

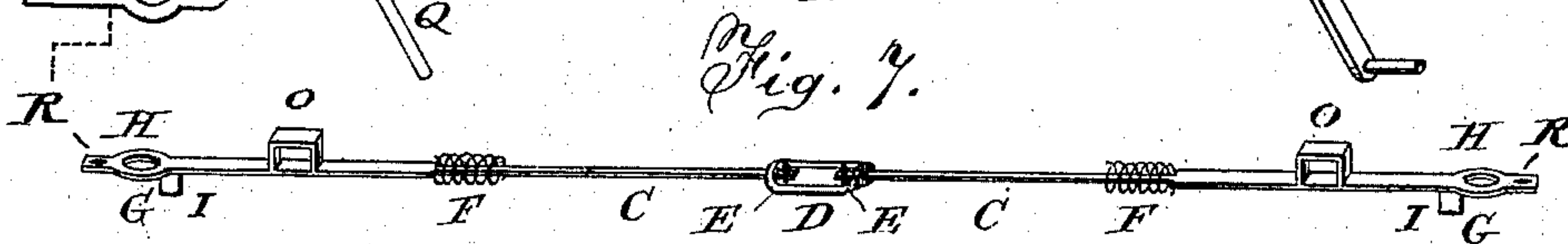
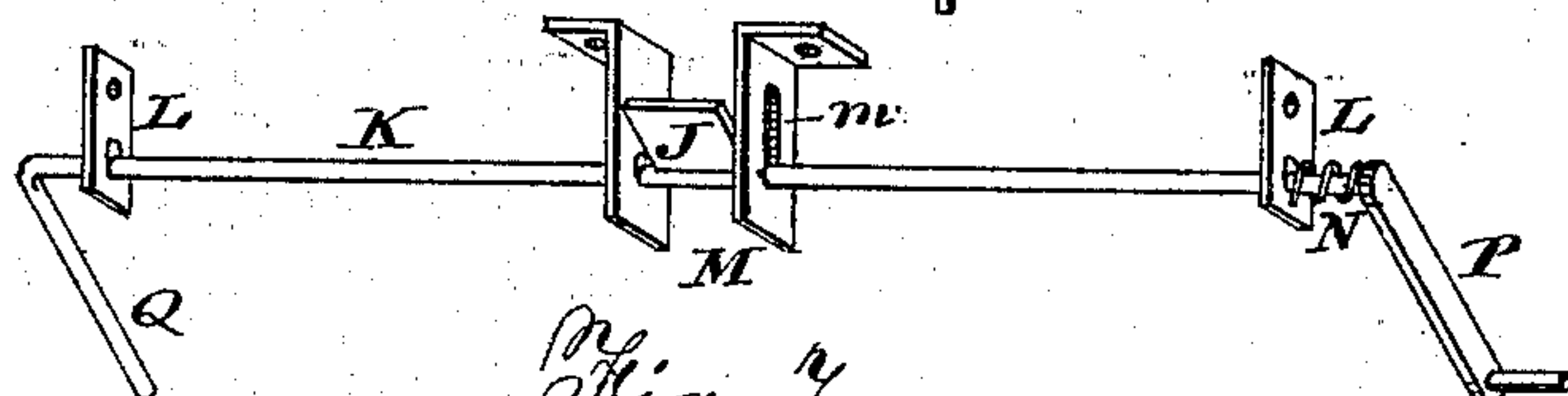
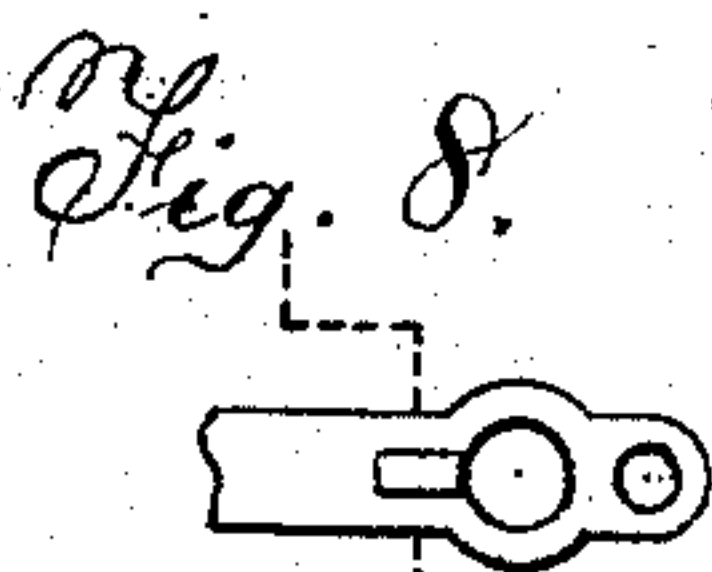
