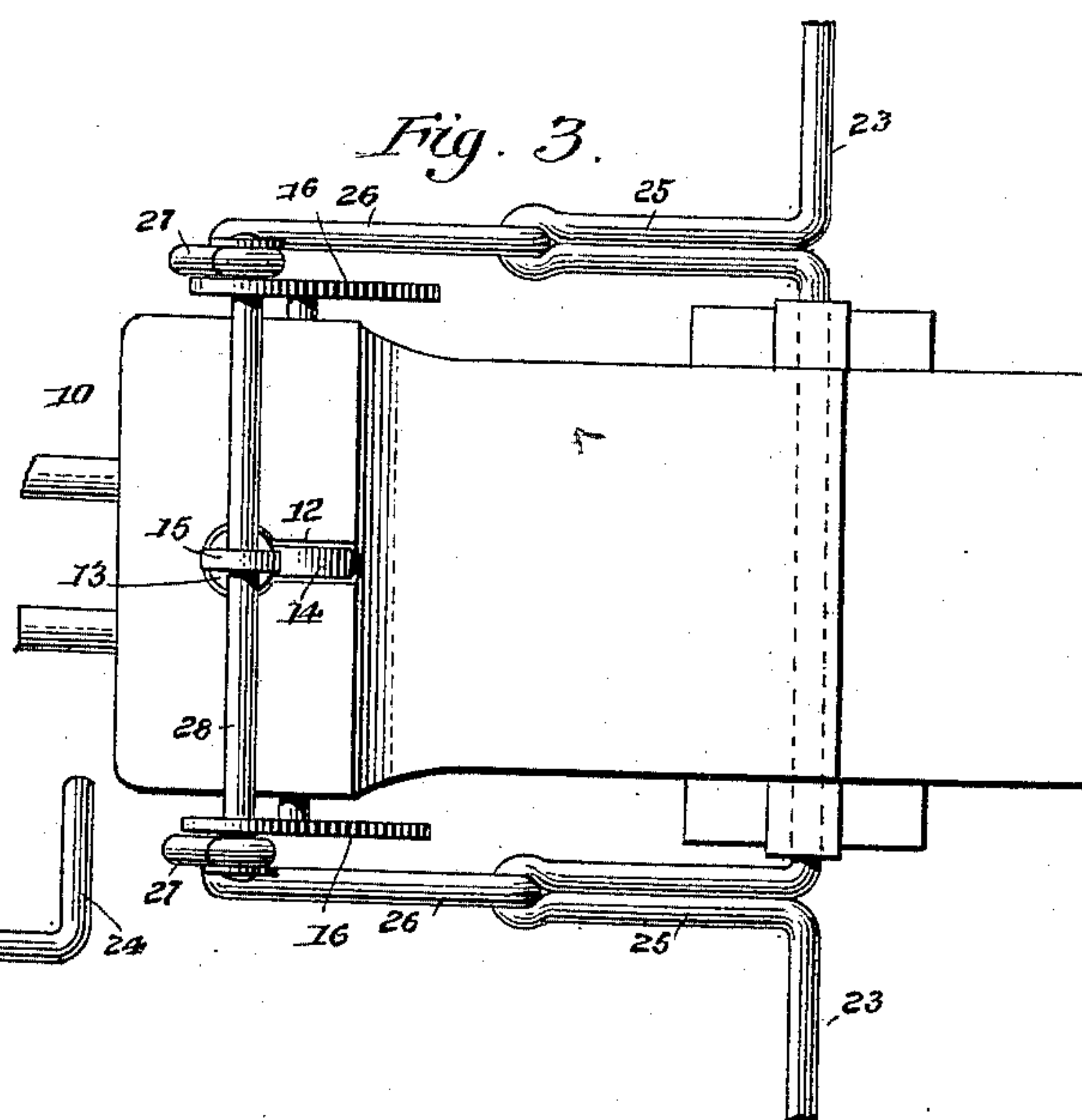
