

(No Model.)

3 Sheets—Sheet 1.

J. H. BARR.
MAIL CRANE.

No. 556,242.

Patented Mar. 10, 1896.

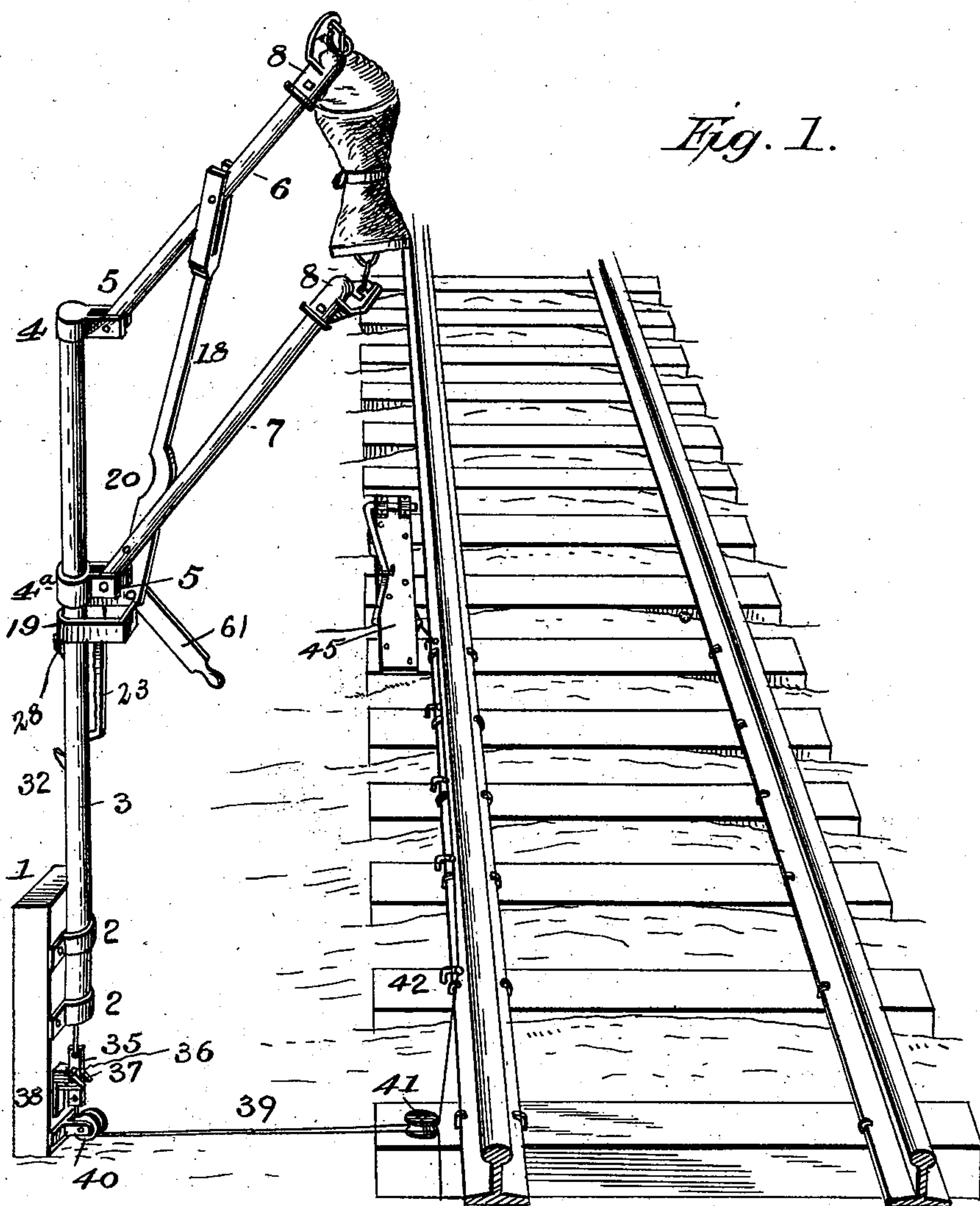


Fig. 1.