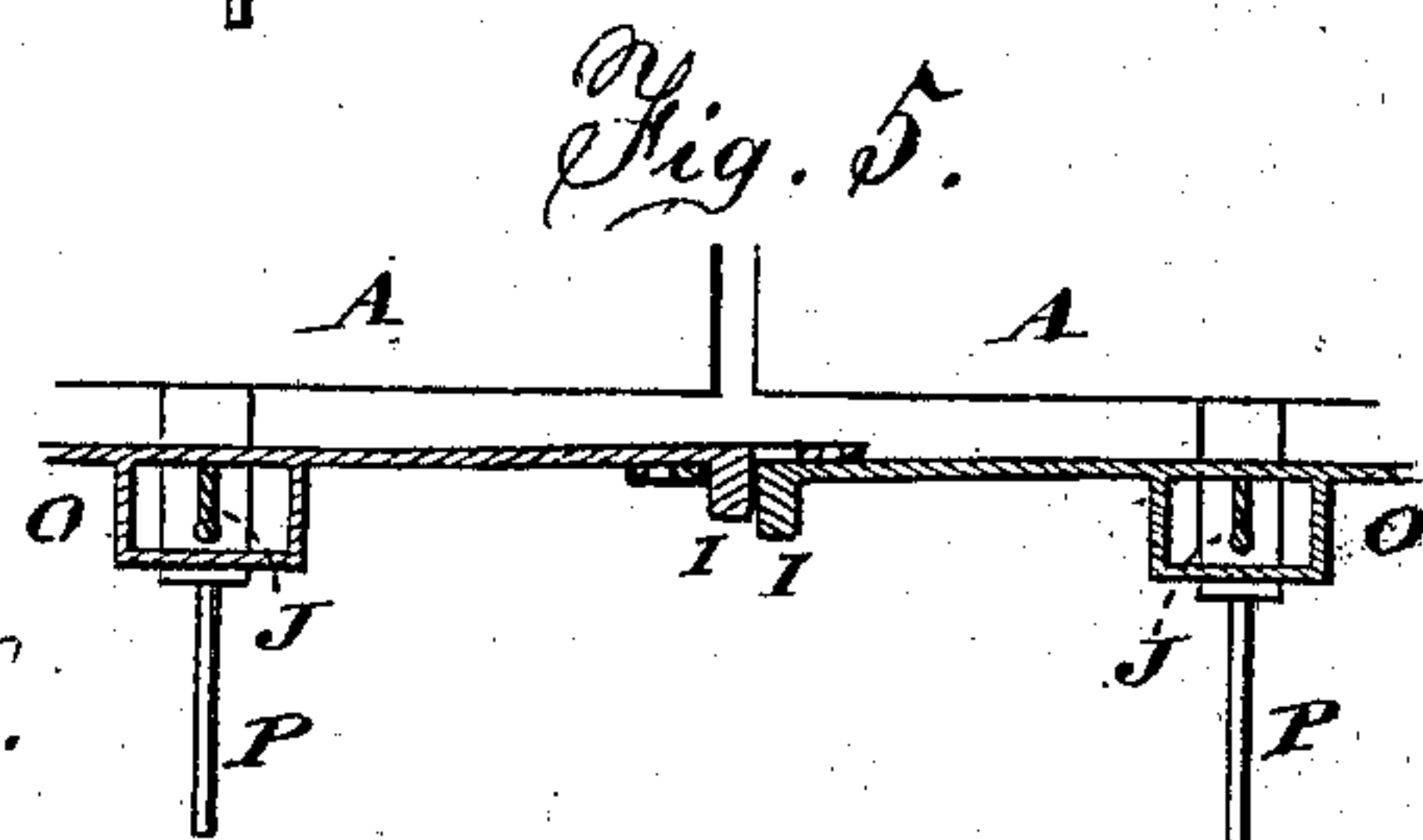