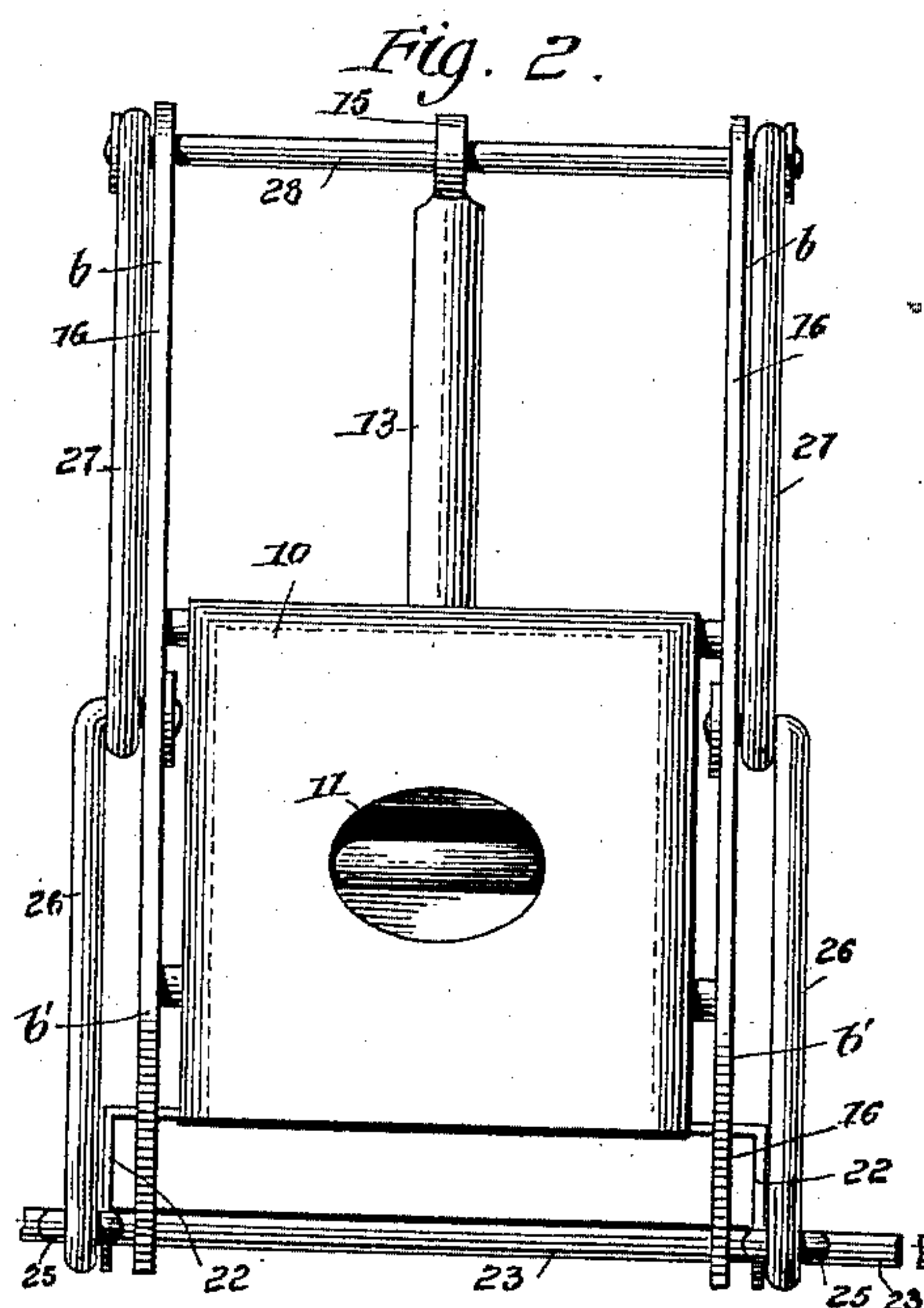
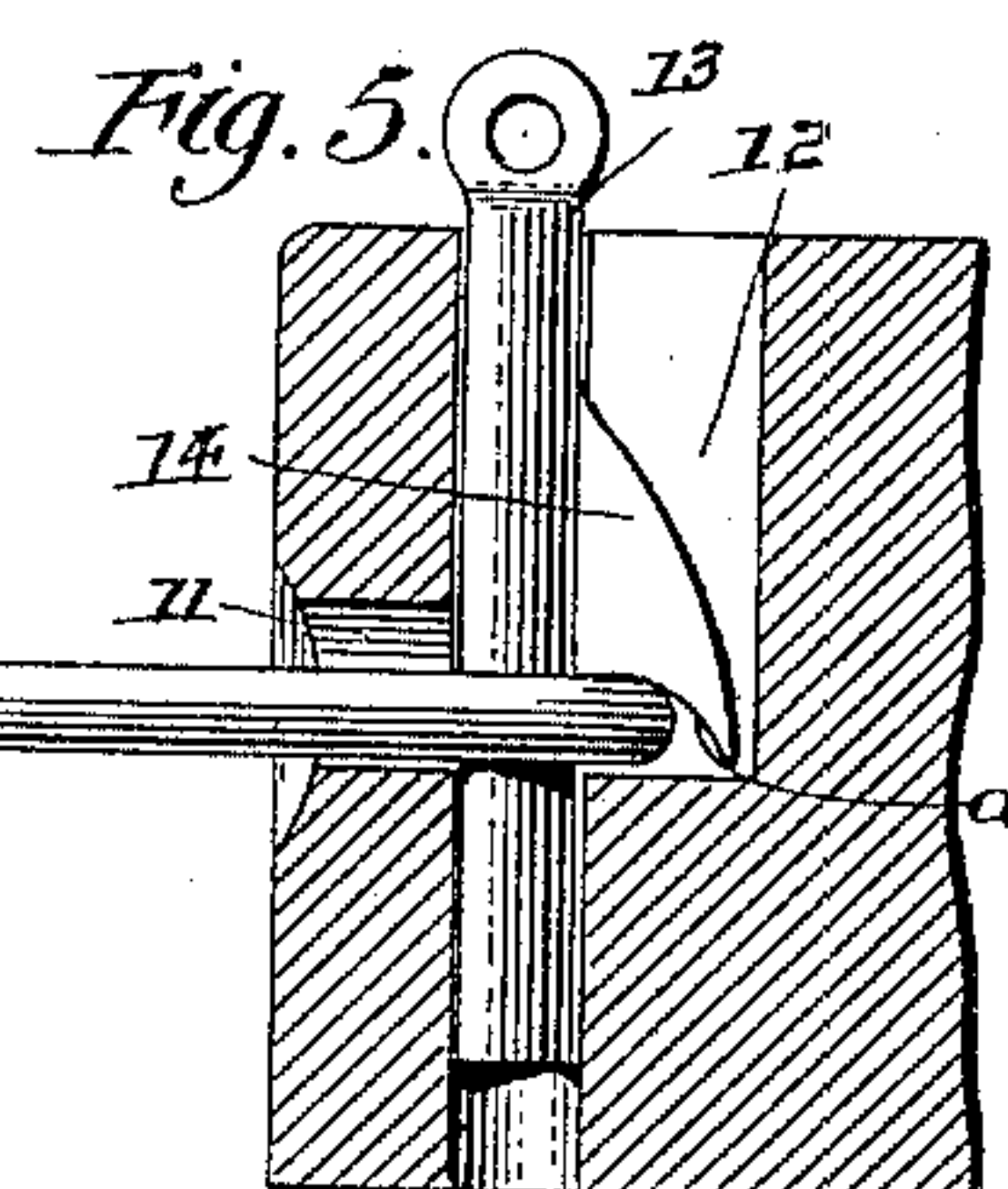
