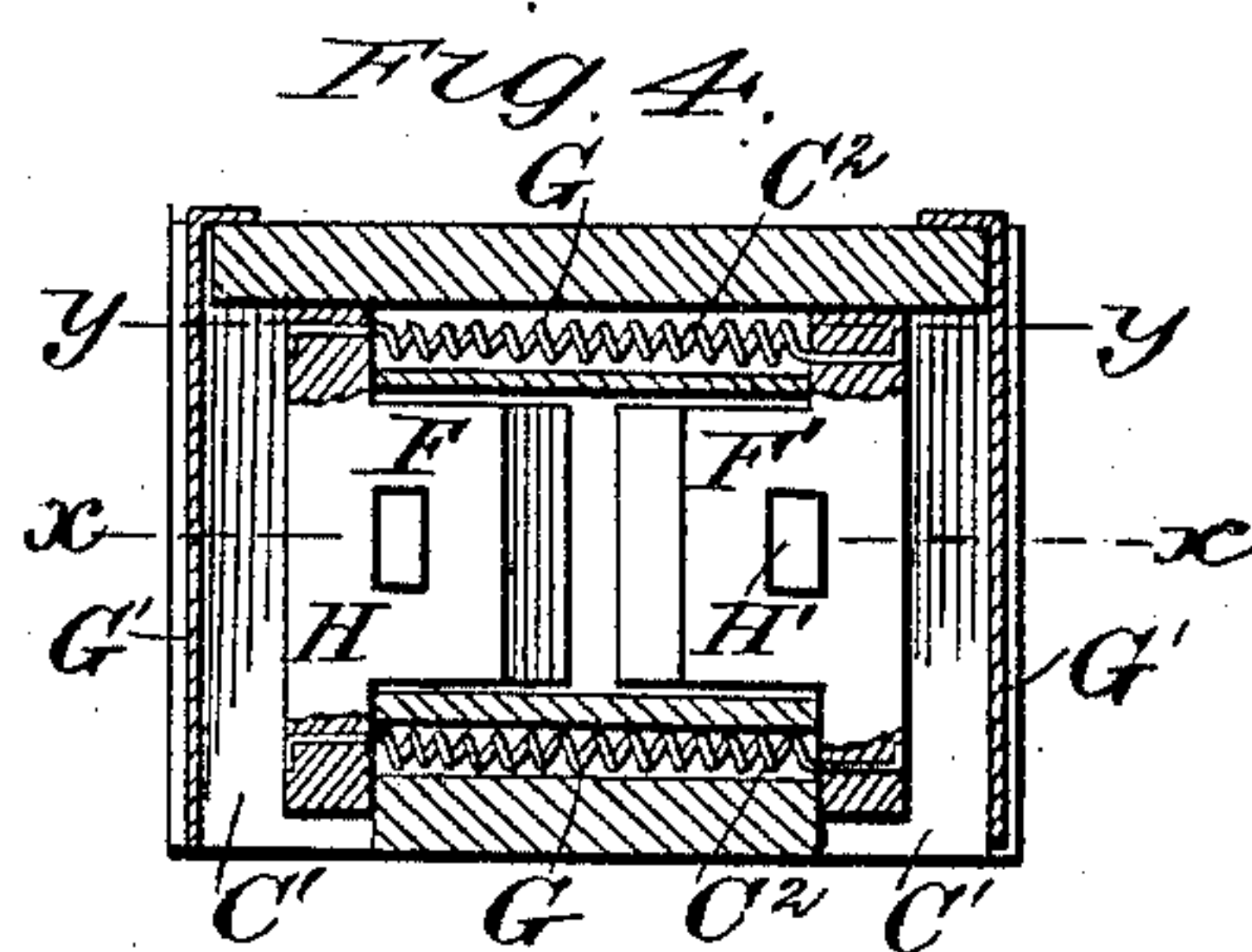
