dog I is suspended on a pivot supported in the sides of the drag-bar, and a vertical position is maintained by gravity; and the use of this dog is to hold the link when the clutch locks the same in a vertical position. When not thus held, the link is drawn out by a partial rotation of said dog.

In the drawings, Fig. I, the several parts are shown in the proper position for uncoupling. If the clutch G were brought up against the face of the dog, as is the clutch G', then the cars would be coupled.

Across the end of the car in suitable bearings is held the rod *n*, which terminates in a handle bent at a right angle. The external bearing-plates, O, are secured to the sides of the car-body. About the center of this rod is attached the arm P, which is connected by the rod *m* with the bent lever attached to the top

of the car and the rear end of the clutch, and the use of which is to operate said clutch. When the bent lever *l* is carried down against the top of the car, or the end of the rod *n* is carried out from the car, the rear end of the clutch is elevated and thereby disengaged from the dog, and the cars may be drawn apart. When this movement is reversed, the clutch holds the dog in a fixed position, and if the link is over the same the coupling is effected. The link *F* is permanently held within the head *E*, and the operation of coupling is thus: As the cars approach each other the under link engages the dog, pushing the end forward until the link drops over the same, when, by raising the clutch against the said dog, the coupling is completed. At the same time the upper link rises up on the head, where it remains. The uncoupling is simply by throwing the clutch out of contact with the dog. To make the completed coupling entirely automatic, set the clutch against the dog; then, as the link partially rotates the dog to drop over the same, its gravity carries the same back against the clutch, and the fastening is complete.

The device for operating the clutch may be varied from that herein described.

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

1. In a car-coupling, the head *E*, fixedly attached to the drag-bar, with a forward projection, with link permanently pivoted thereunto and a downward extension, to which the clutch *G* is pivoted, the pivotal dog *I*, held in said drag-bar, with link of a like coupling to effect a union thereof, the several parts combined substantially as set forth.

2. The combination, substantially as set forth, of the drag-bar *B* with head *E*, link *F*, dog *I*, clutch *G*, rod *m*, arm *P*, lever *l*, and rod *n*.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN ARNOLD.

Witnesses:

B. PICKERING,
SUMNER T. SMITH.