

(No Model.)

W. L. DWYRE.

ATTACHMENT FOR PIN AND LINK COUPLERS.

No. 396,863.

Patented Jan. 29, 1889.

Fig. 1.

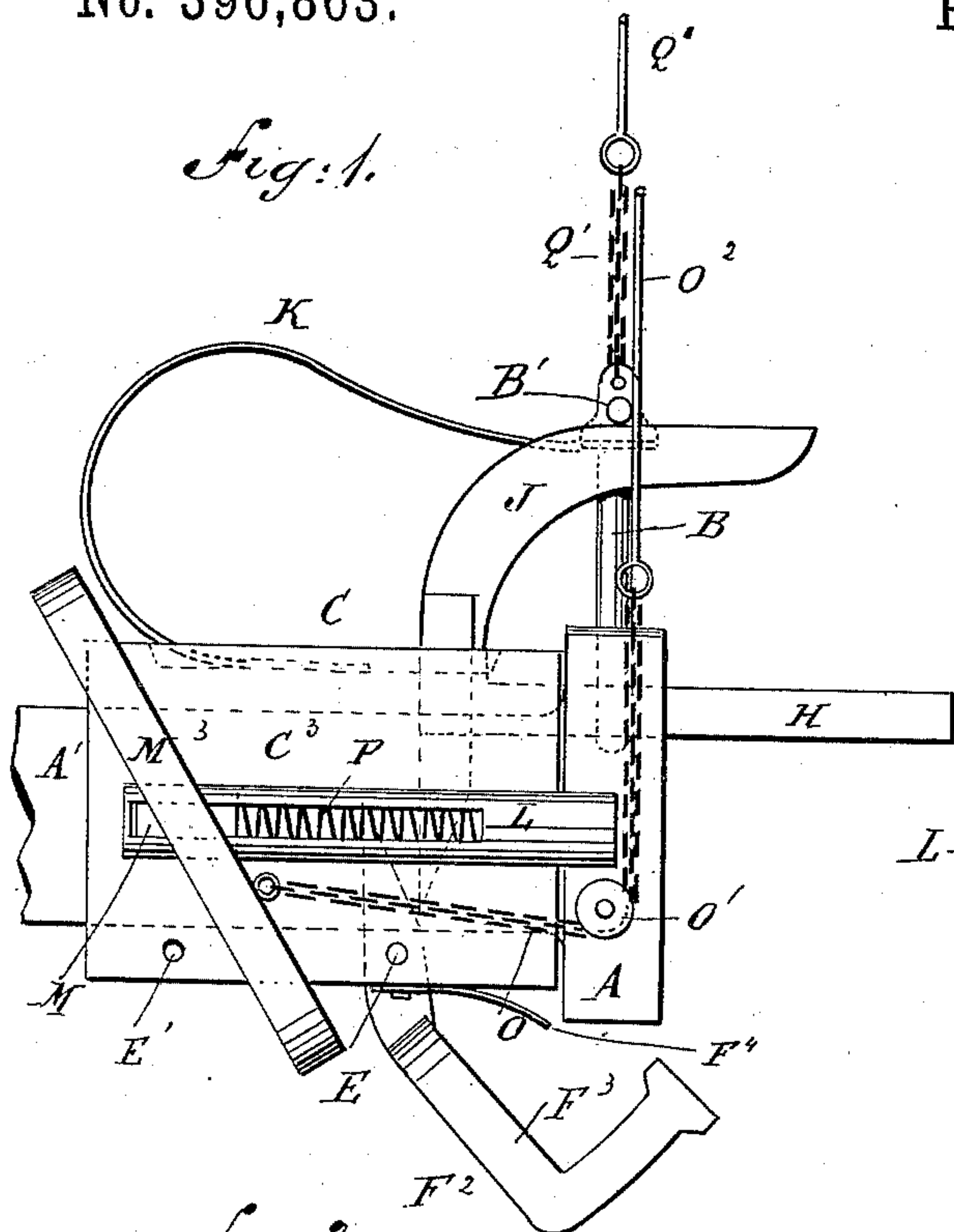


Fig. 2.

