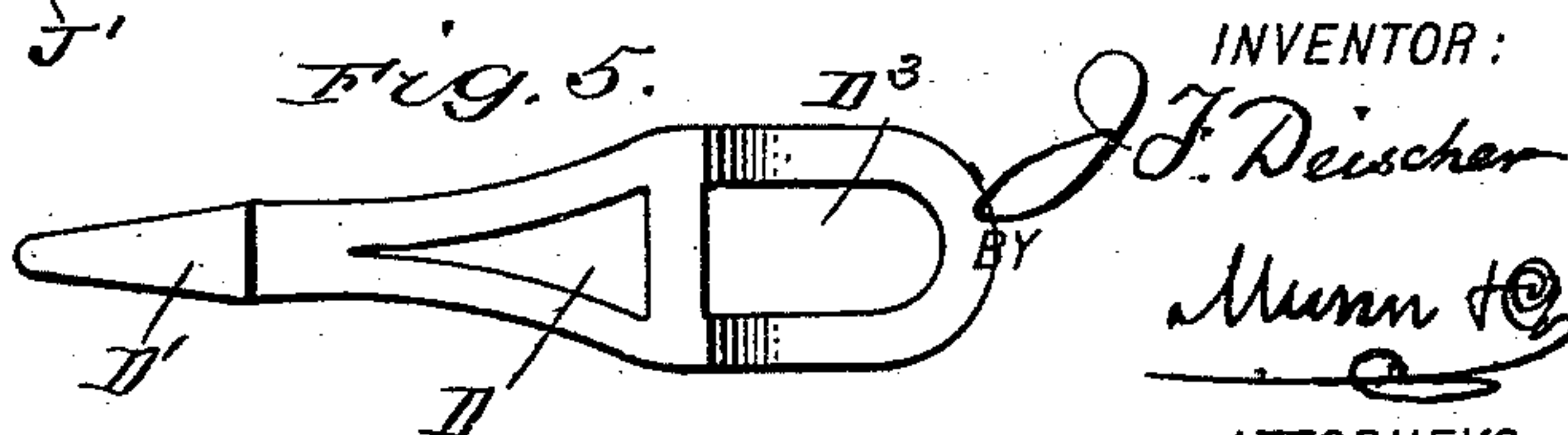