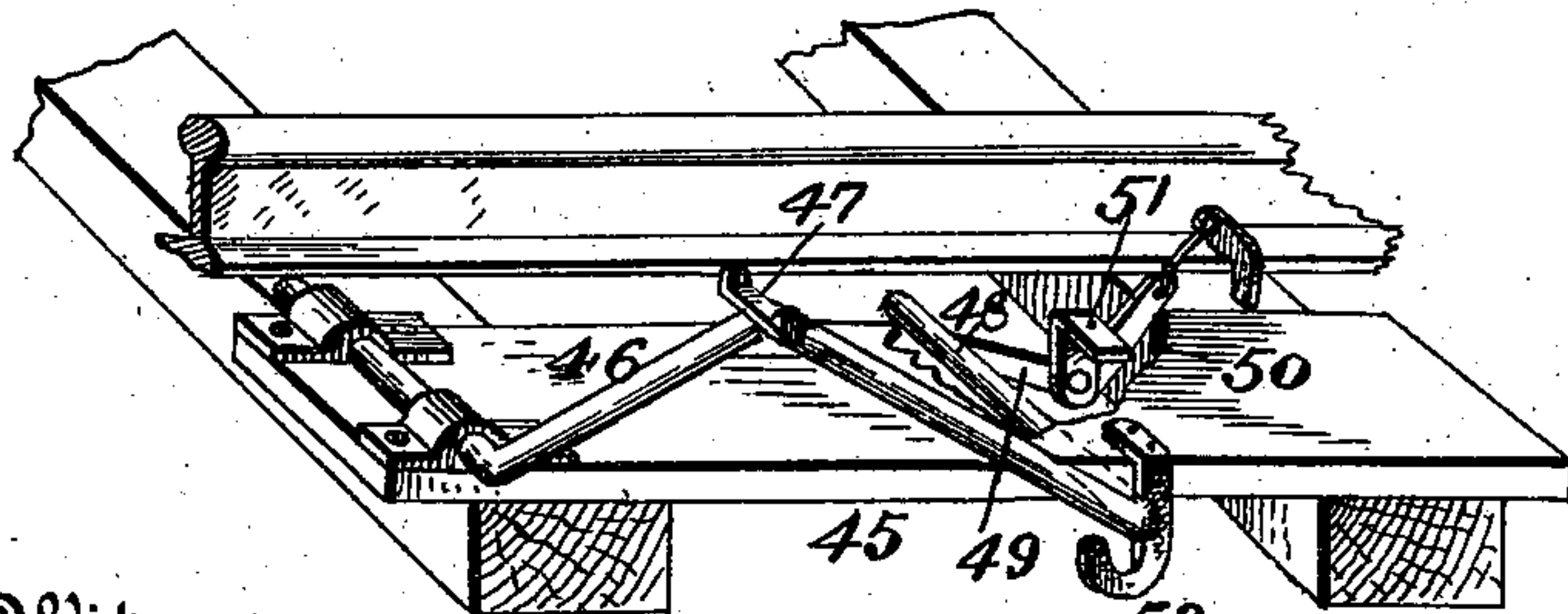


Fig. 6.

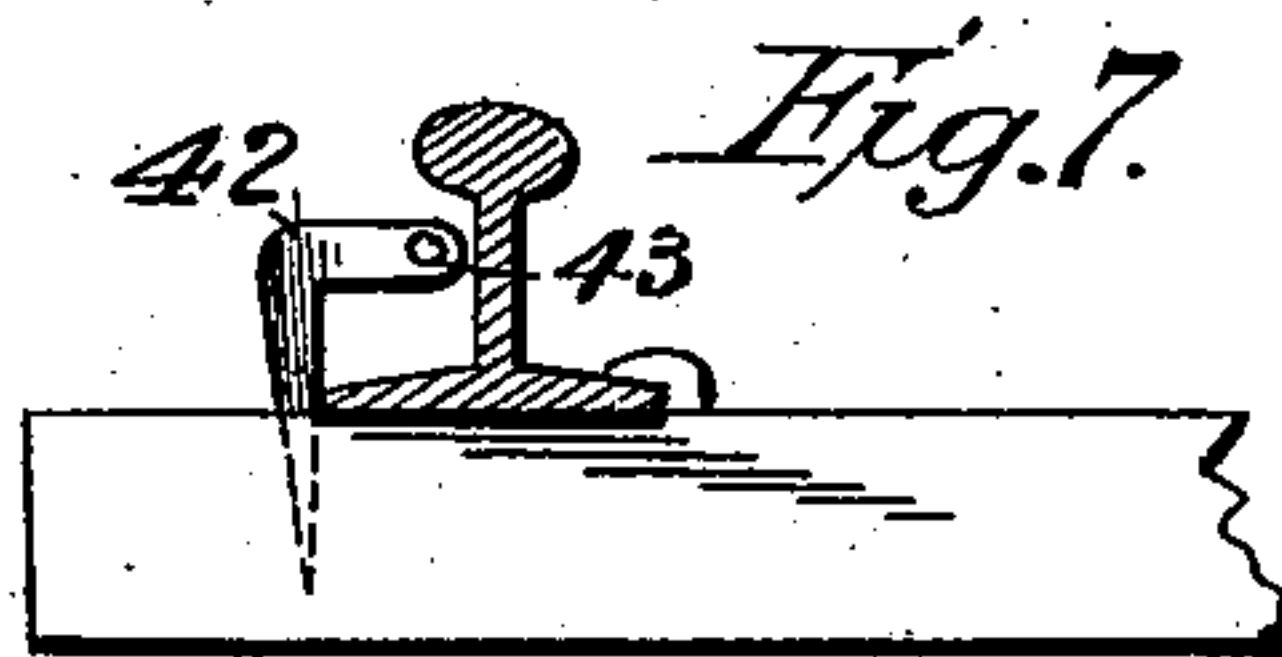


Fig. 7.

Witnesses:
F. L. Ourand.
J. L. Coombs

Inventor:
John H. Barr,
Lawson & Baggett
Attorneys.

