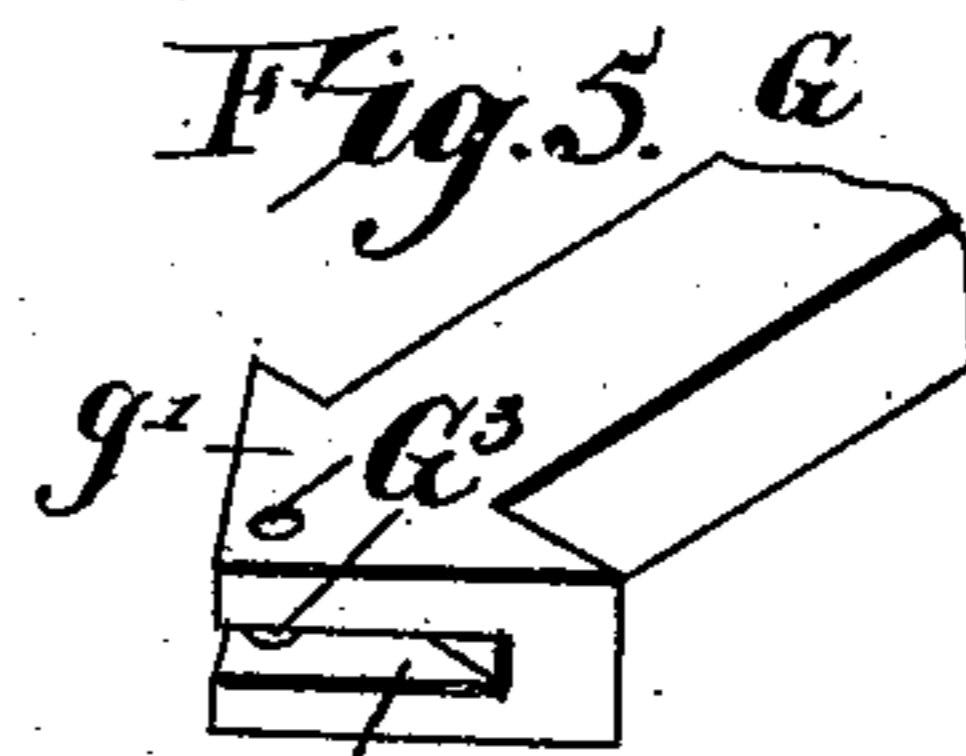