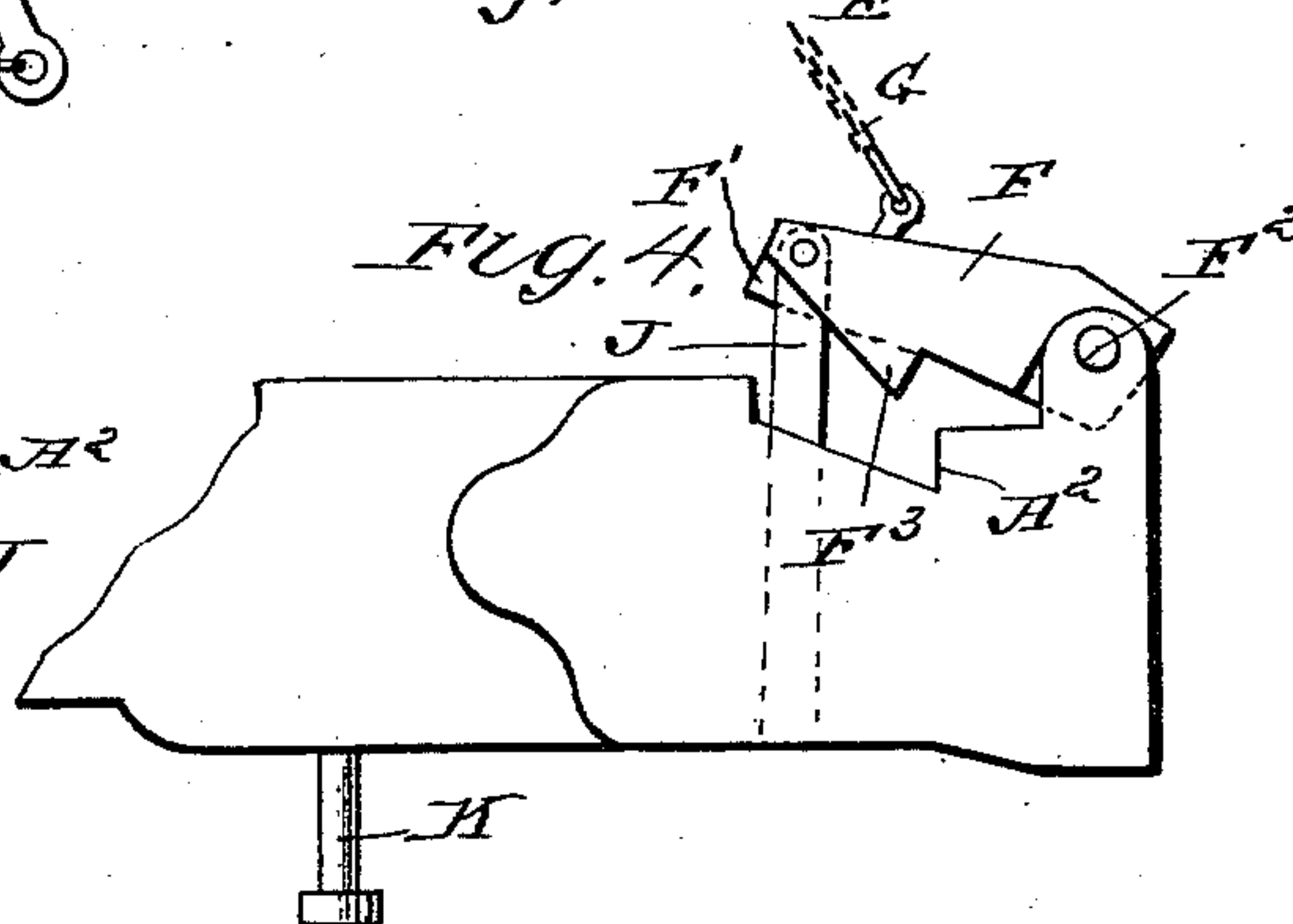
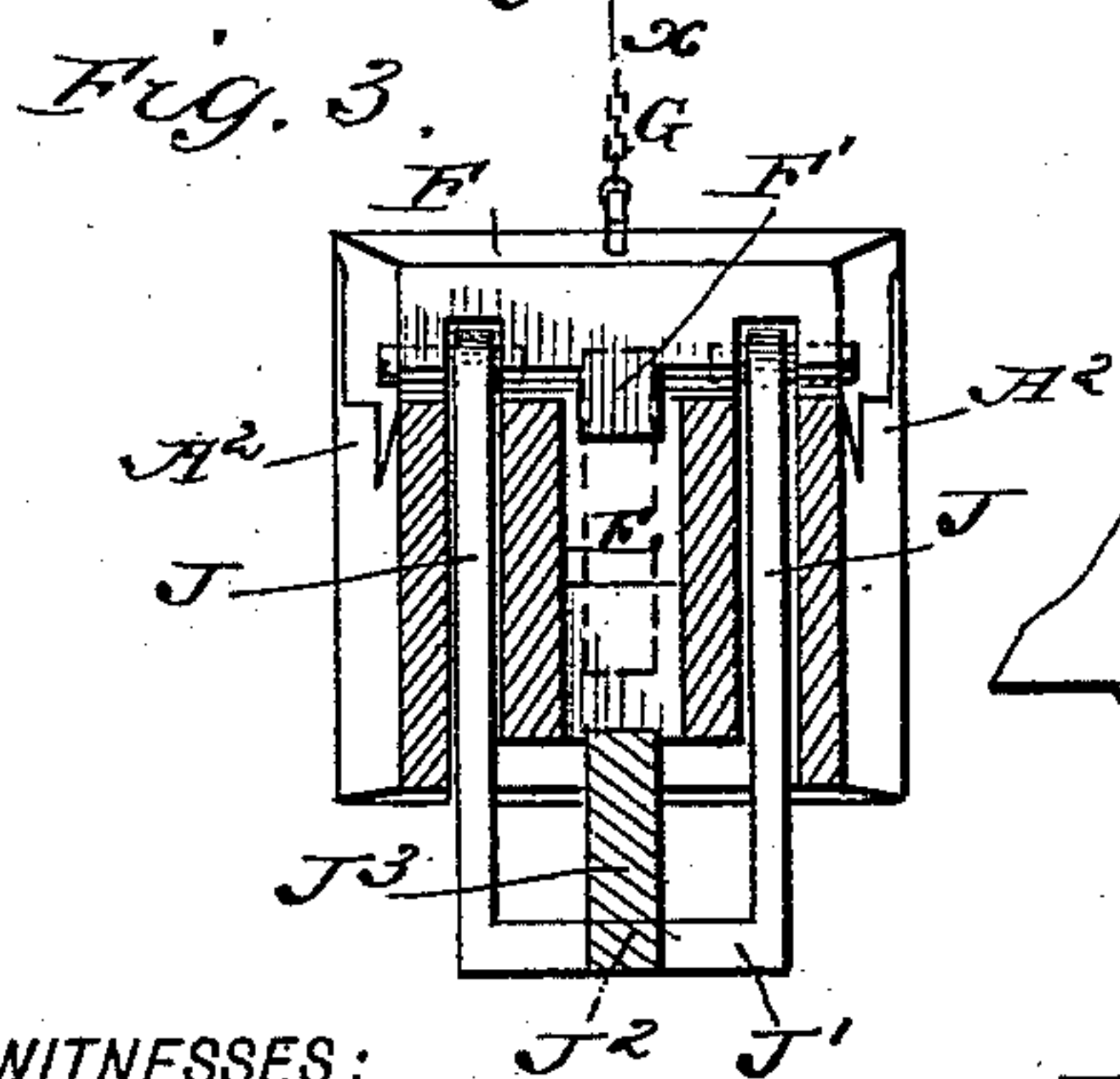