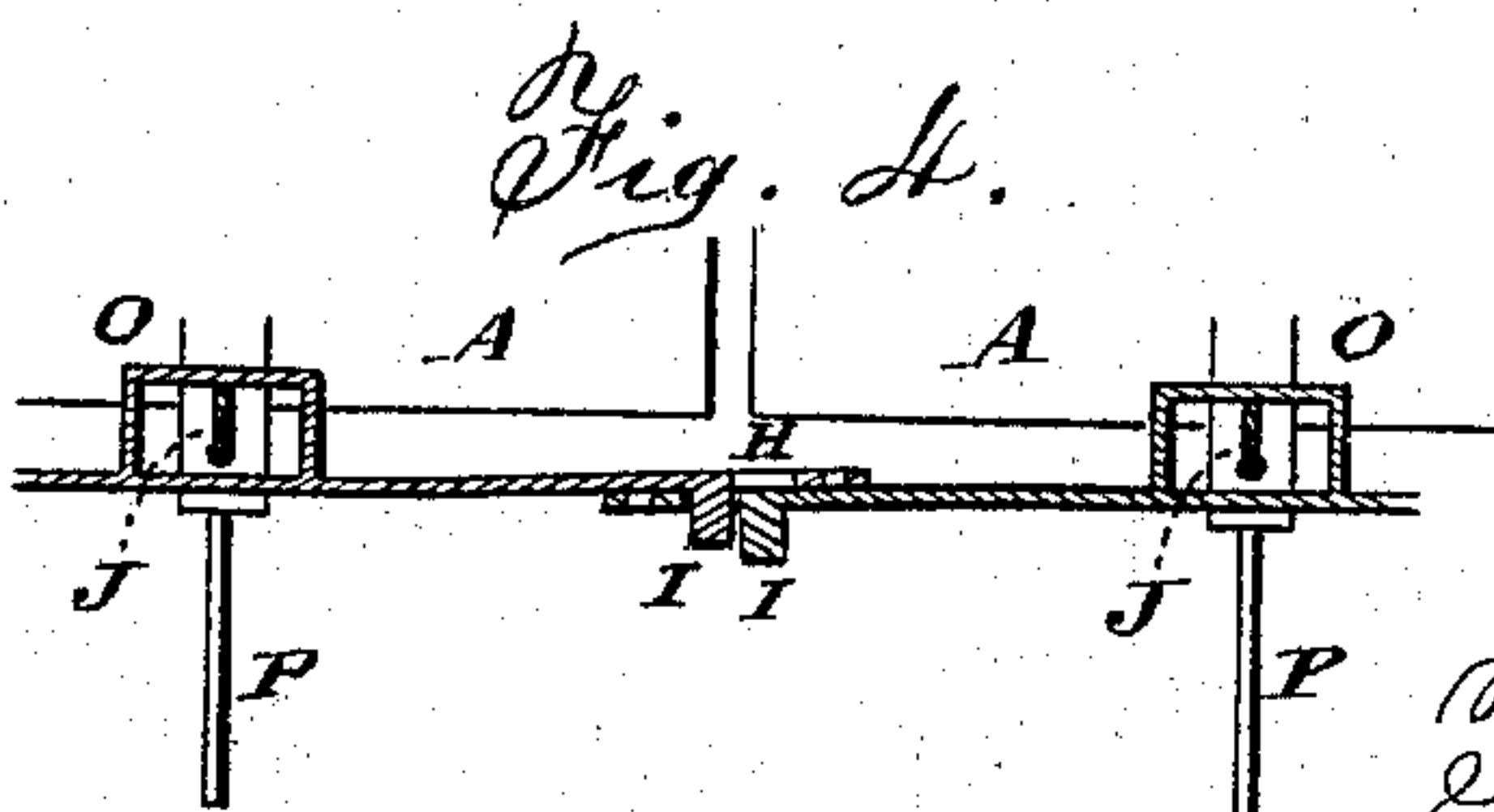
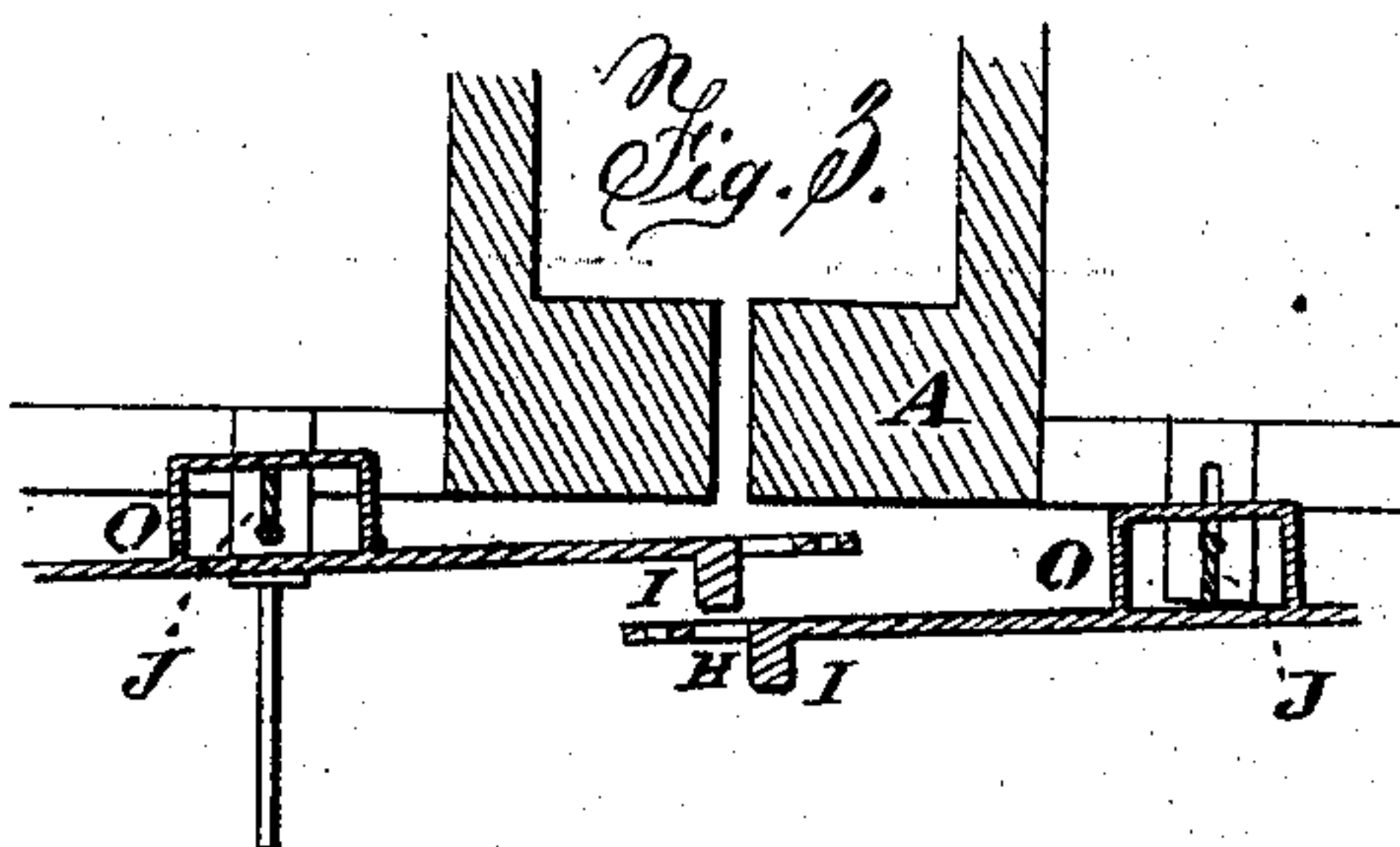