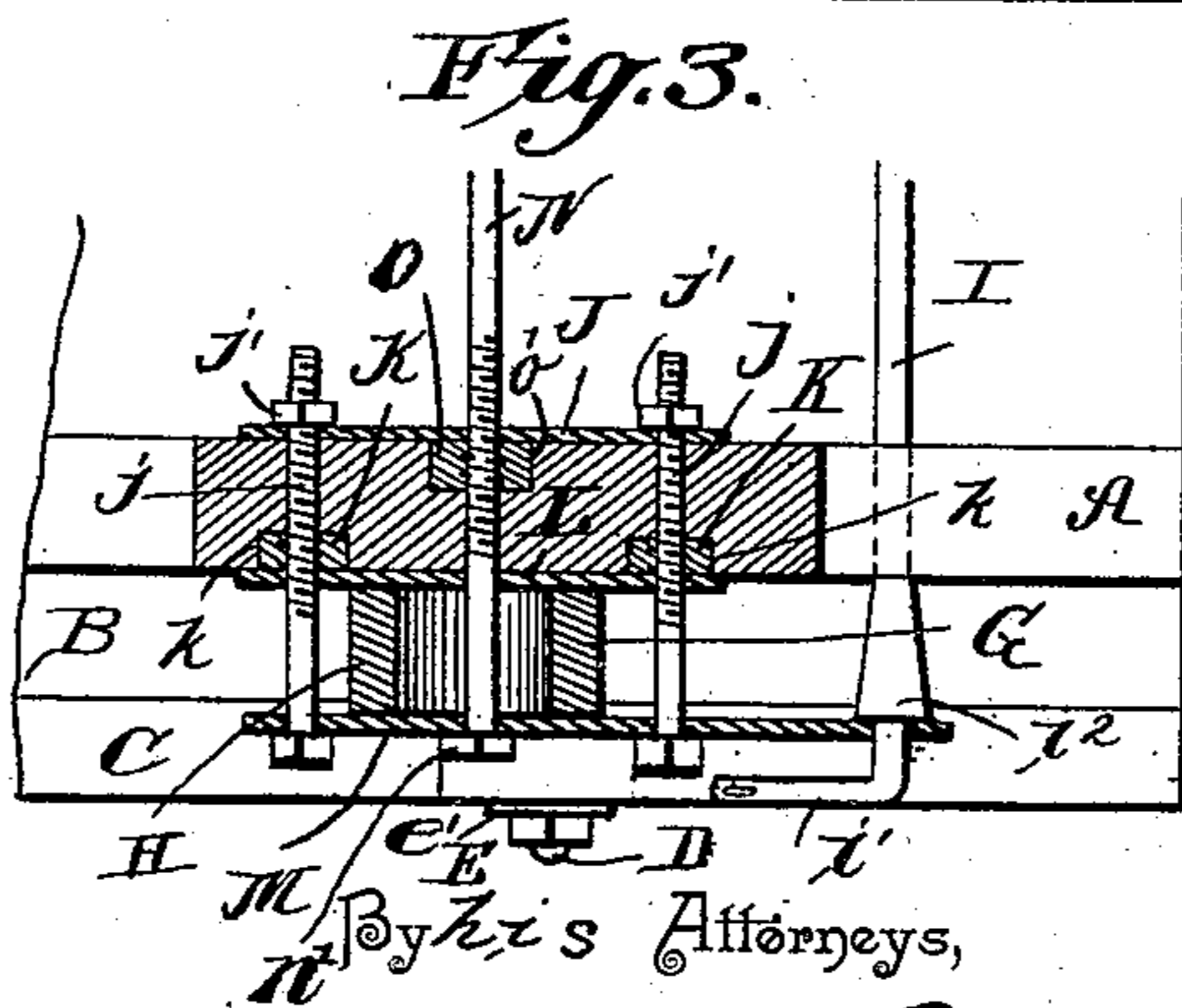
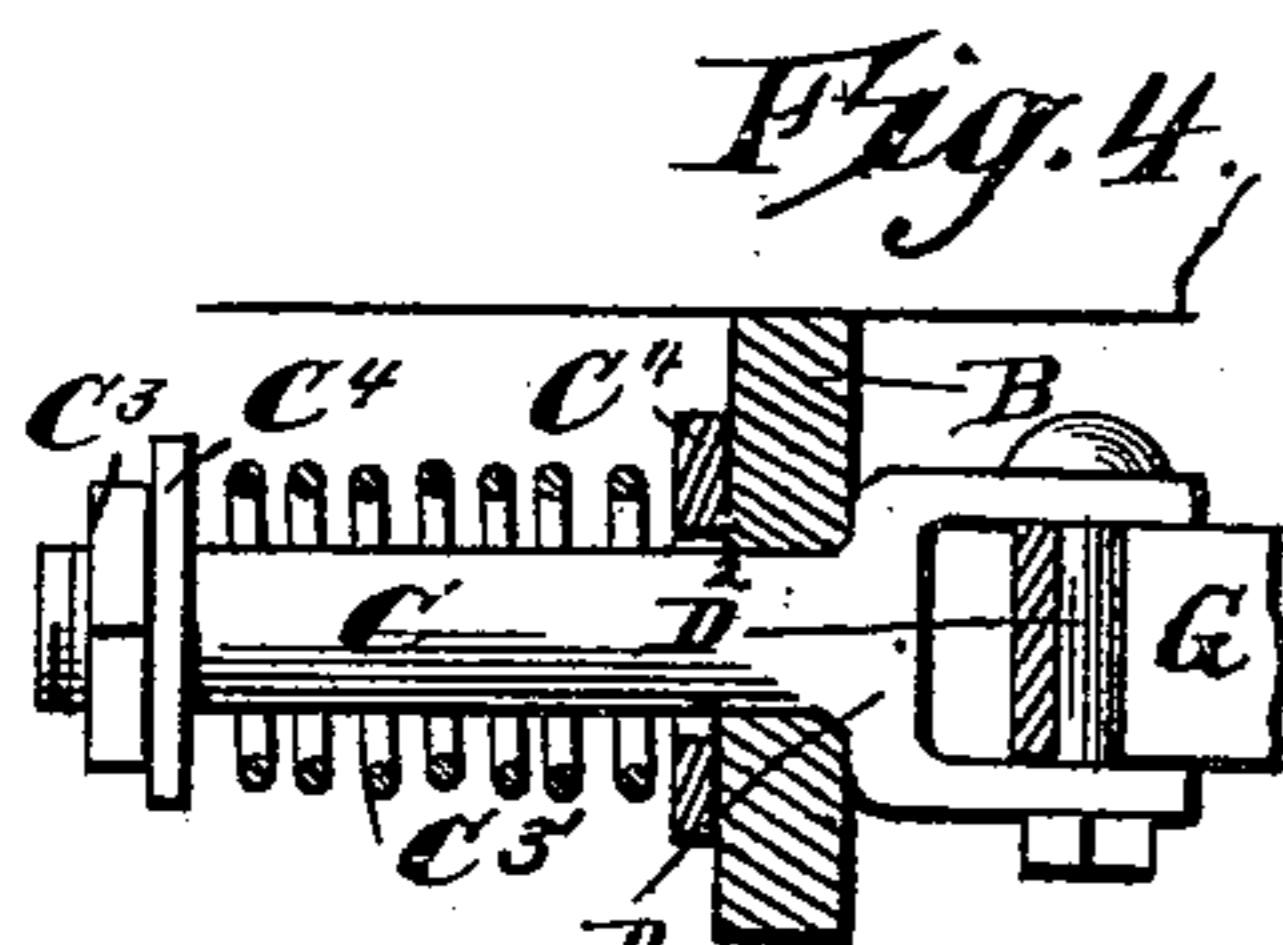