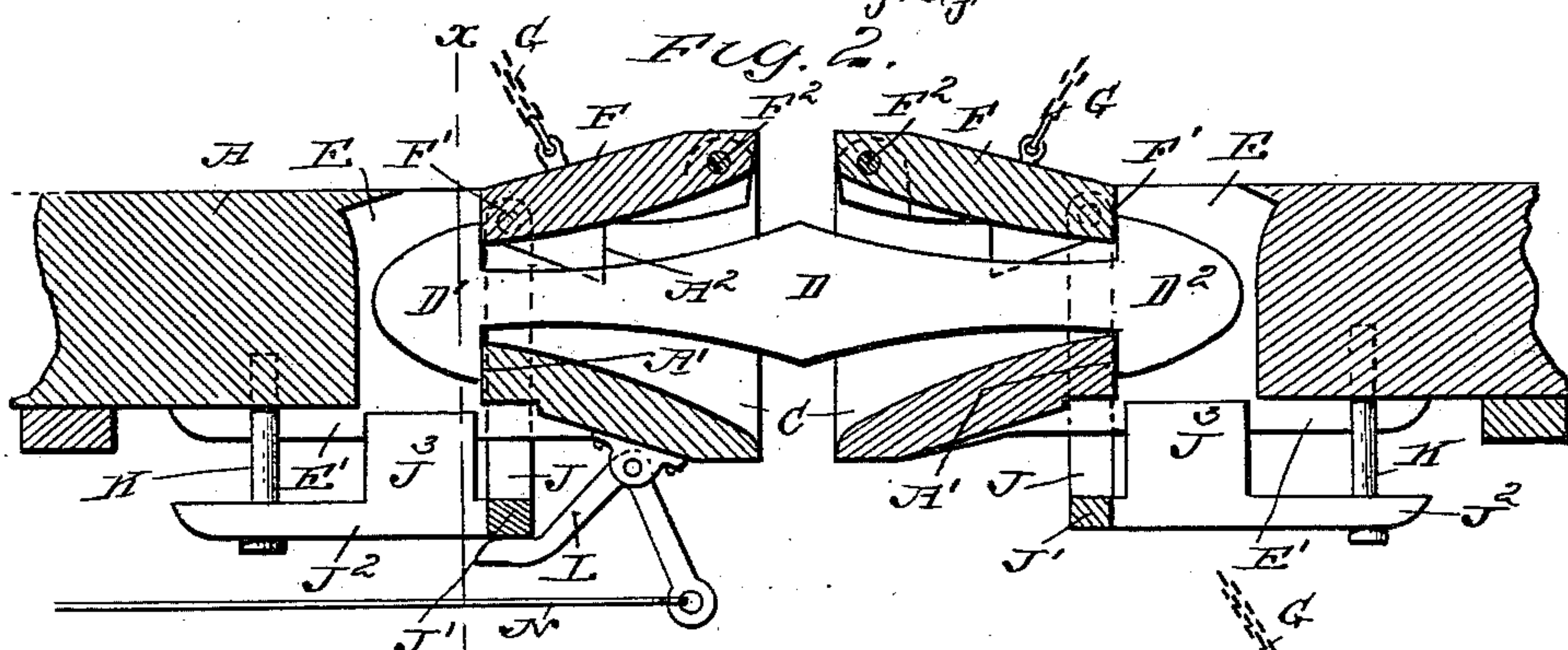