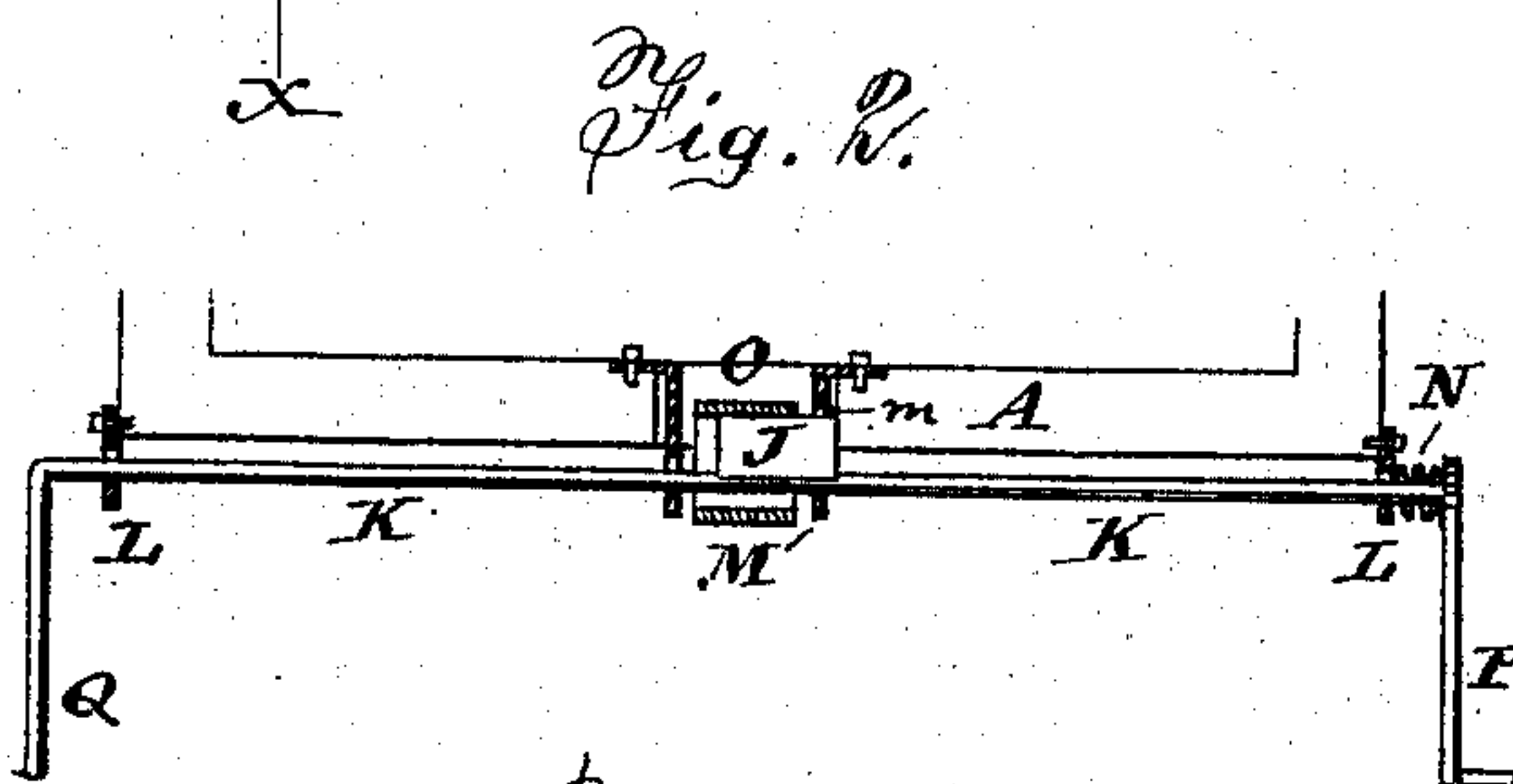