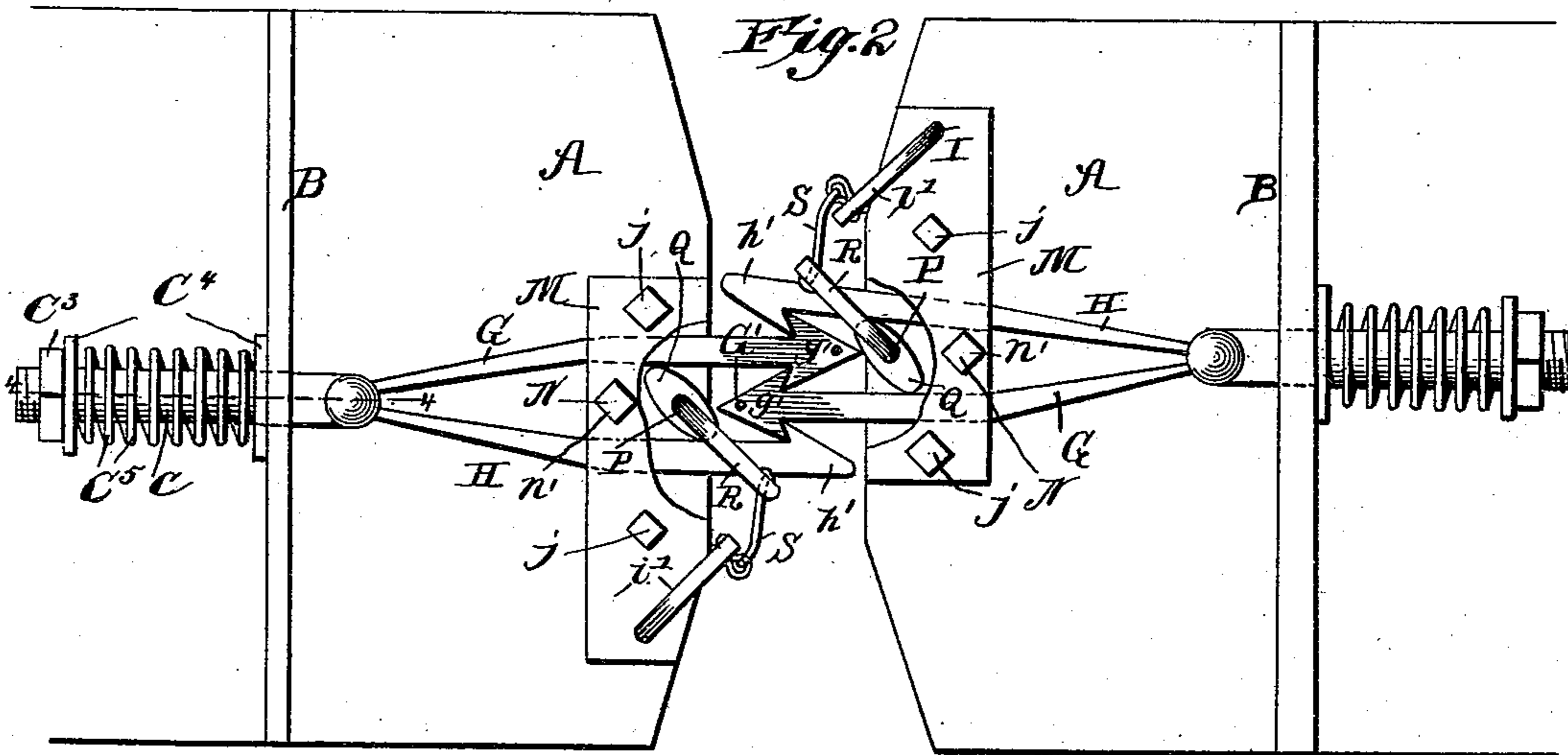