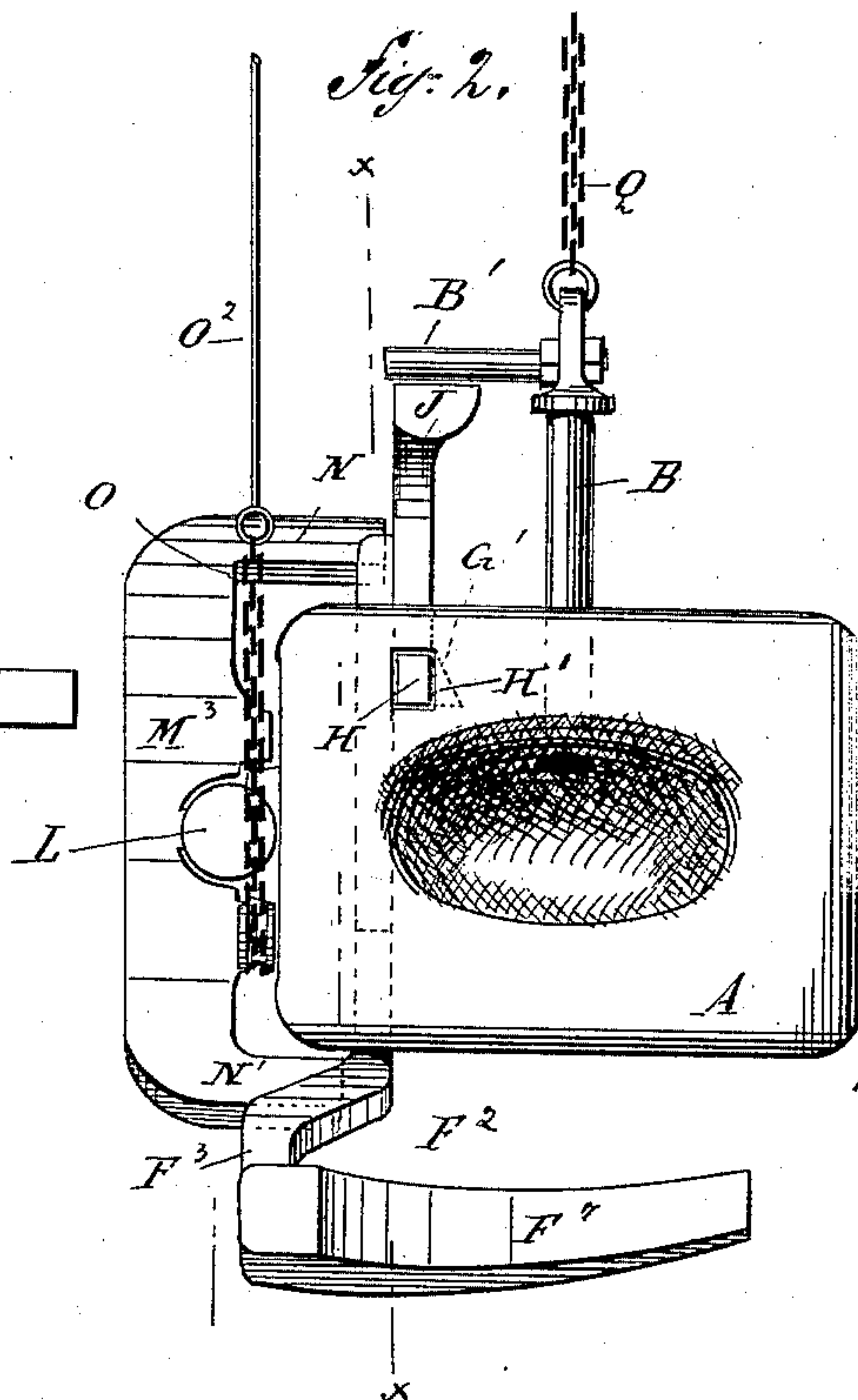


Fig. 3.