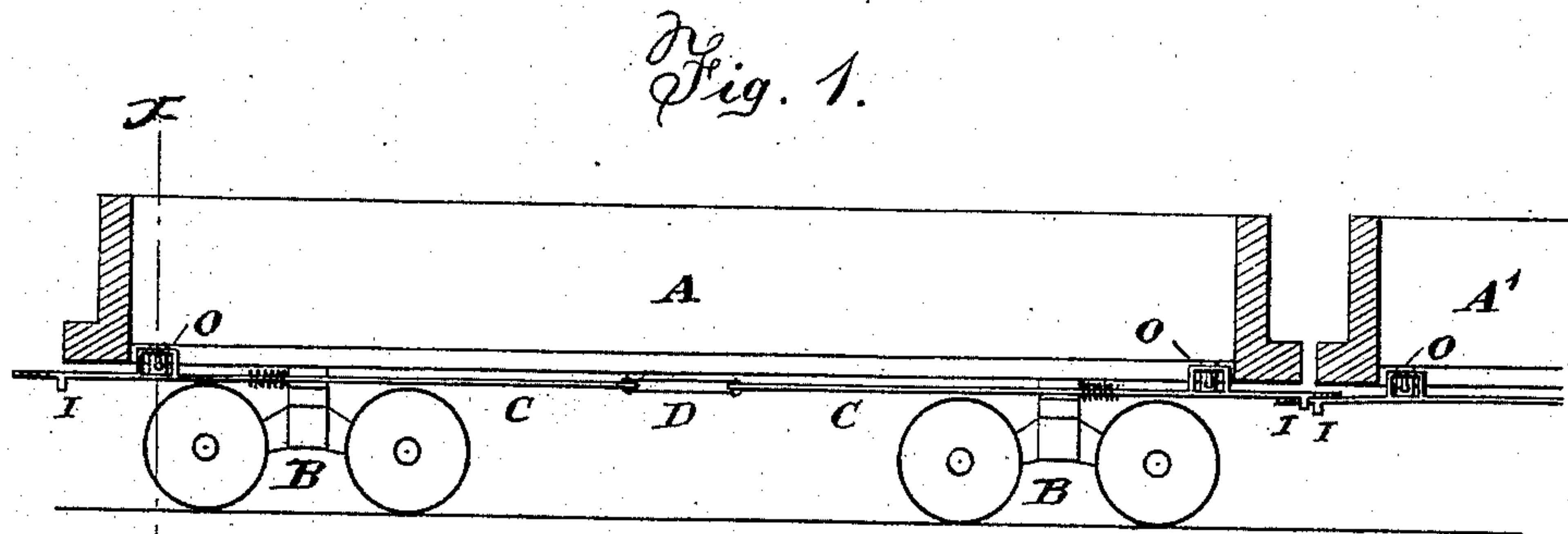
(No Model.)