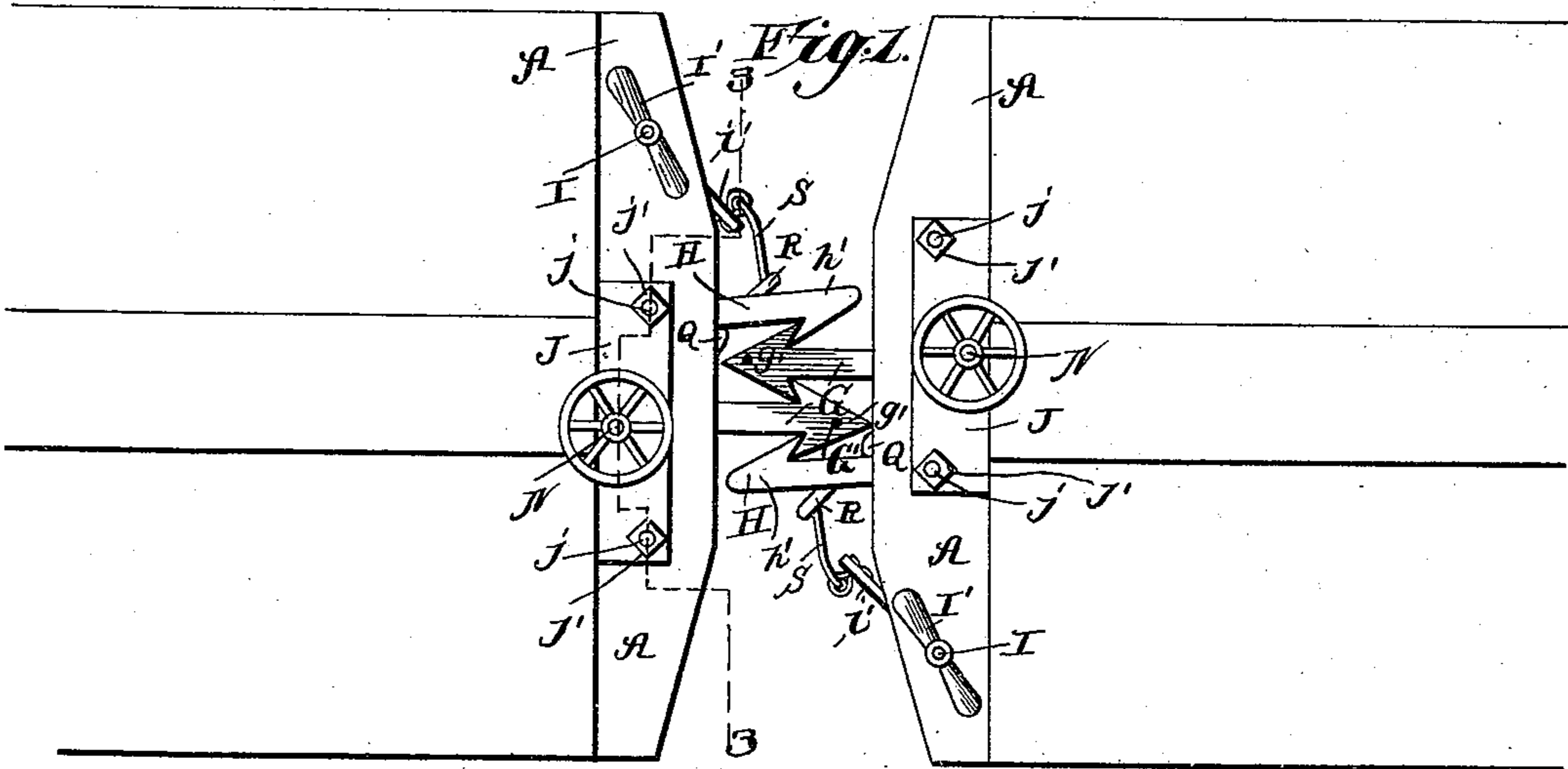