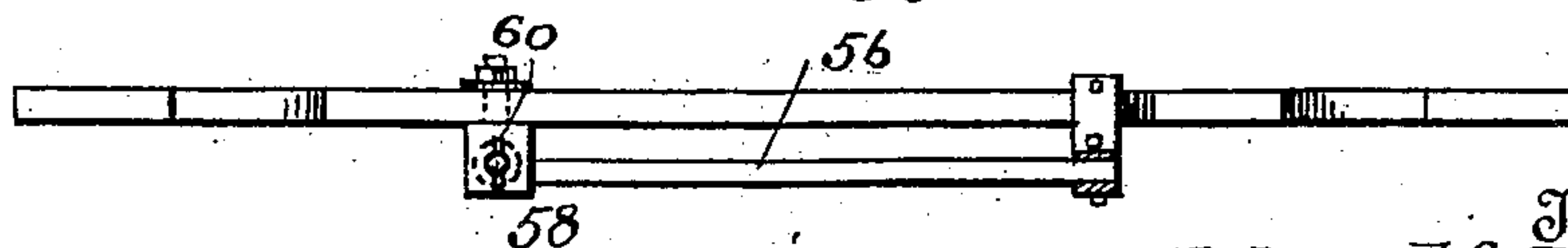
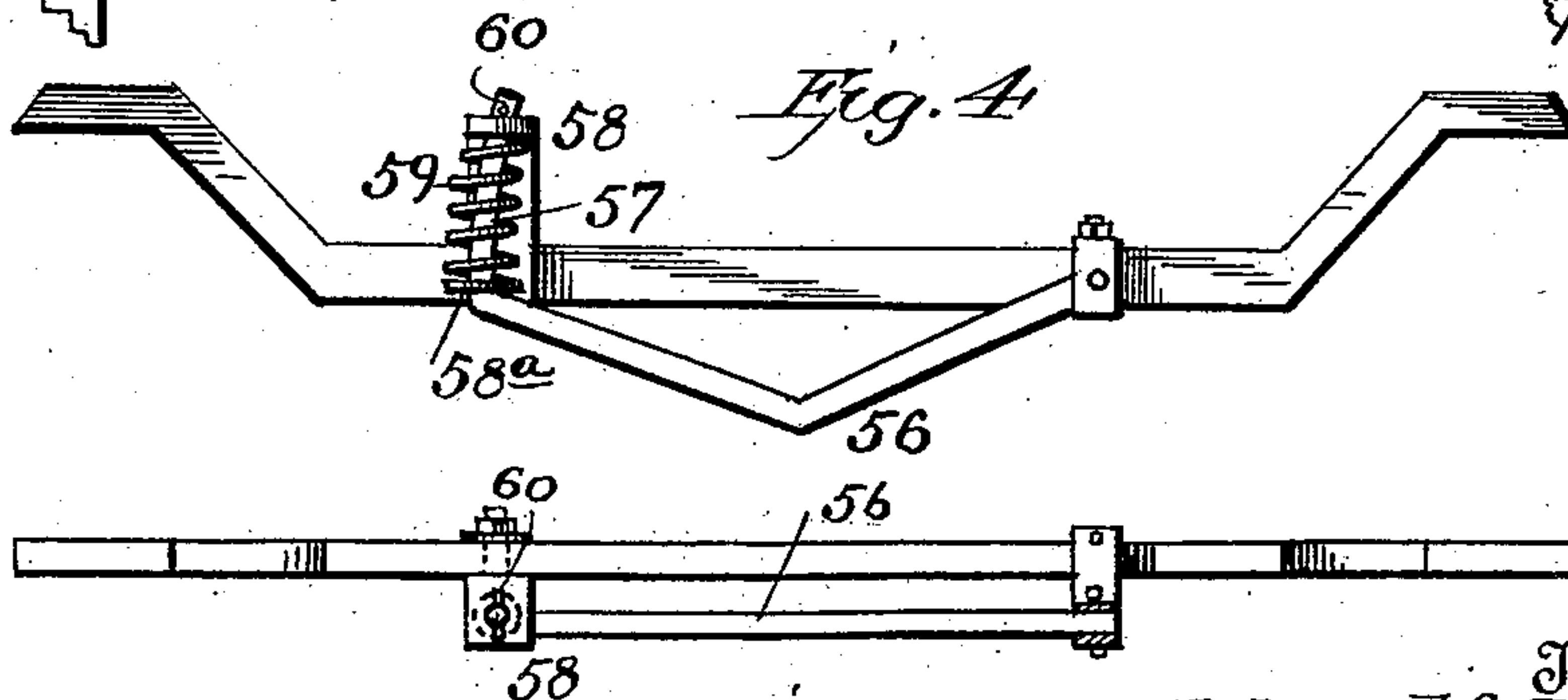