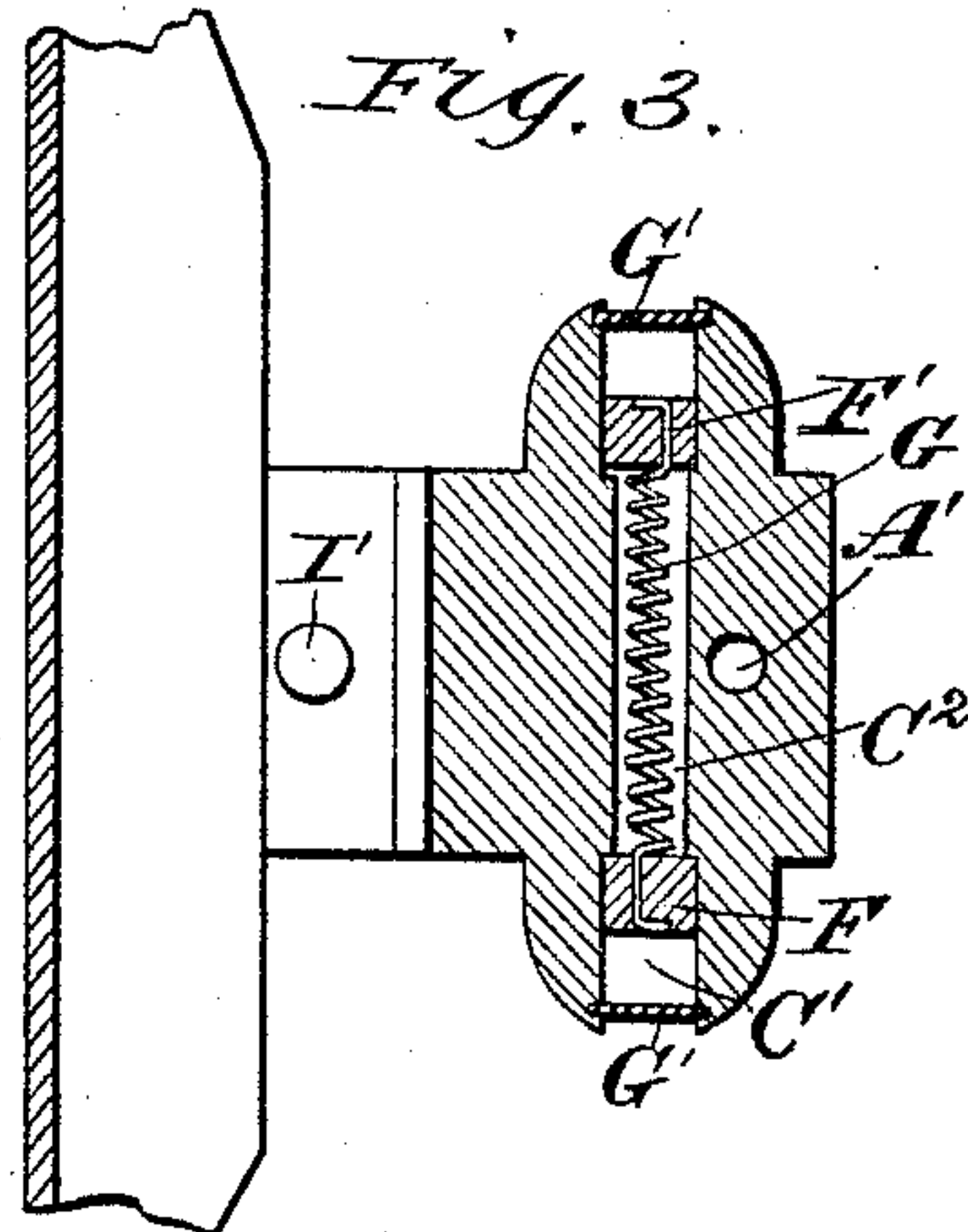
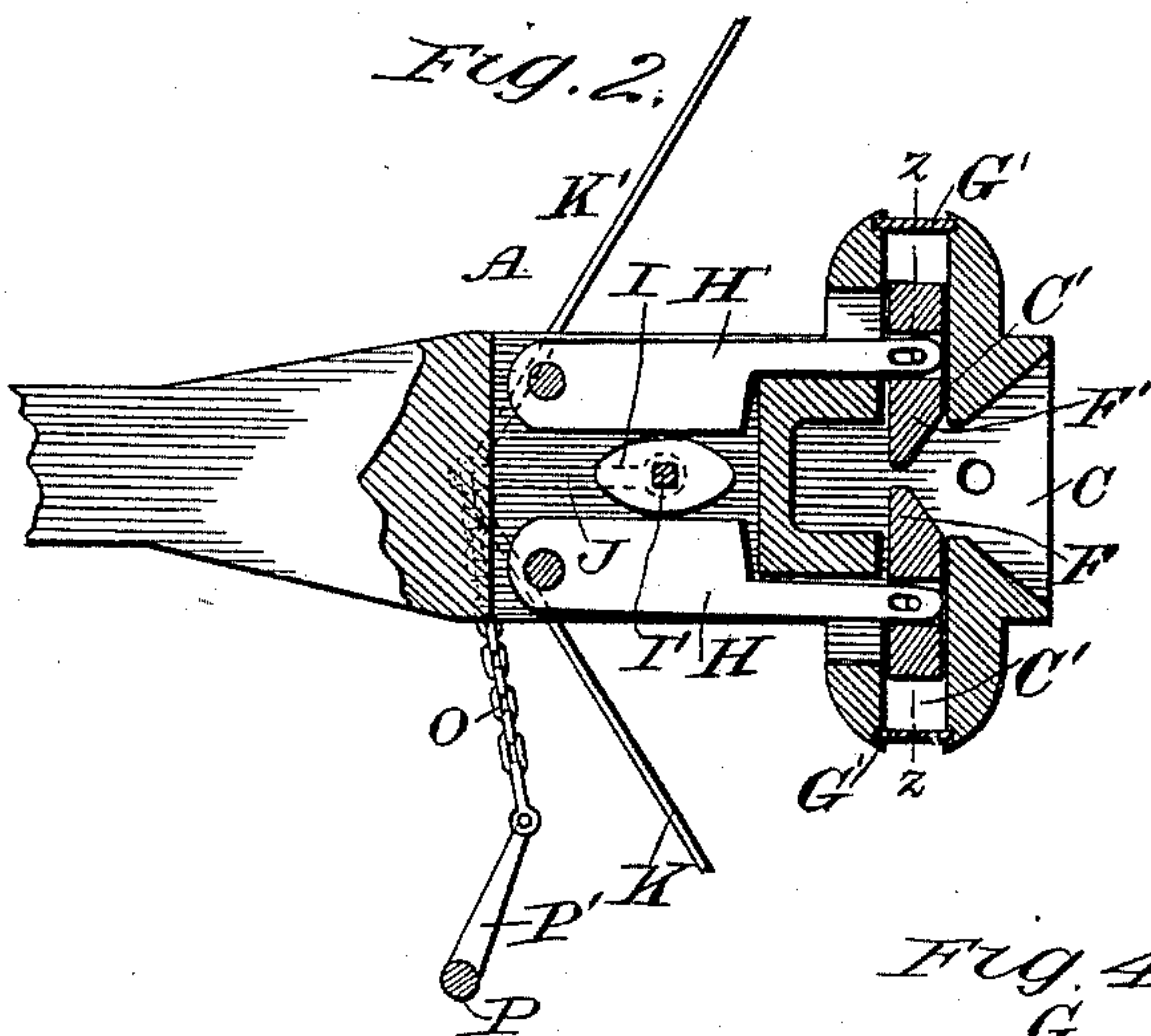