(No Model.)

P. H. LEWIS.
CAR COUPLING.

No. 446,358.

Patented Feb. 10, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

PHILANDER H. LEWIS, OF STANDARD'S CORNERS, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 446,358, dated February 10, 1891.

Application filed October 21, 1890. Serial No. 368,784. (No model.)

To all whom it may concern:

Be it known that I, PHILANDER H. LEWIS, a citizen of the United States, residing at Standard's Corners, in the county of Allegany and State of New York, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to automatic car-couplings; and it has for its object to provide a car-coupling which shall be simple in construction and certain in its operation, and which may be readily manipulated by the trainmen without necessity of going between the cars.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a plan view showing the ends of two cars provided with my improved coupling, showing the cars coupled together. Fig. 2 is a bottom plan view of the same. Fig. 3 is a transverse sectional view taken on the line 3 3 in Fig. 1. Fig. 4 is a sectional detail view taken on the line 4 4 in Fig. 1. Fig. 5 is a perspective detail view of the front end of the draw-head.

Like letters of reference indicate like parts in all the figures.

A A represent the meeting ends of the car-bodies of two cars. The under side of each of said car-bodies is provided with a cross-bar B, having a bearing for a longitudinally-movable stem C, the rear end of which has a nut C³ and washers C⁴, between which is coiled the buffer-spring C⁵.

The front end of the stem terminates in a clip or clevis D, through which extends a vertical bolt D². Bent around the latter is a piece of spring metal provided with a loop F and two spring-arms G and H, having at their outer ends, respectively, an arrow or harpoon head *g'* and a hooked head *h'*, the hook of which is presented toward the said arrow-head.

Extending through the floor of the car-body is a rotary shaft I, provided at its upper end with a handle I' and at its lower end with a crank *i'*, and having above the crank a downwardly-extending shoulder *i*². On the top of

the floor of each car-body is a plate J, through which extend vertical bolts *j j*, headed at their lower ends and secured in place at their upper ends by nuts *j' j'*, screwed thereon above said plate. Said bolts are also screwed through nuts K K, that are received in recesses or sockets *k k* in the under side of the floor-body to prevent their being turned when the said bolts are turned, and the bolts also pass through a plate L on the under side of the car-body. Resting upon the bolts *j j* is a plate M, through which the said bolts and the shaft I extend, the shoulder of said shaft preventing its downward movement.

The arrow or harpoon head and the hooked head above referred to extend between and beyond the plates L and M; also extending through the bottom of the car-body and the said plates J, L, and M is a shaft N, having at its lower end a head *n'*, upon which rests the said plate M. Said shaft is screw-threaded and turns in a nut O, mounted in a recess *o'* in the top of the floor of the car-body below the plate J.