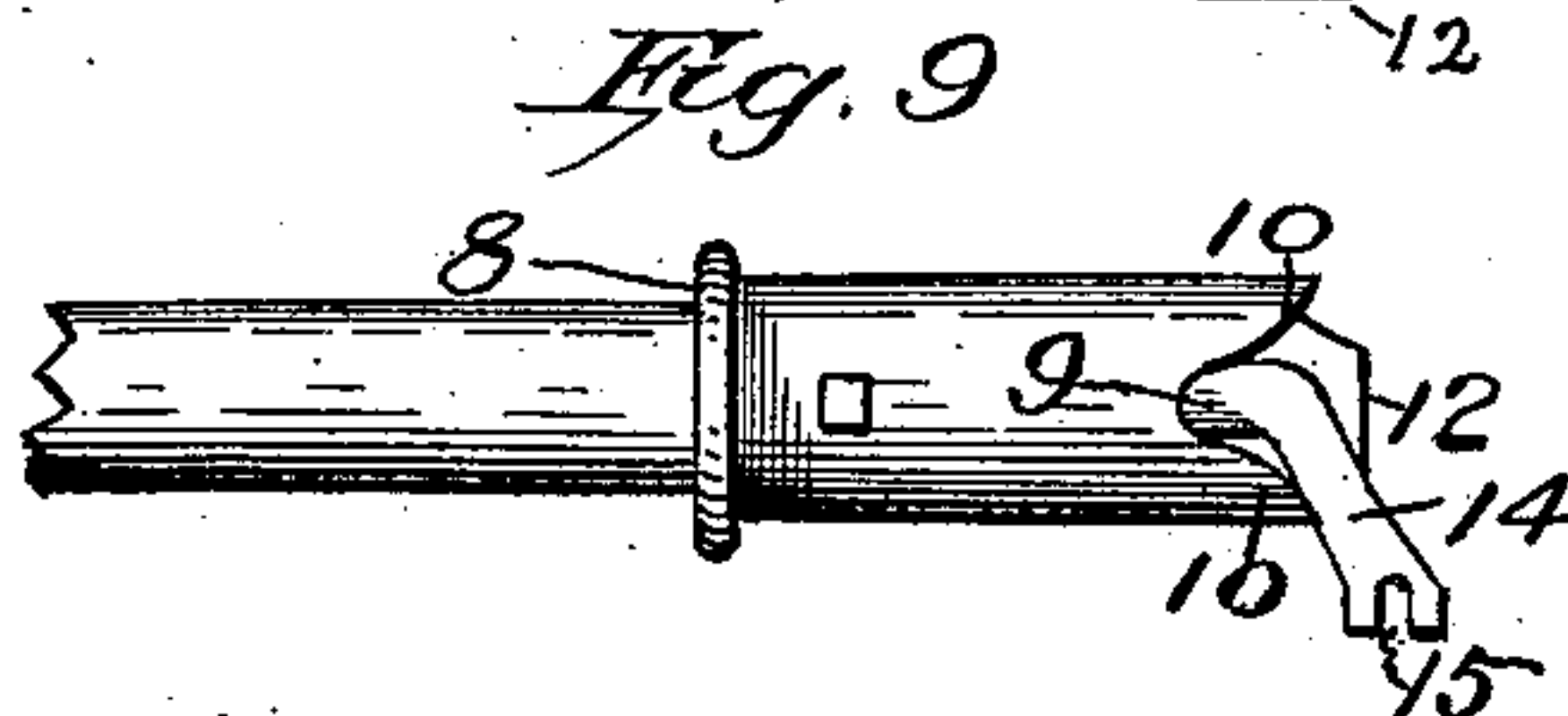
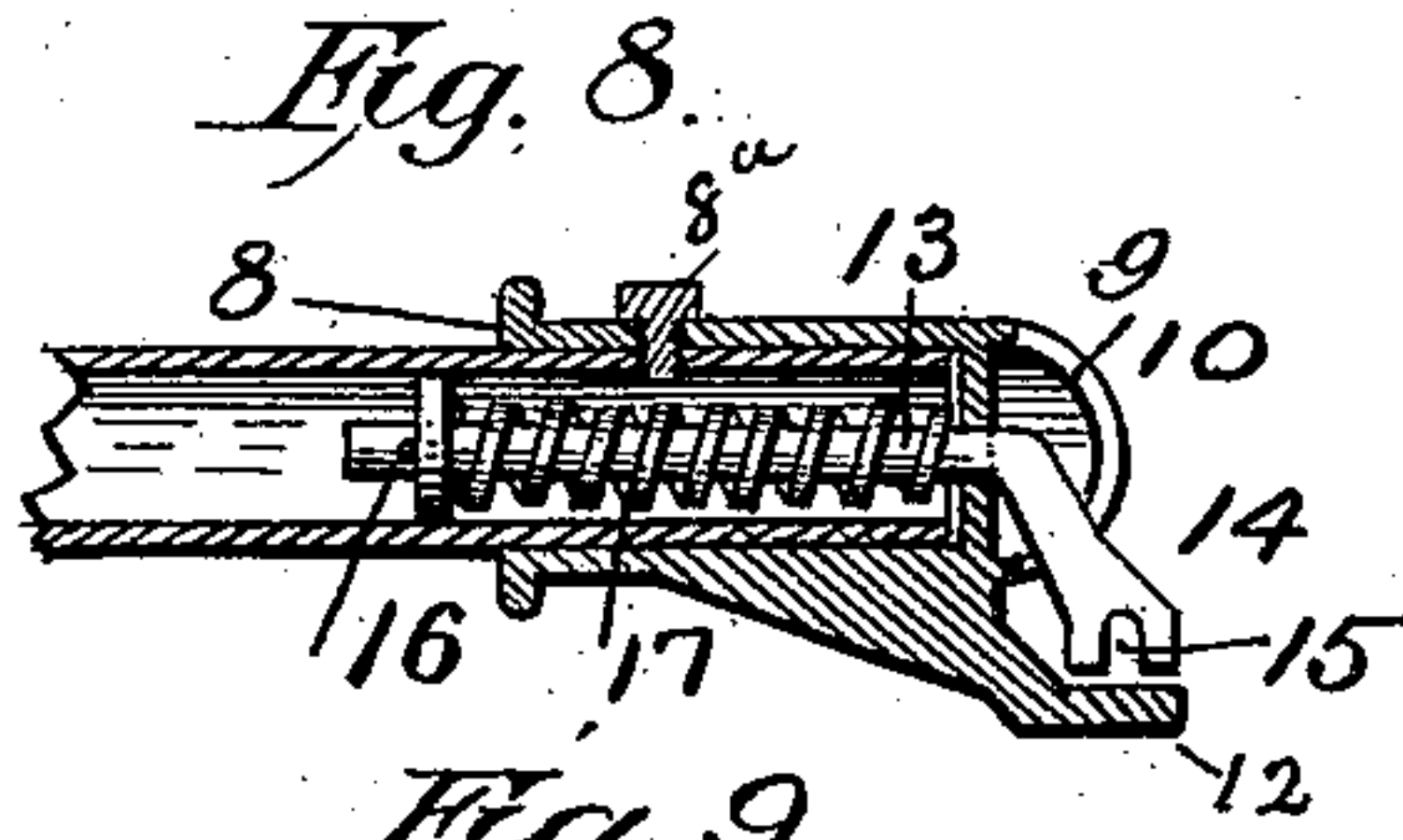