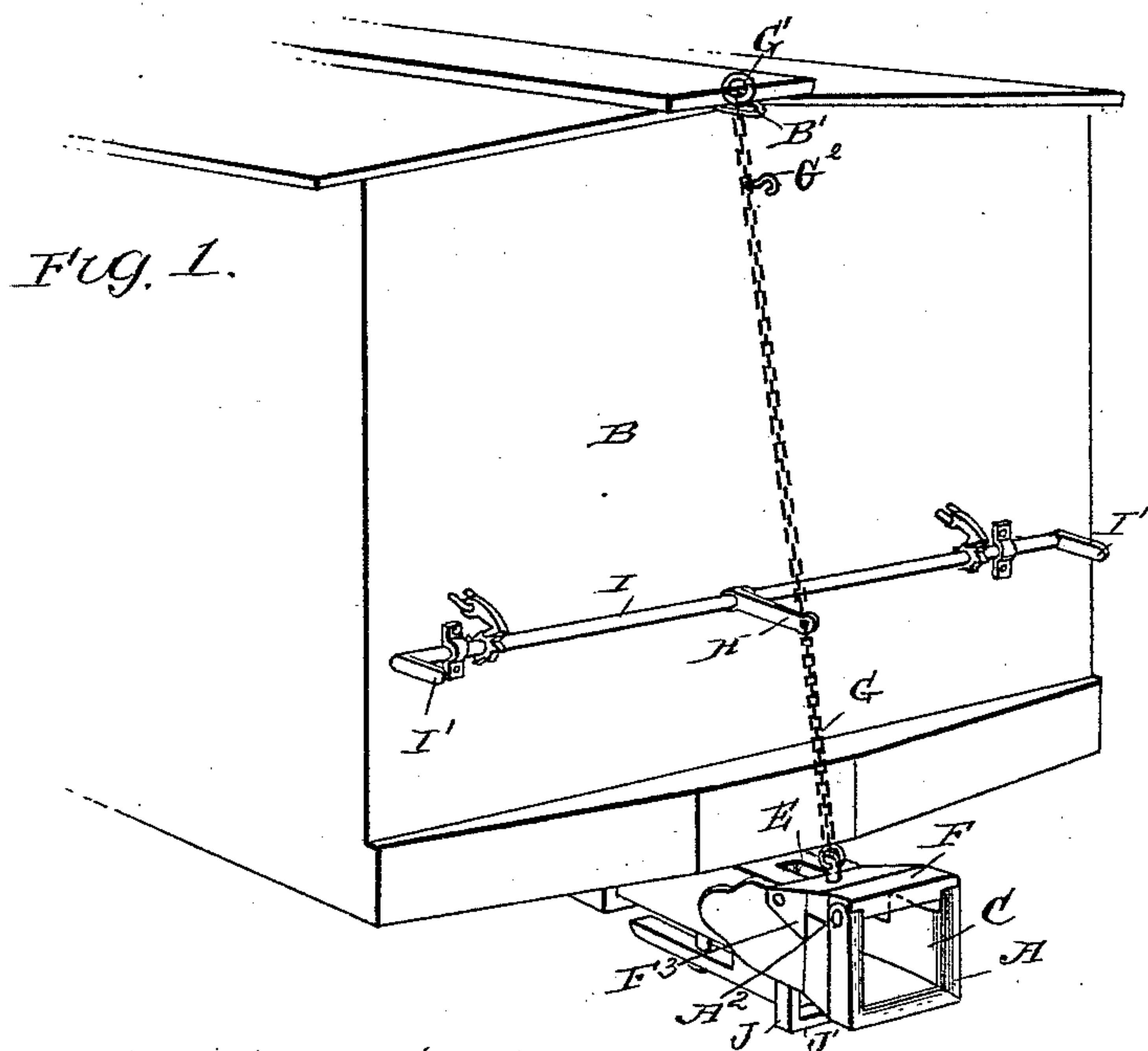