Journaled in the plates L and M is a short shaft P, provided with a cross-piece Q, which constitutes a spreader adapted to play between the spring-arms G and H, said shaft being provided with a crank R, the outer end of which is connected with the outer end of a crank *i'* by means of a link S.

The arrow or harpoon head *g'* at the front end of the spring-arm G is provided with a horizontal slot G², adapted to receive an ordinary coupling-link. Said slot is intercepted by a vertical perforation G³, adapted to receive a coupling-pin, thus enabling my improved coupling to be connected with a pin-and-link coupling of ordinary construction.

Two cars being provided with the coupling devices hereinbefore described, the operation is as follows: When the cars come together, the arrow-head of one car, by reason of its wedging action, will pass between and spread the arrow-headed arm and the hooked arm of the coupling of the other car, so that one side of the arrow-head of each car will engage the arrow-head of the opposite car, while the other side of the arrow-head of each car will be engaged by the hook of the opposite car, thus coupling the two cars together. When it is desired to uncouple the cars, the shaft I is

turned so as to cause the spreader Q to spread or separate the spring-arms G and H. When it is desired to couple cars that are of unequal height, the arms G and H, which constitute the draw-head, may be raised or lowered by manipulating the shaft N so as to raise or lower the plate M, upon which the front ends of the said spring-arms G and H are supported.

As will be seen from the foregoing description, my improved car-coupling is very simple in construction. The coupling is effected automatically when the cars come together, and the operation of uncoupling may be performed by means of the handles I' upon the shafts I without necessity of going between the cars.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a car-coupling, the combination, with a draw-head consisting of two hooked spring-arms, of a shaft between said arms, a spreader mounted upon said shaft, a crank at the lower end of the latter, and means for turning the said crank, substantially as set forth.

2. In a car-coupling, the combination, with a draw-head consisting of two-hooked spring-arms, of a shaft between said arms, a spreader mounted upon said shaft, a crank at the lower end of the latter, a hand-shaft provided with a crank, and a link connecting the ends of said cranks, substantially as set forth.

3. In a car-coupling, the herein-described draw-head, consisting of a single piece of metal bent to form a loop at its inner end, and forwardly-extending spring-arms provided, respectively, with a hooked and an arrow head, substantially as and for the purpose set forth.

4. In a car-coupling, the combination of a longitudinally-sliding spring-actuated stem having a clip or clevis at its front end, the draw-head consisting of a single piece of metal bent to form a loop at its inner end, and forwardly-extending spring-arms provided, respectively, with a hooked and an arrow head, and a bolt passing through the loop at the inner end of the draw-head and connecting the latter with the clip or clevis of the longitudinally-sliding stem, substantially as set forth.

5. In a car-coupling, the combination, with a draw-head consisting of a single piece of metal bent to form the forwardly-extending spring-arms having a hooked and arrow head, of adjusting devices for raising and lowering the front end of the said draw-head, substantially as and for the purpose set forth.

6. In a car-coupling, the combination of the draw-head having the spring-arms provided, respectively, with a hooked and an arrow head, the plates L and M, between which the draw-head passes, the guide-bolts passing vertically through the said plates, and a vertical operating-shaft mounted in and vertically adjustable with the said plates, substantially as and for the purpose set forth.

7. In a car-coupling, the combination of the draw-head, the plates L and M, between which the draw-head passes, the vertical guide-bolts extending through the said plates, and a vertically-adjustable screw-threaded rod or shaft mounted in a stationary nut extending through the said plates and provided at its lower end with a head supporting the plates M, substantially as set forth.

8. In a car-coupling, the combination of the draw-head, having the forwardly-extending spring-arms provided with a hooked and arrow head, the plates L and M, between which the draw-head passes, the vertical guide-bolts extending through said plates, a screw-threaded vertical rod or shaft mounted in a stationary nut extending through said plates and provided at its lower end with a head supporting the plate M, a hand-shaft vertically adjustable with the plate M and having a crank at its lower end, a shaft mounted vertically between the spring-arms of the draw-head and having a spreader located between said arms and a crank at its lower end, and a link connecting the said cranks, substantially as and for the purpose herein specified.

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

PHILANDER H. LEWIS.

Witnesses:

A. D. PERKINS,
C. F. PERKINS.