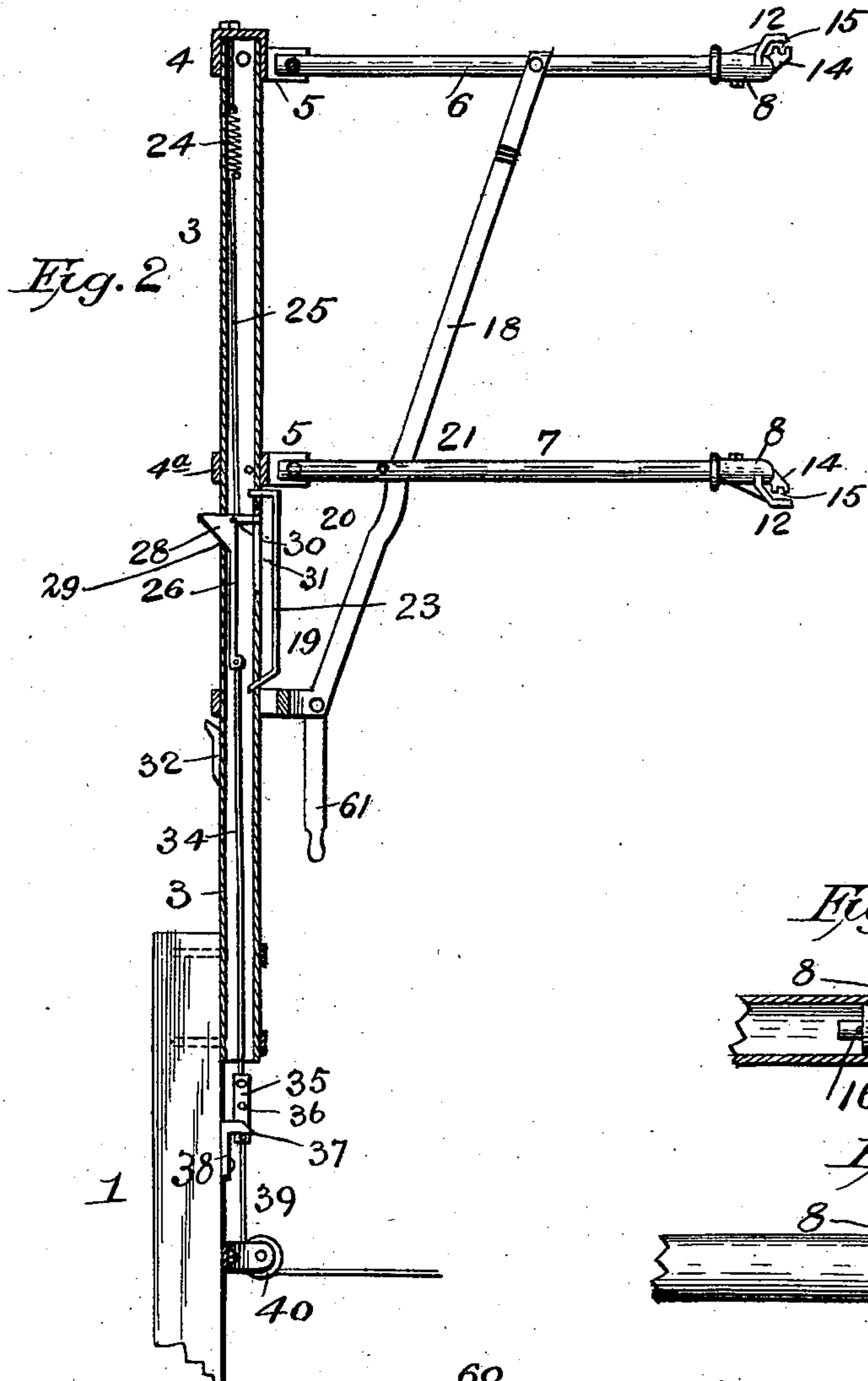
(No Model.)