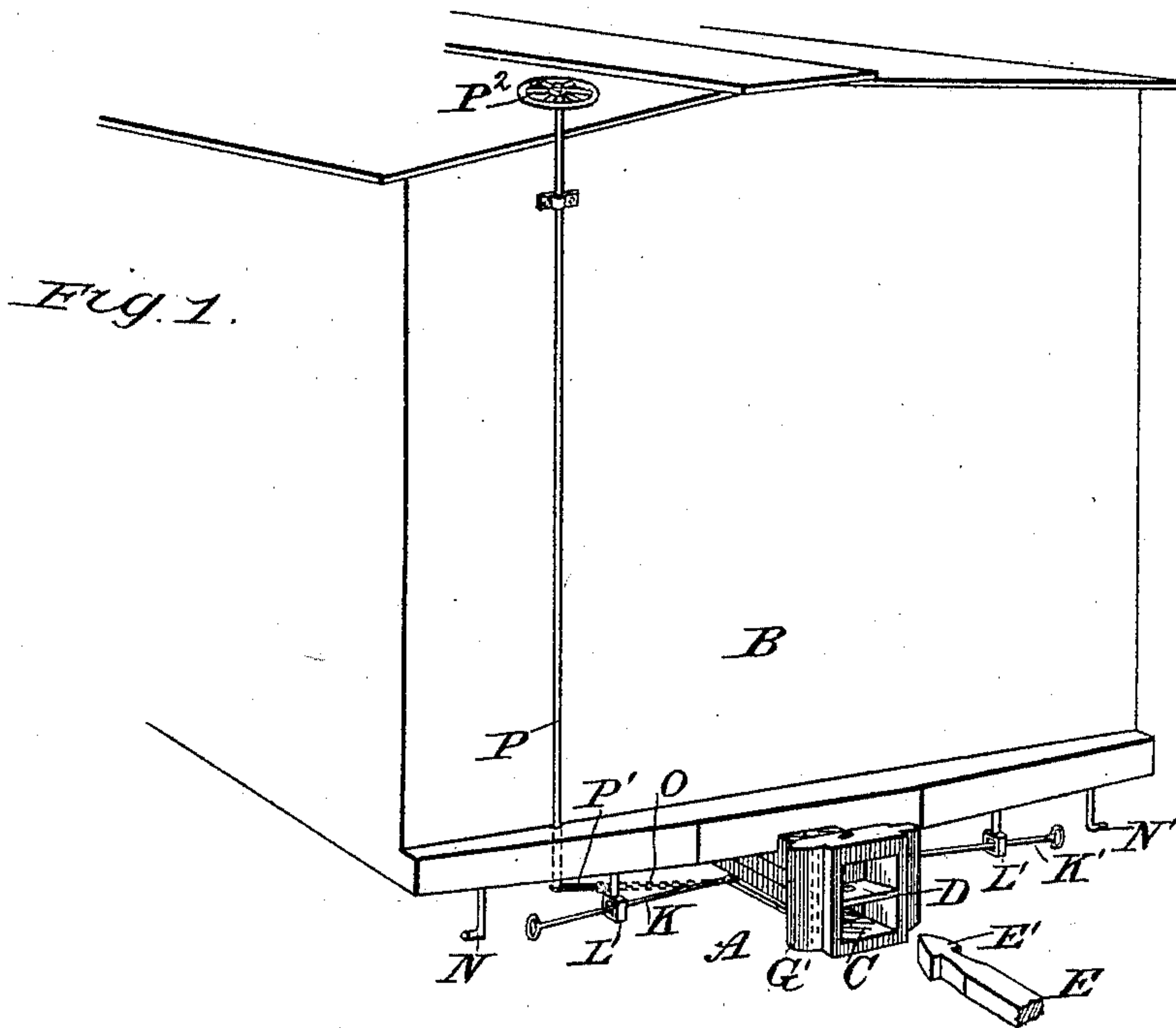