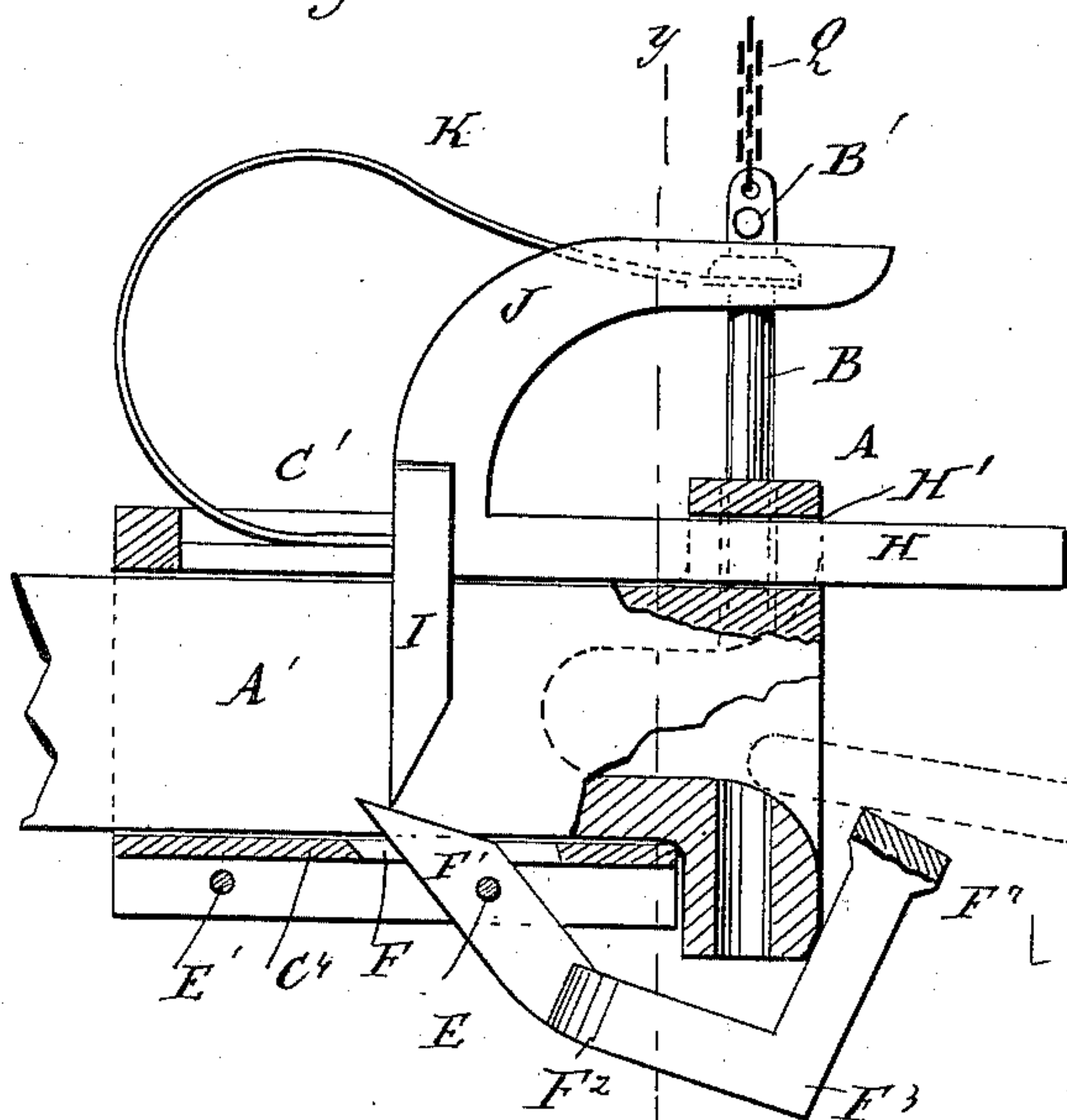
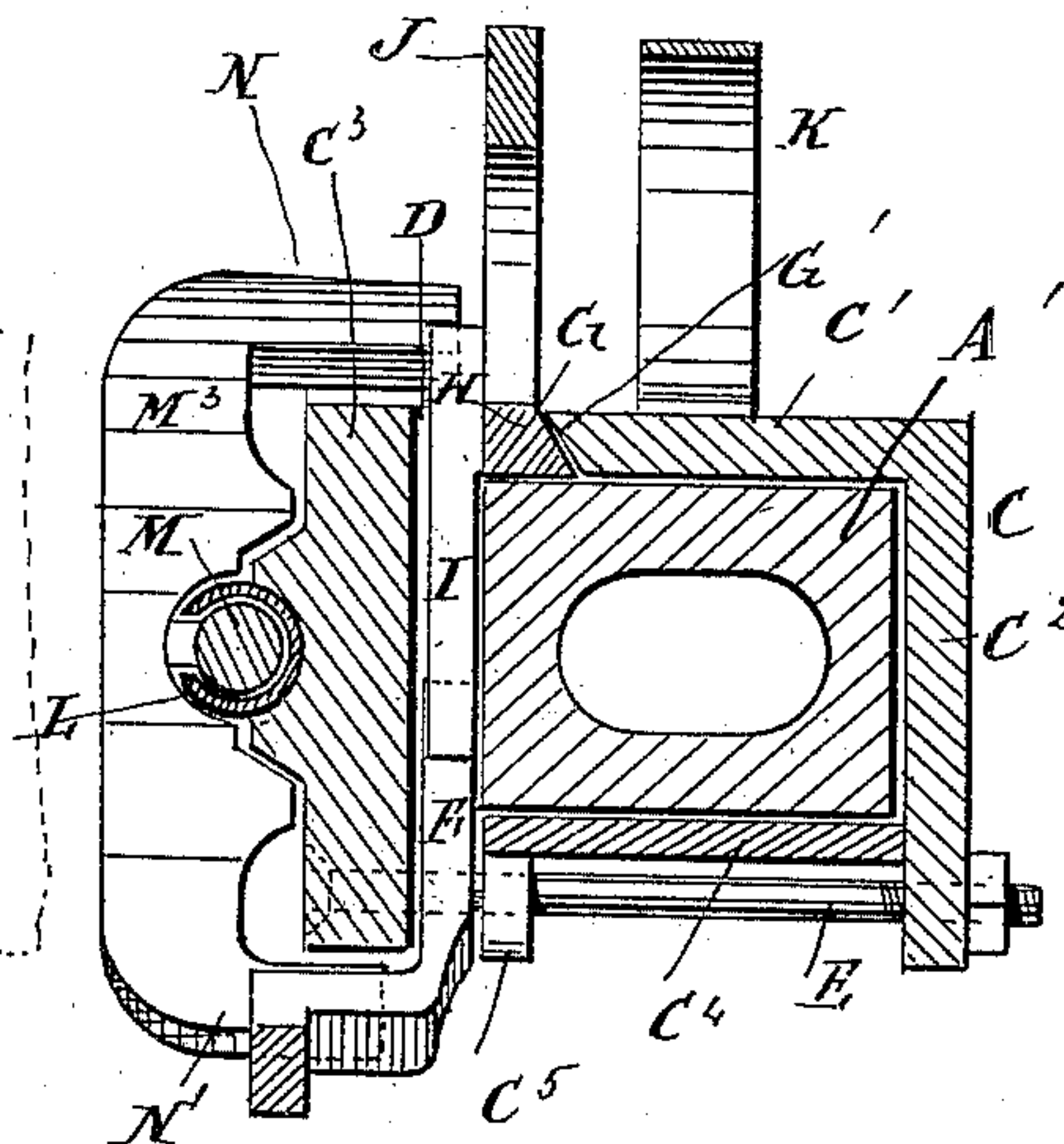