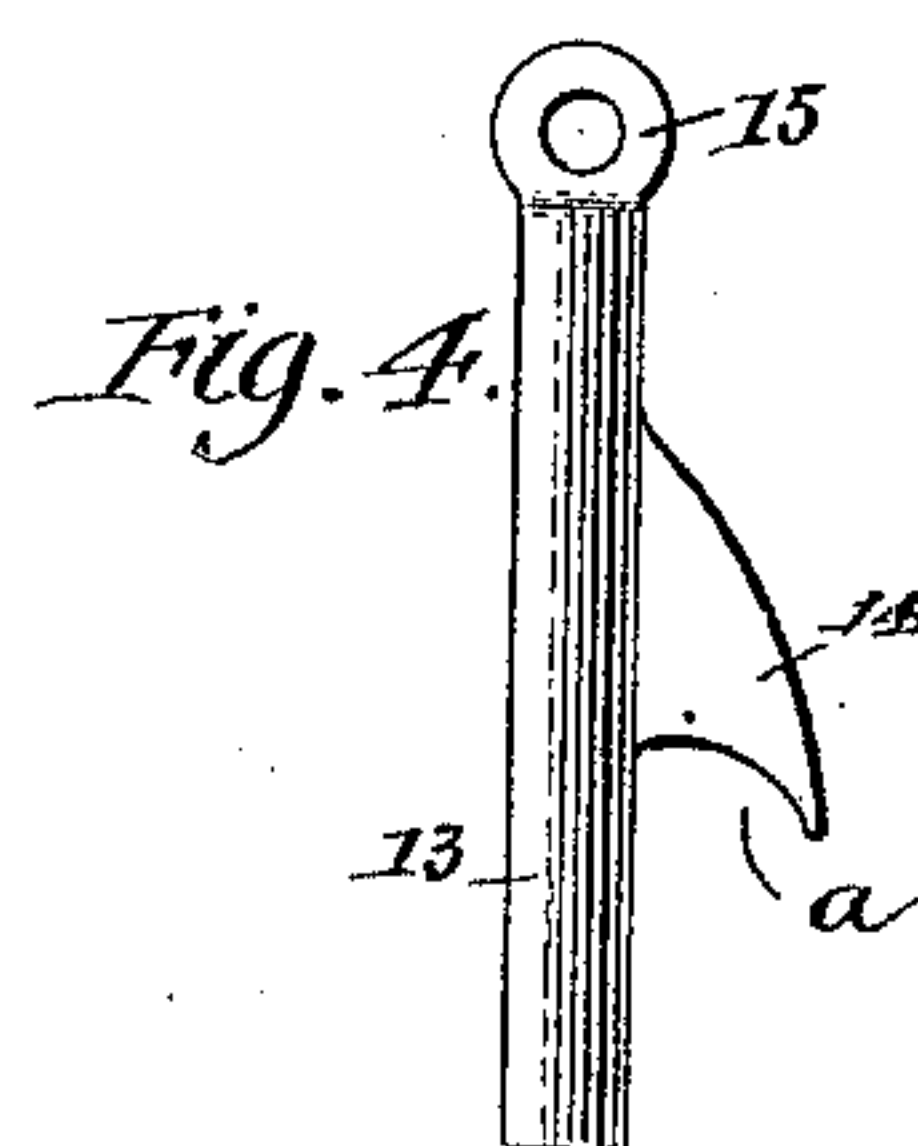