(No Model.)

F. A. JOHNSON.
CAR COUPLING.

No. 467,375.

Patented Jan. 19, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

FRANCIS A. JOHNSON, OF BLACK ROCK, ARKANSAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,375, dated January 19, 1892.

Application filed June 3, 1891. Serial No. 394,921. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. JOHNSON, of Black Rock, in the county of Lawrence and State of Arkansas, have invented a new and Improved Car-Coupling, of which the following is a full, clear, and exact description.

The invention relates to car-couplings, such as shown and described in Letters Patent of the United States No. 447,154, granted to me February 24, 1891.

The object of the present invention is to provide a new and improved car-coupling in which the essential working parts are inclosed in a draw-head, and are thereby fully protected from rain, snow, ice, dirt, &c., thus insuring proper working of the device at all times.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, 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 a sectional plan view of the improvement on the line xx in Fig. 4. Fig. 3 is a sectional plan view of the same on the line yy in Fig. 4, and Fig. 4 is a transverse section of the improvement on the line zz in Fig. 2.

The draw-head A, held on one end of the car B, is formed with a central opening C, the front end of which is divided by a transversely and horizontally extending partition D, which permits of conveniently coupling cars of different heights, and it is also provided with a vertical opening A', adapting it for the ordinary pin-and-link coupling.