3 Sheets—Sheet 2.

J. H. BARR.
MAIL CRANE.

No. 556,242.

Patented Mar. 10, 1896.



Witnesses:
F. L. Ourand
H. Loomis

Inventor:
John H. Barr,
By Louis Duggan & Co
Attorneys

(No Model.)

3 Sheets—Sheet 3.

J. H. BARR.
MAIL CRANE.

No. 556,242.

Patented Mar. 10, 1896.

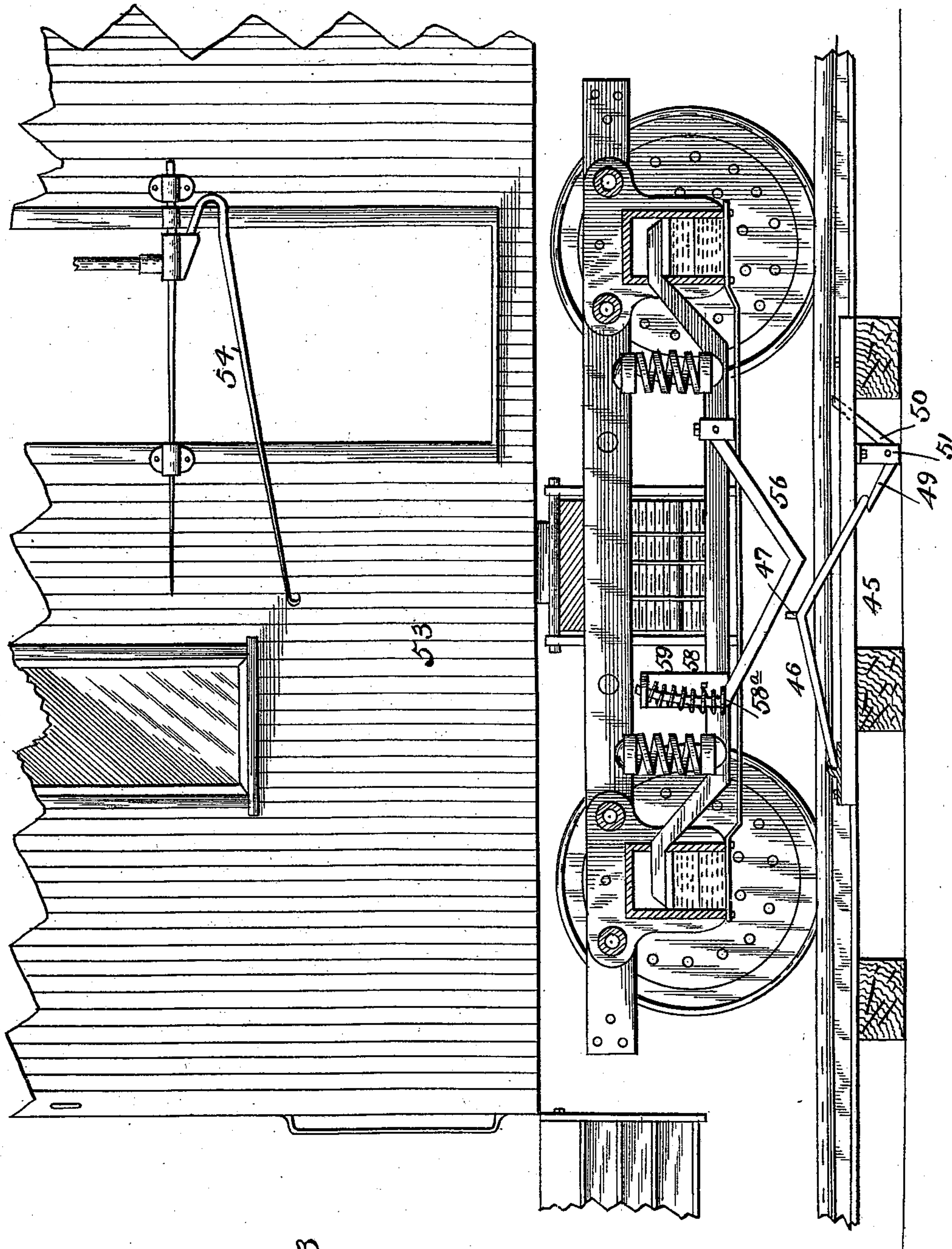


Fig. 3

Witnesses:
F. L. Curand
J. L. Coombs

Inventor:
John H. Barr,
Law's Patent Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN H. BARR, OF KANSAS CITY, KANSAS, ASSIGNOR OF TWO-THIRDS TO
JOHN W. NAYLOR AND WILLIAM C. HARRIS, OF SAME PLACE.

MAIL-CRANE.

SPECIFICATION forming part of Letters Patent No. 556,242, dated March 10, 1896.

Application filed June 21, 1895. Serial No. 553,555. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BARR, a citizen of the United States, and a resident of Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Mail-Cranes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in mail-cranes for holding pouches in position to be caught by a catcher on the mail-car of a passing train, and the object of the invention is to provide an improved construction of the same in which the usual platform and steps are dispensed with, thereby obviating any liability of persons on the train from being struck and injured, and in which the arms which support and hold the pouch are elevated or held up and away from the track, but which are lowered automatically by a passing train into an approximately horizontal position, so that the pouch will be caught and drawn into the car by the catcher thereof, and which arms, when the pouch is disengaged therefrom, will fall down out of the way of passing trains and into position for another pouch to be engaged therewith.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a mail-crane, also showing a portion of a railroad-track, the arms of the crane and the pouch being elevated or held up away from the track. Fig. 2 is a longitudinal section of the crane, the arms being lowered, so that the pouch will be in position to be caught by the catcher on the mail-car of a passing train. Fig. 3 is an elevation of a portion of a mail-car, showing the mechanism for operating the tripping mechanism for lowering the arms of the crane from their elevated to an approximately horizontal position. Fig. 4 is a detail elevation of the tripping-bar of the car. Fig. 5 is a plan view of the same. Fig. 6 is a detail perspective

view of the tripping-lever which is operated by the tripping-bar. Fig. 7 is a cross-sectional view of one of the rails of the track, showing how the wire or rod which is connected with the tripping mechanism is held under the tread of the rail so as to be protected. Fig. 8 is a detail longitudinal sectional view of the socket on the lower arm of the crane, which, in connection with the upper socket, holds the pouch in position. Fig. 9 is a plan view of the same.