Fig. 4.



WITNESSES:

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ATTACHMENT FOR PIN-AND-LINK COUPLERS.

SPECIFICATION forming part of Letters Patent No. 396,863, dated January 29, 1889.

Application filed August 16, 1888. Serial No. 282,888. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. DWYRE, of Albany, in the county of Linn and State of Oregon, have invented a new and useful Improvement in Attachments for Pin-and-Link Car-Couplers, of which the following is a full, clear, and exact description.

The main object of this invention is to provide a simple and efficient device for attachment to the ordinary pin-and-link car-coupler, by which the same can be easily set for coupling or uncoupled without going between the draw-heads of the cars to be coupled, and will couple automatically with another coupler of the same class when said approaching coupler is adjusted for coupling.

The invention comprises various novel features of construction and combinations of parts; and in order that the invention may be most clearly understood I will first describe in detail the mode in which the same may be carried into effect, and then point out its distinctive features in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a pin-and-link coupler to which my invention has been applied when set for coupling. Fig. 2 is a front elevation of the same. Fig. 3 is a sectional side view of the same on the line *x x*, Fig. 2. Fig. 4 is a cross-sectional view of the same on the line *y y*, Fig. 3.

Like letters of reference designate corresponding parts in the different figures of the drawings.

A designates the vertically-apertured draw-head, and B the coupling-pin, of an ordinary pin-and-link coupler.