Into the central opening C, above or below the partition D, is adapted to pass the arrow-head E' of the coupling-link E, as plainly shown in Fig. 1. The arrow-head E' of the coupling-link is adapted to open and engage transversely-extending plates F and F', fitted to slide in a transverse recess C', formed in the draw-head A in the rear of the partition D. The two plates F and F' are connected with each other at the top and bottom by springs G, passing through suitable openings C², arranged transversely in the draw-head

above and below the central opening C, as plainly shown in Fig. 4. When the plates F and F' are in a closed position, as illustrated in Fig. 2, their inner edges nearly touch each other, so that the arrow-head E' when entering the opening C passes between the two plates F and F' and presses them outward against the tension of the springs G, and when the arrow-head E' has passed to the rear of the said plates the latter again close by the action of the said springs, so that the coupling-link E is held in place in the draw-head either above or below the partition D, the inner ends of the plates F and F' resting on the shank of the arrow-head.

The outer ends of the recess C' are closed by vertical covering-plates G', so as to prevent ice, snow, rain, dust, &c., from passing into the said recess to obstruct the working parts.

In order to open the plates F and F', so as to permit the coupling-link E to be withdrawn the following device is provided: The plates F and F' are pivotally or rigidly connected with arms H and H', respectively extending rearward and pivoted in the draw-head A at the rear end of the central opening C. Between the two pivoted arms H and H' is arranged a cam I, held on a shaft I', extending vertically and mounted to turn in suitable bearings in the draw-head. When the plates F and F' are in a closed position, as shown in Fig. 2, the cam I is engaged at its narrowest sides by the inner edges of the arms H and H', and when it is desired to open the said plates the shaft I' is turned so that the cam causes the arms to swing outward, thus carrying the plates F and F' in a like direction transversely to permit of withdrawing the coupling-link. On the lower end of the shaft I' is secured an arm J, pivotally connected with two rods K and K', extending in opposite directions to within a short distance of the sides of the car. The rods K and K' pass through suitable eyes L and L', respectively held on the car B, the outer ends of the said arms being adapted to engage hooks N and N', respectively, for locking the shaft I' and its cam I in place when it is desired to hold the plates F and F' in an open position. The arm J, previously mentioned, is also connected by a short chain O with an arm P', secured on

the lower end of a shaft P, extending vertically and mounted to turn in suitable bearings on the front end of the car B. The upper end of the said shaft P carries a hand-wheel P², adapted to be actuated by the operator standing on top of the car, so as to permit of opening the plates F and F' from the top of the said car.

Having thus 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 having transverse recesses leading into its central opening, of plates fitted to slide in the recesses, springs connected to the top and bottom of the plates, arms pivoted to the draw-head and connected to the plates, and a cam arranged between the said arms, substantially as described.

2. In a car-coupling, the combination, with a draw-head having transverse recesses leading into the central opening of the draw-head and transverse openings above and below the central opening, of plates fitted to slide in the recesses, springs in the said openings and connected to the plates, arms pivoted to the draw-head and plates, a cam between the arms, and means for operating the cam, substantially as described.

3. The combination, with a draw-head pro-

vided in the front end of its central opening with a transverse partition, of spring-pressed plates fitted to slide transversely in the said draw-head in the rear of the said partition, arms pivoted in the said draw-head and connected with the said plates, a cam adapted to actuate the said pivoted arms to open the said plates, an arm secured on the shaft of the said cam, rods pivotally connected with the said arm, and fixed eyes for guiding and supporting the said rods, substantially as shown and described.

4. The combination, with a draw-head provided in the front end of its central opening with a transverse partition, of spring-pressed plates fitted to slide transversely in the said draw-head in the rear of the said partition, arms pivoted in the said draw-head and connected with the said plates, a cam adapted to actuate the said pivoted arms to open the said plates, an arm secured on the shaft of the said cam, rods pivotally connected with the said arm, fixed eyes for guiding and supporting the said rods, and hooks adapted to be engaged by the said rods to lock the latter in place, substantially as shown and described.

FRANCIS A. JOHNSON.

Witnesses:

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W. B. MATTHEWS.