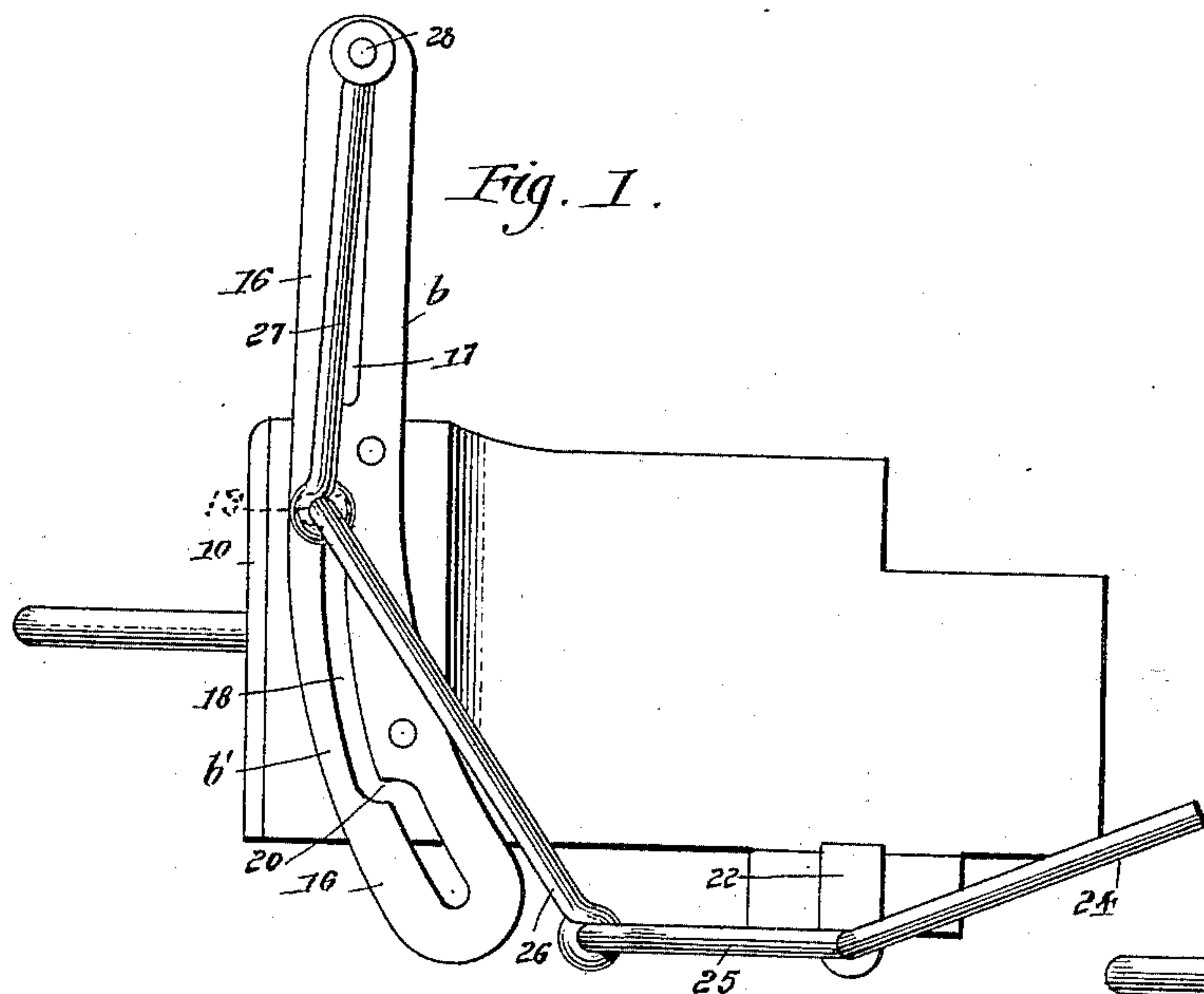