(No Model.)

J. F. DEISCHER.
CAR COUPLING.

No. 439,054.

Patented Oct. 21, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES F. DEISCHER, OF LANCASTER, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 439,054, dated October 21, 1890.

Application filed March 25, 1890. Serial No. 345 223. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. DEISCHER, of Lancaster, in the county of Wabash and State of Illinois, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-coupling, which is simple and durable in construction and very effective in operation, permitting automatic coupling of the cars and an uncoupling of the same without the operator stepping between the cars.

The invention consists of an arm pivoted on the draw-head and a block pivotally connected with the said arm, held to slide on the draw-head and serving to disengage the arm from the coupling-link and to raise the latter out of place in the draw-head in uncoupling the cars.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improvement as applied. Fig. 2 is an enlarged sectional side elevation of two couplings coupled. Fig. 3 is a transverse section of the improvement on the line $x-x$ of Fig. 2. Fig. 4 is a side elevation of the coupling, showing the coupling-link disengaged; and Fig. 5 is a perspective view of a modified form of coupling-link.

The draw-head A is held by suitable means on the under side of the car B, and is provided in its front end with the usual opening C, adapted to receive the coupling-pin D, which is provided at each end with an arrow-head D' or D², extending vertically, as shown in Fig. 2. In case the improved car-coupling is to be coupled with a car having the ordinary pin-coupling, the said link is provided on one end only with an arrow-head and on its other end with a loop D³, as is illustrated in Fig. 5.

The arrow-head of the coupling-link D is adapted to pass through the opening C into a vertically-extending slot E, formed in the

draw-head A from top to bottom, as is plainly shown in Fig. 2. The lower shoulder of the arrow-head is adapted to abut against the shoulder A', formed at the junction of the opening C and the slot E, while the upper shoulder of the draw-head is adapted to engage a projection or lug F', formed on an arm F, pivoted at F² to the top of the draw-head A, and also forming a covering or top of the opening C. On each side of the arm F is arranged a shoulder F³, adapted to abut against a shoulder A², formed on each side of the draw-head A, so that when the block F is in its lowermost position and the two shoulders F³ and A² engage each other any outward strain against the arm F is taken up by the said shoulders, so that the pivot-pin F² is not affected.

The free end of the arm F is connected with one end of an upwardly-extending chain G, also connected with an arm N, secured on a transversely-extending shaft I, mounted to turn in suitable bearings fastened to the end of the car B, as is plainly shown in Fig. 1. On the ends of the shaft I are formed handles I' for conveniently turning the said shaft I to swing the arm H, so as to raise or lower the arm F by means of the chain G. The chain G extends from the arm H upward to the top of the car, there passes through a staple B', and is provided at its upper outer end with a ring G', which can be taken hold of by an operator standing on top of the car to open or close the arm F. The chain G is also provided a short distance below the ring with a hook G², adapted to be hooked onto the staple B' to hold the arm F locked in an uppermost position, and a pawl and ratchet are connected with the shaft I, and, as shown in Fig. 1, serve the same purpose. The free end of the arm F is also pivotally connected with two downwardly-extending arms J, fitted to slide in suitable recesses formed vertically in the draw-head A, the lower ends of the said arms being rigidly connected with each other by a transverse bar J', from the center of which extends rearward a bar J², through which passes a guide-pin K, secured to the under side of the draw-head A. The arms J may be articulated to prevent their binding in their vertical recesses. The bars J² and J' are adapted to fit into grooves E', formed

in the under side of the draw-head A, so that when the arm F is in its uppermost position, as shown in Fig. 4, the said bars fit into the said grooves, and their under sides are flush with the under side of the draw-head. On the bar J² is formed a block J³, which extends upward and is adapted to slide in the vertical slot E, and serving to engage the under side of the arrow-head D' or D² of the coupling-link D when the arm F or the bar J' is raised in the manner hereinafter more fully described.