In the said drawings, the reference-numeral 1 designates a post set firmly in the ground at the proper distance from the track, so that when the arms hereinafter described are lowered the pouch carried thereby will be in position to be caught by the catcher on a mail-car.

Secured to the post by brackets 2 is a vertical tubular upright 3, provided at the upper end with a collar 4 and intermediate its ends with a similar collar 4^a. These collars are provided with lugs 5, to which are pivoted upper and lower arms 6 and 7.

Secured to the outer ends of each of these arms by means of a set-screw 8^a (see Figs. 8 and 9) is a sleeve 8, having on one side an approximately V-shaped slot 9, forming two jaws 10, and on the opposite side is formed with a guard 12. Located in this sleeve and passing through the end thereof is a rod 13, having its outer end bent at an obtuse angle, forming an arm 14, the extremity being formed with a notch 15. The rod also passes through a disk 16 located in the sleeve and fixed to the rod, between which and the end of the sleeve is a coiled torsional spring 17, which encircles and is secured to a rod and serves to hold the arm 14. The sleeves and rods in both arms are identical, the only difference being that when in use for holding a pouch the arms 14 point in different directions. (See Fig. 2.)

Pivoted to the upper arms 6, intermediate its ends, is a forked brace-bar 18, the lower end of which is bent outwardly at an angle and curved around the upright or standard 3 and then extended in the opposite direction and the extremity bent inwardly at a right angle, forming a bracket 19, which is slidable vertically on the standard. The brace-rod near its lower end is formed with a curved

depression 20, with which is adapted to engage a pin 21 on the arm 7, for a purpose hereinafter explained.

The numeral 23 designates a guide for the bracket secured to the standard.

Secured to the upper end of the tubular standard 3 and located therein is a coiled spring 24, with which is connected a wire 25, the lower end of which in turn is connected with a detent 26, the lower end of which is beveled, as seen at 28, and which forms a rest for the bracket of the brace-rod. This detent is located within the standard, and the lug projects through a slot 29 therein. The detent is also provided at the opposite side with an angular finger 30, which projects through a slot 31 in the standard and serves as a guide. Below the slot 29 and fixed to the standard is a stationary stop 32. To the lower end of the detent is secured a wire 34, the lower end of which is connected with a plate 35, provided with a pin 36. This plate works between lugs 37 of a plate 38, secured to the post 1, and the upper sides of the lugs are beveled so that the pins 36 can ride over the same when the plate 35 is pulled down so as to engage therewith and be held in position. To the lower end of plate 35 is secured a wire 39, which passes around a pulley 40, connected with the standard, and from thence extends at a right angle toward the track, where it passes around a pulley 41 connected with one of the ties. The wire then passes along the rails horizontally to a suitable distance, where it is connected with a tripping mechanism hereinafter described. The numerals 42 42 designate a number of spikes driven into the ties and having their upper ends bent inwardly at a right angle and extending underneath of the outer overhanging part of the top or tread of the rail. The said ends are formed with eyes 43, through which the wire 39 passes, so that said overhanging portion of the rail serves to protect the wire from injury.

Secured to the ties at a proper distance from the crane is a board 45 to which is pivoted an arm of a tripping-lever 46. This lever is arched, as shown, or formed with a double incline, and at the center is provided with a plate 47, the ends of which are turned upwardly at right angles, forming a guide for the tripping-bar hereinafter described. The free end of the lever is bent inwardly at a right angle, forming an arm 48, which rests upon one arm 49 of a bell-crank lever 50, pivoted to a bracket 51, secured to the underside of board 45, the other arm of which is connected with the wire 39. The numeral 52 designates a hooked stop for the lever secured to said board.

The numeral 53 designates a portion of a mail-car provided with a pouch-catcher 54 of any ordinary or suitable construction.

Pivoted to the equalizing-bar of the car-truck is an arched or double inclined tripping-bar 56, corresponding in shape with the trip-

lever but arranged oppositely thereto. One end of this bar is bent upwardly forming a curved arm 57, which passes through the bent end of bracket 58 secured to the bar 56. Interposed between said end and a collar 58^a is a coiled spring 59, and at the upper end of the arm 57 is a removable pin 60. The object of the spring is to cause the bar to press down upon the tripping-lever when it comes in contact therewith with sufficient force to actuate the tripping mechanism, and yet also to allow it to yield when a serious obstruction is encountered. When the car is dead-heading, or not in use, the trip-bar can be drawn up out of the way by removing the pin and coiled spring and raising the end of the bar up and placing it on the bracket and replacing the pin.