E. J. ROBERTS.

CAR COUPLING.

No. 252,520.

Patented Jan. 17, 1882.



Attest:

Percy Knight
Wm. Hopkins

Inventor:
Edward J. Roberts
By Knight Bros. Atty.

UNITED STATES PATENT OFFICE.

EDWARD J. ROBERTS, OF ASHLAND, ASSIGNOR OF ONE-FOURTH TO W. W. CULBERTSON, OF BOYD COUNTY, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 252,520, dated January 17, 1882.

Application filed June 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. ROBERTS, of Ashland, Boyd county, Kentucky, have invented a new and useful Improvement in Car-Couplings, of which the following is a specification.

My invention relates to a form of bar in a single integral piece, which discharges the functions of draw-bar proper, of draw-head, of coupling-pin, and of link, thus dispensing with all separate or loose parts, to be mislaid, dislodged, or get out of order, the construction, moreover, being such as to reduce to a minimum the liability to slack motion, side sway, and telescoping of consecutive cars, and to constitute the series of bars, in effect, a single connected draw-bar, free from contraction or elongation, and such as to receive throughout its length the momentary impulse of the draft and to impart it uniformly to all the cars of the train. The construction is further such as to enable coupling and uncoupling to be effected without the necessity of the operator going between the cars. In consequence of the protruding end of each draw-bar lapping and extending beneath the platform of the opposing car, neither platform can drop below nor rise above the opposing platform, so as to accidentally uncouple or "telescope."

In the accompanying drawings, Figure 1 is a longitudinal section, representing my improvement applied to one car and a portion of another, to which it is coupled. Fig. 2 is a transverse section on the line *xx*. Figs. 3 and 4 are longitudinal sections of my apparatus in the respective conditions of about to couple and coupled. Fig. 5 represents a modification of my device, also in the coupled condition. Fig. 6 is a perspective view of my operating-cam and its accessories. Fig. 7 is a perspective view of one of my draw-bars. Fig. 8 is a top view of one of my improved heads.

A may represent the bed or body, and B the trucks, of a railway-car of any customary form.

C D E F represent respectively the customary shanks or tail-rods, turn-buckle keys, and draft-springs of a draw-bar system for one car. But instead of terminating in the customary separately-attached draw-head to re-

ceive the detachable pin and coupling-link, my draw-bar is so formed as for its outer extremity to itself constitute the draw-head and coupling member complete, no separable link or pin being required. With this object in view the outwardly-extending portion or head of my bar is expanded laterally, as at G, where it has a circular orifice, H, that pierces it vertically to receive a lug, I, that projects downward from the corresponding head of the next car. Each head has both a lug, I, and an orifice, H; but both are never used at one time, it being optional with the attendant to couple the lug of car A to the orifice of car A' or the lug of car A' to the orifice of car A. Each head is made capable of elevation or depression, so as to slide, as may be desired, either over or under that of the opposing car, by means of a cam, J, upon a shaft, K, that is journaled transversely of the car in slotted bearings L, and occupies a vertical slot, *m*, in a hanger, M, said slot being of such dimensions as to receive and prevent the rotation of the cam J whenever the latter is drawn into it by the action of spring N. The cam J occupies a yoke or stirrup, O, that projects from the head, and by its semi-rotation operates to elevate the bar, as at 1, or to depress it, as at 2. A crank or handle, P, upon the shaft K enables its rotation by the operator in the manner indicated. In the elevated position of the cam the weight of the handle and of a counter-weight, Q, operates, whenever left at liberty, to restore the parts to the position 1, and then the spring N draws the cam into the slot *m*, and by so doing locks the head to its elevated position.

Either for coupling or for uncoupling, one of the heads is depressed by sliding endwise and semi-rotation of its cam, as at 2, Fig. 3. If for uncoupling, the cars are then obviously at liberty to separate; but if for coupling, one car is moved toward the other until the heads reach the position indicated, when, the depressed head being elevated, it shoots automatically into lock in the manner previously explained, and the two heads become thereby coupled securely together.

Each head is preferably prolonged at its outer extremity sufficiently to give room for a

hole, R, for reception of a pin to hold the common link for coupling, when required, to the ordinary cars. This form I have selected for illustration as that best adapted in most cases; but variations may be made in non-essential particulars. For example, the yokes may be located on the under sides of the heads, as in Fig. 5, and the cam-shaft for freight-cars may be operated from above.

10 I claim herein as new and of my invention—

1. The car-coupling composed of two flat overlapping heads, G, of which each has a lug, I, to occupy a circular orifice, H, in the opposing head, in combination with cam J, operating
15 in a yoke, O, to enable the temporary depres-

sion of whichever head is to receive the lug of the other, substantially as set forth.

2. In combination with the overlapping and interlocking heads G H I and operating-cams J, upon rotating and sliding shafts K, the slot- 20 ted hangers M, and springs N, for automatic locking of the head to its elevated position, substantially as described.

In testimony of which invention I hereunto set my hand.

EDWARD J. ROBERTS.

Attest:

W. W. CULBERTSON,
WILLIE F. STEWART.