In the arrangement of the invention shown a hood-like casing, C, is fitted detachably over and around the shank A' of the draw-head A in such a manner that the top plate, C', and the side plate C² of said casing will bear against the corresponding parts of the shank A', while the opposite side plate, C³, of the casing will, except at its front and rear ends, which also bear against the shank A', be held laterally apart from the corresponding side of the shank A', and thus form therebetween an upward-opening vertical recess, D. The

side plates, C² C³, of the casing project below the shank A', and between them is fitted a bottom casing-plate, C⁴, which is provided with an eye-lug, C⁵, projecting from its under side, and is held securely, but detachably, in place by bolts E E', passed transversely through the projecting lower edges of the side plates, C² C³, and beneath the said bottom plate, C⁴, the forward bolt, E, being also passed through the eye-lug C⁵. A slot, F, is formed in the bottom plate, C⁴, in range of the vertical recess D and above the bolt E to receive and permit the play of the upward-extending cam-arm F' of a link-lifting lever, F², which is pivoted on the bolt E between the eye-lug C⁵ and the side plate C³, and the lower arm, F³, of which is bent laterally, forward, and upward, and has an upwardly-concave link-engaging arm, F⁴, projecting across and below the mouth of the draw-head A.

A longitudinal slot, G, is formed in the top casing-plate, C', adjacent to the vertical recess D, the inner wall, G', of said slot being undercut, as shown, and in said slot is mounted to slide a bolt, H, having a beveled side to fit the undercut slot-wall G', and the forward end of which is mounted to slide loosely in and to project normally from a corresponding guide-aperture, H', which is made through the upper lip of the draw-head A, so that the bolt H will be pushed inward by the draw-head of an approaching coupler, as indicated in Fig. 3.

To the outer side of the bolt H is fixed a tappet, I, which extends downward and is mounted to slide freely in the recess D, so as when the bolt H is retracted, as stated, to strike the cam-arm F' of the lever F² and cause the lever F² to raise and guide the link of the meeting coupler into the draw-head A, immediately after which the tappet I will pass the cam-arm F' and allow the link-lifting lever F² to be swung downward out of the way by the action of a spring, F⁴, secured to side plate C³. To the top of the slide-bolt H is also fixed an upward and forward extending angular arm, J, the top of which is made horizontally straight, as shown, and the head of the coupling-pin B is provided with a rigid laterally-projecting arm, B', the construction and arrangement being such that when the coupling-pin B is raised in setting it to couple

and the bolt H projected forward, as before described, the top of the bolt-arm J will pass beneath the pin-arm B' and sustain the pin B in its raised position, so that when the bolt
 5 H is retracted by the draw-head of a meeting coupler and the link thereof guided into the draw-head A, as before described, the arm J will be retracted, with the bolt H, from beneath the pin-arm B', and thus allow the same
 10 to fall and automatically couple the entered link.

The head of the coupling-pin B is supported from a light curved spring, K, attached to the top of the draw-head A, so as to cause the pin
 15 to work vertically, and which spring normally acts to maintain the coupling-pin in the lowered or locking position.

On the outside of the casing side plate C³ is formed or fixed a longitudinal tubular guide,
 20 L, closed at both ends, and in which is mounted to slide a cylindrical block, M, from which a neck projects through a longitudinal slot in the side of the guide L, and has a rigid head in the form of a bar, M³, which projects diagonally above and below the side plate C³, and
 25 the upper end of which has a rigid lateral arm, N, arranged to strike the back of the bolt-arm J, while the lower end of the said bar also has a rigid lateral arm, N', to strike the
 30 back of the link-lifting lever F². The arrangement is such that when the bar M³ is drawn forward its arms N and N' will strike the bolt-arm J and the link-lifting lever F², respectively, so that the lever F² will be raised
 35 to permit the bolt-tappet I to pass its cam-arm F', and the bolt H, with its tappet I and pin-sustaining arm J, then carried forward into operating position.

A chain, O, is attached to the sliding presser-bar M³, is carried forward around a pulley,
 40 O', mounted on the side of the draw-head A, as shown, or to the outer face of side plate C³, and then upward to a pull-rod, O², mounted on the front of the car, to effect the described
 45 forward movement of the presser-bar M³ in setting to couple, and a spring, P, is interposed in the guide L between the slide-block M and the forward end of the guide to cause the immediate retraction of the presser-bar
 50 M³ after such operation.