The operation is as follows: When the rings of the pouch have been connected with the notched arms 14, the parts will occupy the position shown in Fig. 1—that is to say, the arms 6 and 7 will be inclined upwardly, the bracket of the brace-rod elevated to its highest position, and the lug of the detent projected through the slot in the standard and supporting said bracket. The coiled spring 24 causes the lug to be so projected outward, and it also, through its connections, holds the trip-lever up in position to be actuated by the trip-bar of a passing train. As a train approaches the crane, the trip-bar will contact with the trip-lever depressing the same and actuating the bell-crank lever, which, by means of the connecting-chain, will depress the plate 35, so that the pin 36 thereof will ride over the beveled ends of the lugs 37 and prevent backward movement. At the same time the detent will be depressed and its lug forced inward by its beveled lower portion coming in contact with the edge of the slot through which it projects, releasing the bracket of the brace-rod and allowing it to fall until it comes in contact with the stationary stop, the arms 6 and 7 also falling into an approximately-horizontal position, so that the pouch will be in position to be caught by the catcher of the mail-car. The bracket of the brace-arm is forced down by the weight of the arms 6 and 7, and the mail-pouch and the pin on the lower arm, 7, engaging with the brace-rod prevents any recoil. When the pouch is grasped by the pouch-catcher, the rings will be disengaged from the notched arms 14, which will yield for this purpose. The lower arm, 7, being now unsupported will drop down, the curved depression in the brace-rod allowing the pin to pass by the latter, and will strike the bracket at the lower end of the brace-rod, forcing it away from the standard and disengaging it from the stop 32, allowing the bracket to fall down till it comes in contact with the top of the post 1 and carrying with it the brace-rod and upper arm, 6. The arms and brace-rod will now be out of the way of passing trains, and will also be in position to have another pouch connected with the arms, after which the pin

36 is disconnected from the lugs 37, when the arms and brace-rod are elevated to the position shown in Fig. 1, a handle 61 (see Fig. 2) being provided, if necessary, at the lower end of the brace-rod to assist in such operation.

Having thus fully described my invention, what I claim is—

1. In a collapsible mail-crane, the combination with the standard, the pivoted arms and the brace-rod pivoted to the upper arm having its lower end bent forming a bracket surrounding the standard and slidable vertically thereon, of means for supporting said arms in an inclined elevated position and mechanism automatically operated by a passing car for releasing the brace-bar and allowing the arms to assume an approximately horizontal position, substantially as described.

2. In a mail-crane the combination with the standard, the arms pivoted thereto, the brace-rod pivoted to the upper arms, and the bracket at the lower end thereof, slidable on the standard, of the spring-actuated detent having a lug projecting through a slot in the standard and serving as a support for the bracket and means for actuating the detent to release the bracket, operated automatically by a passing train, substantially as described.

3. In a mail-crane, the combination with the tubular standard, the arms pivoted thereto, and the brace-rod pivoted to the upper arm, having its lower end formed into a bracket embracing and slidable upon said rod, of the coiled spring secured to the upper end of the standard, the laterally and vertically movable detent having a beveled lug projecting through a slot in the standard, the connecting-wire secured to said spring and detent, the plate having a pin, the wire connected with said detent and plate, the plate secured to the standard and provided with lugs with which said pin engages, and mechanism connected with the plate having the pin, which is automatically operated by a passing train to depress the detent, substantially as described.

4. In a mail-crane, the combination with the tubular standard, the pivoted arms, and the brace-rod pivoted to the upper arm and having its lower end formed into a bracket embracing and slidable on the standard, of the coiled spring secured to the upper end of the standard the vertically and laterally movable detent connected therewith and having a beveled lug projecting through a slot in the standard, the stationary stop secured to the outside of the standard, the plate connected

with said detent, the pin, the beveled lugs with which it engages, and the mechanism connected with said plate adapted to be operated by a passing train, substantially as described.

5. In a mail-crane, the combination with the tubular standard, the upper and lower pivoted arms the pin on the lower arm and the brace-rod pivoted to the upper arm having its lower end formed into a bracket embracing and slidable on the standard, of the coiled spring secured to the upper end of the standard, the vertically and laterally movable detent connected therewith, provided with a beveled lug projecting through a slot in the standard, the stationary stop secured to the outside of the standard, the plate connected with said detent, the pin, the beveled lugs with which it engages, and means for depressing said plate and detent, automatically, by a passing car, substantially as described.

6. In a mail-crane of the character described, the combination with the pivoted arms, of the sleeves on the ends thereof, formed with V-shaped slots and guards, the rotatable spring-actuated rod having arms bent at an obtuse angle and formed with notches in the ends, substantially as described.

7. In a mail-crane, the combination with the tubular standard, the lower arm pivoted thereto and provided with a pin, the upper pivoted arm, the brace-rod pivoted thereto, formed with a curved depression intermediate its ends and a bracket at the lower end embracing and slidable on the standard, the coiled spring secured to the top of the standard, the laterally and vertically movable detent connected therewith provided with a beveled lug projecting through a slot in the standard, the guide-finger projecting through an opposite slot, the guide secured to the standard, the stationary stop, the plate connected with the detent and provided with a pin, the beveled lugs with which said pin engages, the wire connected therewith, the bell-crank lever connected with said wire, and the pivoted tripping-lever having an arm bearing upon one arm of the bell-crank lever, substantially as described.

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

JOHN H. BARR.

Witnesses:

DWIGHT R. BENNETT,
WILLIAM C. ROSS.