(No Model.)

E. CANNIFF.
CAR COUPLING.

No. 440,466.

Patented Nov. 11, 1890.



WITNESSES:

H. Clark.
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UNITED STATES PATENT OFFICE.

EDGAR CANNIFF, OF NEW WESTMINSTER, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 440,466, dated November 11, 1890.

Application filed May 1, 1890. Serial No. 350,196. (No model.) Patented in Canada March 13, 1890, No. 33,901.

To all whom it may concern.

Be it known that I, EDGAR CANNIFF, of New Westminster, in the Province of British Columbia and Dominion of Canada, have
5 invented a new and useful Improvement in Car-Couplers, (for which I have received Letters Patent in Canada, No. 33,901, dated March 13, 1890,) of which the following is a full, clear, and exact description.

10 My invention relates to an improvement in car-couplers, and has for its object to provide a means whereby the link may be held in a true horizontal position when coupled or in coupling, and wherein the link may be
15 canted up or down as occasion may demand, and also to provide a means whereby coupling or uncoupling may be effected from the side or top of the car, and wherein, under no circumstances, will the operator be obliged
20 to stand between the approaching sills of the cars either in coupling or in uncoupling.

A further object of the invention is to so construct the operative mechanism of the coupler that in the process of coupling or un-
25 coupling from the ground the brakeman will be in sight of the engineer.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth,
30 and pointed out in the claims.

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

Figure 1 is a side elevation of a draw-head having my improvements applied and with a link in position. Fig. 2 is a front elevation of the draw-head. Fig. 3 is a plan view thereof.
40 Fig. 4 is a side elevation of the coupling-pin removed from the draw-head; and Fig. 5 is a partial section through the draw-head, illustrating the formation of the link-chamber and pin-opening.

45 The draw-head 10 may be of any approved or well-known construction. The link chamber or opening 11 at its rear is intersected by a pin-aperture 12, which aperture is essentially of key-hole shape, as best illustrated in
50 Fig. 3, the contracted portion of the aperture being located at the rear.

The coupling-pin 13, adapted to enter the

aperture 12, is circular or round in cross-section, and is provided between its top and bottom upon the rear side with a stop-lug 14, 55 the under face of which is preferably recessed, as illustrated at *a* in Fig. 4, and the said coupling-pin is further provided with an eye 15 at the upper end, which forms the head of the pin. 60

When the link has been passed into the chamber 11 of the draw-head and the coupling-pin is permitted to drop down into its recess, the stop-lug 14 is brought into contact with the upper surface of the rear portion of 65 the link, whereby the said link is at all times normally held in the horizontal position illustrated in Fig. 5.

Ordinarily a link when used in connection with a coupling-pin drops downward at its 70 outer end, and if the stop-lug 14 were not employed in connection with the pin shown the link would assume this latter position; but the said stop-lug by contacting with the inner end of the link and forcing the link down 75 against the base-wall of the chamber 11, which is straight, causes the link to maintain the horizontal position heretofore mentioned; but the link is free to slide up or down the face of an opposed draw-head of greater or 80 less height in the process of coupling.