When the coupling is employed for coupling a locomotive to the next-following car, a bell-crank lever L is pivoted to the under side of the draw-head A and engages with one arm the transverse J', and is connected with its other arm by a rod N to a suitable lever extending into the cab of the locomotive, so that when the engineer desires to uncouple the locomotive he simply actuates this lever to pull on the rod N, so as to actuate the bell-crank lever L to force the bar J' and the arm J to move upward to raise the arm F.

The operation is as follows: When the coupling-link D engages by one head the draw-head A, it is held in place by its shoulders resting against fixed shoulder A' of the draw-head and against the shoulder or lug F' of the arm F. As long as the two cars are coupled together in such a manner—that is, so that the two heads are engaged in a like manner on the two draw-heads of the two cars—an accidental uncoupling cannot take place. When it is desired to uncouple two cars, the operator on top of the car or on either side of the same swings the arm F upward by the means previously described, so that the lug F' of the arm F is disconnected from the upper shoulder of the arrow-head D' or D². As soon as the lug F' and its shoulder are disengaged the block J³, which slides upward with the upward-swinging movement of the arm F, now engages the under side of the said arrow-head, this lifting the same until its lower shoulder is disengaged from the fixed shoulder A', and the arrow-head is free to slide through the opening C' when the cars are moved apart. It is understood that this upward-swinging movement of the arm F and the upward-swinging movement of the block J³ can be accomplished by the engineer in the cab of the locomotive whenever he desires to uncouple his locomotive from the next-following car, as previously described. When two cars are to be coupled and the link is supported in one car, as previously described, and the two cars are moved toward each other, then the free arrow-head of the link passes into the opening C of the car to be coupled and then slides up the inclined bottom of the

said opening, so that the top of the said arrow-head swings the arm F upward until the arrow-head D' or D² drops into the slot E at the end of the opening C to engage the shoulder A' and the lug F', as previously described. The cars are then coupled.

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

1. In a car-coupling, the combination, with a draw-head provided with shoulders A², of the arm F, pivoted to the front end of the draw-head and provided with the projection F' and shoulders F³, substantially as described.

2. In a car-coupling, the combination, with a draw-head provided with the opening E, of the arm F, pivoted to the front of the draw-head, the arms J, pivoted to the arm F and connected by a cross-bar, and a block connected to the cross-bar of the arms J and projecting into the opening E of the draw-head, substantially as herein shown and described.

3. In a car-coupling, the combination, with a draw-head provided with the vertical opening E, of the arm F, pivoted to the front end of the draw-head, the arms J, pivoted to the arm F, and having their lower ends connected by the cross-bar J', the rearwardly-projecting bar J², secured to the cross-bar and provided with the block J³, projecting into the opening E of the draw-head, and a guide-pin secured to the draw-head and passing through the bar J², substantially as herein shown and described.

4. In a car-coupling, the combination, with the draw-head provided with the opening E, groove E', and shoulders A², of the arm F, pivoted to the front end of the draw-head and provided with the projection F' and shoulders F³, the arms J, pivoted to the arm F and connected at their lower ends by cross-bar J', the rearwardly-projecting bar J², secured to the said cross-bar and provided with the block J³, and the guide-pin K, secured in the draw-head and passing through the bar J², substantially as herein shown and described.

5. In a car-coupling, the combination, with a draw-head provided with the opening E, the pivoted arm F, the arms J, pivoted to the arm F and connected together by the cross-bar J', and the block J³, connected to the bar J', of the bell-crank lever L, pivoted to the draw-head and having one arm engaging the cross-bar J', and rod N, connected to the other arm of the bell-crank lever, substantially as herein shown and described.

JAMES F. DEISCHER.

Witnesses:

ISAIAH BERNINGER,
W. FRIEND.