A chain, Q, and pull-rod Q' may also be connected to the coupling-pin B for raising the same from the roof or platform of the car before the pin-sustaining arm J is carried forward, as described.
 55

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

1. The combination, with the draw-head of
 60 a pin-and-link car-coupler, of a detachable hood-like casing covering the shank of the draw-head, one side plate of the casing being separated medially from the adjacent side of the shank to form a recess, a link-lifter having an arm working in said recess, and a sliding
 65 push-bolt having a tappet, also working

in said recess and engaging the link-lifter arm, substantially as described.

2. The combination, with a coupler draw-head, of a detachable hood-like casing covering the shank of the draw-head and its side
 70 plates projecting below the same, a detachable bottom plate fitted between the projecting lower edges of the casing, bolts passed transversely beneath the bottom plate and
 75 through the said projecting parts of the casing, and pin sustaining and releasing devices and link-lifting devices mounted on the said casing and bottom plate, substantially as described.
 80

3. The combination, with a coupler draw-head, of a detachable hood-like casing covering the shank of the draw-head, projecting on opposite sides below the shank, and separated
 85 on one side from the shank to form a vertical recess, a detachable bottom plate fitted between the projecting parts of the casing and formed with a slot in range of the vertical recess and a downward-projecting eye-lug inside the said slot, a link-lifting lever mounted
 90 in said slot and in the recess thereabove, and a bolt passed transversely through the bottom projecting parts of the casing, the eye-lug, and the link-lifting lever, substantially as described.
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4. The combination, with a coupler draw-head, of a pivotal link-lifting lever pivoted by a fixed fulcrum to move in the vertical plane in front of the draw-head, a push-bolt
 100 projectible from the front of the draw-head, and operating-connections between the pivotal link-lifting lever and the push-bolt by which the link-lifting lever is raised when the push-bolt is retracted, substantially as described.
 105

5. The combination, with a coupler draw-head, of a swinging link-lifting lever having a cam-arm and a push-bolt projectible from the front of the draw-head and carrying a
 110 tappet to strike the cam-arm of and raise the link-lifting lever, and then to pass the said cam-arm and release the link-lifting lever, substantially as described.

6. The combination, with a coupler draw-head and a drop coupling-pin having an arm
 115 projecting laterally from its head, of a sliding push-bolt projectible from the front of the draw-head and carrying an upward and forward extending arm to pass beneath the lateral pin-arm and sustain the pin, substantially as described.
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7. The combination, with a draw-head, a drop coupling-pin having a lateral arm, and a link-lifting lever, of a sliding push-bolt projecting from the front of the draw-head and
 125 carrying both a pin sustaining and releasing arm and a tappet to operate the link-lifting lever, substantially as described.

8. The combination, with a coupler draw-head, of a sliding push-bolt carrying a coupling-pin-head-supporting arm, a link-lifting
 130 lever, a coupling-pin-raising device, a sliding

5 presser-bar having arms to strike and project the sliding bolt and to strike and raise the link-lifting lever, and means for operating the said presser-bar from outside the coupler, substantially as described.

10 9. The combination, with a draw-head, of coupling-pin lifting and sustaining devices, a sliding push-bolt carrying the pin-supporting device, a sliding presser-bar to carry the push-bolt forward, draw devices for sliding the presser-bar forward, and a spring to return the presser-bar automatically, substantially as described.

15 10. The combination, with a draw-head and coupling-pin raising and sustaining devices, of a tubular slotted guide fixed to the draw-

head, a block sliding therein having a neck projecting through the slot, and a presser-bar carried by said neck to work the pin-sustaining devices, substantially as described. 20

11. The combination, with a coupler draw-head, of a detachable hood-like casing covering the shank of the draw-head and having a longitudinal slot provided with an undercut side wall and a correspondingly-beveled bolt 25 mounted to slide on the said shank in the undercut slot and to be projected from the front of the draw-head, substantially as described.

WILLIAM L. DWYRE.

Witnesses:

T. B. WILLIAMSON,
J. M. RISLEY.

It is hereby certified that the residence of the patentee in Letters Patent No. 396,863, granted January 29, 1889, upon the application of William L. Dwyre, for an improvement in "Attachments for Pin-and-Link Couplers," was erroneously written in the grant and printed at the head of the specification "Albany, New York," whereas said residence should have been written and printed *Albany, Oregon*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 5th day of February, A. D. 1889.

[SEAL.]

D. L. HAWKINS,

Assistant Secretary of the Interior.

Countersigned:

BENTON J. HALL,

Commissioner of Patents.