At each side of the draw-head a guide-plate 16 is attached, and that portion *b* of each guide-plate extending above the draw-head is perpendicular. The lower portion *b'*, 85 which preferably extends below the head, is curved in the direction of the rear of the latter. The plates are attached to the head in such manner that a space will intervene between the draw-head and their contiguous 90 surfaces.

The upper perpendicular portion *b* of each guide-plate is provided with a longitudinal straight slot 17, and the lower portion *b'* with a slot 18 corresponding to its curve, and in 95 the opposite side walls of the lower slot 18, at the top and near the bottom, offsets 19 and 20 are respectively produced. The plates may be braced against lateral strain by means of any suitably-located brace-rods, if so desired. 100

Under the draw-head, in suitable bearings 22, a shaft 23 is journaled, which shaft extends beyond the sides of the draw-head and preferably slightly beyond the sides of the

car or to a point near its sides, and each outer extremity of the shaft 23 is provided with an upwardly-extending crank-arm 24, whereby the said shaft may be rocked or revolved
5 from either side of the car, and between each bearing and the opposed crank-arm, preferably near the former, an arm 25 is projected downward from the shaft, each of which arms is made to terminate preferably in an eye.
10 The shaft may also be manipulated from the top of the car by means of a perpendicular rod and hand-wheel attached to the outer crank-arms of the shaft, or any other equivalent device may be substituted. To the eye of
15 each shaft-arm 25 one extremity of a link 26 is attached, the other extremity of each of said links being inbent to slide in one of the slots 18 of the guide-plates, and to the extremity of each of the links 26 sliding in the
20 said slot the lower end of a second link 27 is pivotally secured. The links 27 at each side are connected at their upper ends by a rod 28, held to slide in the upper slots 17 of the guide-plates, which rod I denominate a "pin-
25 rod," as it passes through the eye of the coupling-pin, as illustrated in Fig. 2.

By reason of the links 26 and 27, which constitute the connecting-rods, I am enabled by the rotation of the shaft 23 to impart to
30 the coupling-pin a vertical movement, and it will be readily observed that by the manipulation of the crank-arms 24, which act as levers, the coupling-pin may be raised from its aperture to uncouple and passed down fully
35 within its aperture through the link and in contact therewith when a coupling is to be effected.

The offsets 19 and 20 in the walls of the guide-plate slots 18 are adapted for the reception
40 of the upper ends of the links 26, and when the said ends of the links drop into the said offsets the pin is maintained in either the coupled or uncoupled position, as occasion may demand.

45 I desire it to be distinctly understood that, while specific construction has been shown and described, I do not confine myself thereto, as other equivalent construction may be em-

ployed without departing from the spirit of the invention.

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

1. The combination, with the draw-head, of guide-arms secured to the sides thereof and
55 provided with upper vertical slots, lower and rearwardly-curved slots, a transverse rod 28, sliding in said upper slots and carrying the coupling-pin links 27, connected at their upper
60 ends with the ends of said rods, links 26, pivotally connected at their upper ends with the lower ends of links 27 and entering the curved slots, and means for operating the links 26, substantially as set forth.

2. The combination, with the draw-head, of
65 guide-arms secured to the sides thereof and provided with upper vertical slots and lower rearwardly-curved slots having offsets 20, the rod 28, carrying the coupling-pin and projecting at its ends through said vertical slots, the
70 links 27, pivotally connected at their upper ends with said projecting ends, the lower links 26, working at their upper ends in the curved slots and pivotally connected thereat to the lower ends of the links 27, and means for op-
75 erating the links 26, substantially as set forth.

3. The combination, with a draw-head, a shaft journaled upon the same, and a coupling-pin held to slide in the draw-head, of a
80 guide-plate secured to each side of the draw-head, provided with an upper vertical slot and a lower curved slot, arms projected downward from the shaft between its ends, a link attached to each arm, the upper ends whereof are adapted to slide in the curved slots of the
85 guide-plates, a rod adapted to slide in the vertical slots of the plate and support a coupling-pin, and links connecting the extremities of the said rod with the ends of the links sliding in the curved slots of the said guide-plates, 90 substantially as shown and described.

EDGAR CANNIFF.

Witnesses:

E. M. N. WOODS,
ARTHUR BAKER.