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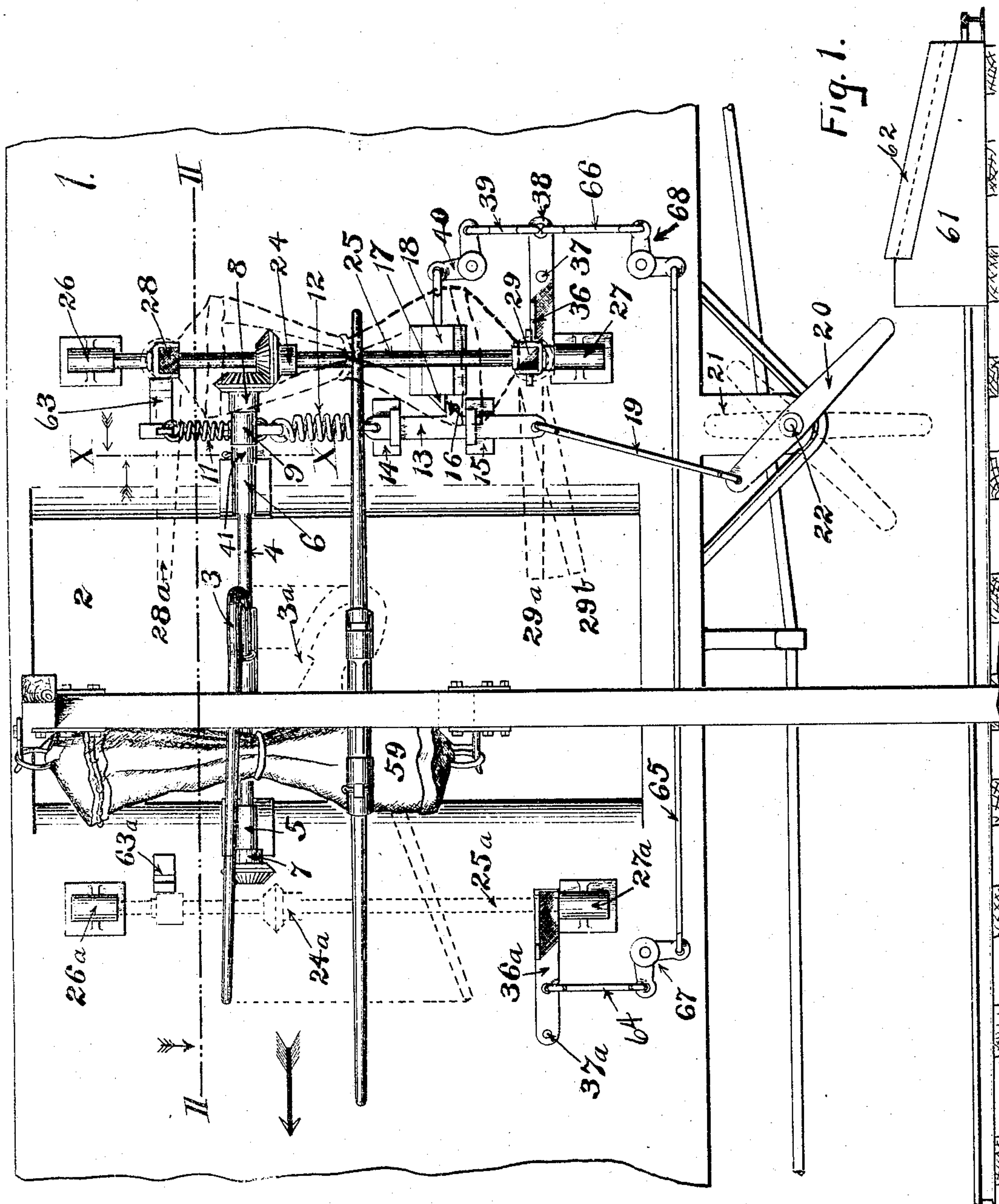
PATENTED OCT. 11, 1904.

M. R. STATHEM.  
AUTOMATIC MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED FEB. 16, 1904.

NO MODEL.

4 SHEETS—SHEET 1.



WITNESSES  
D. M. Lynch  
H. M. Kyle

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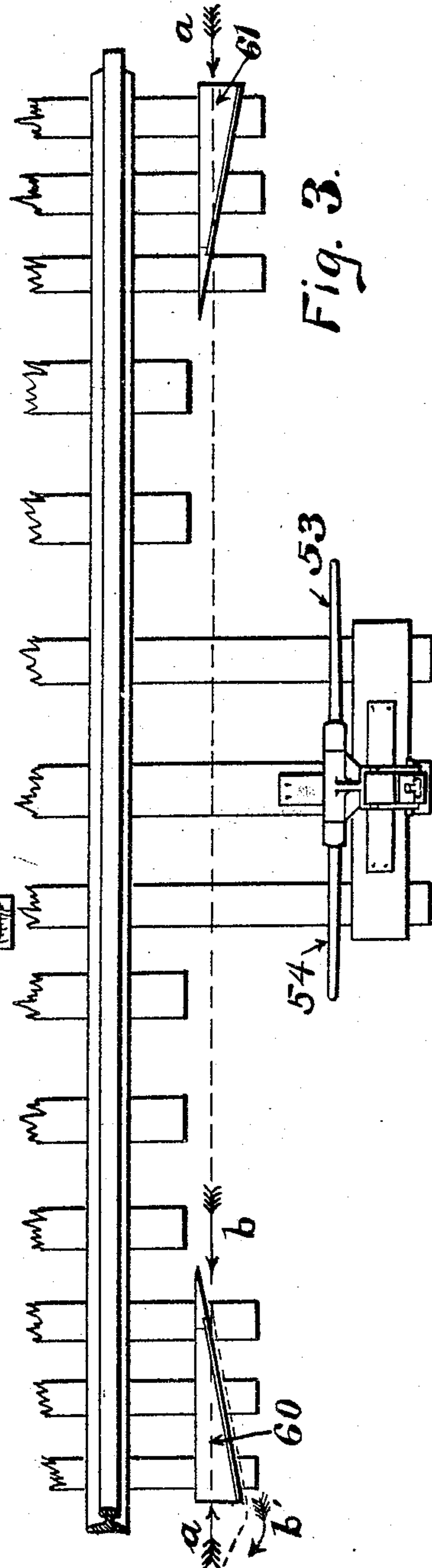
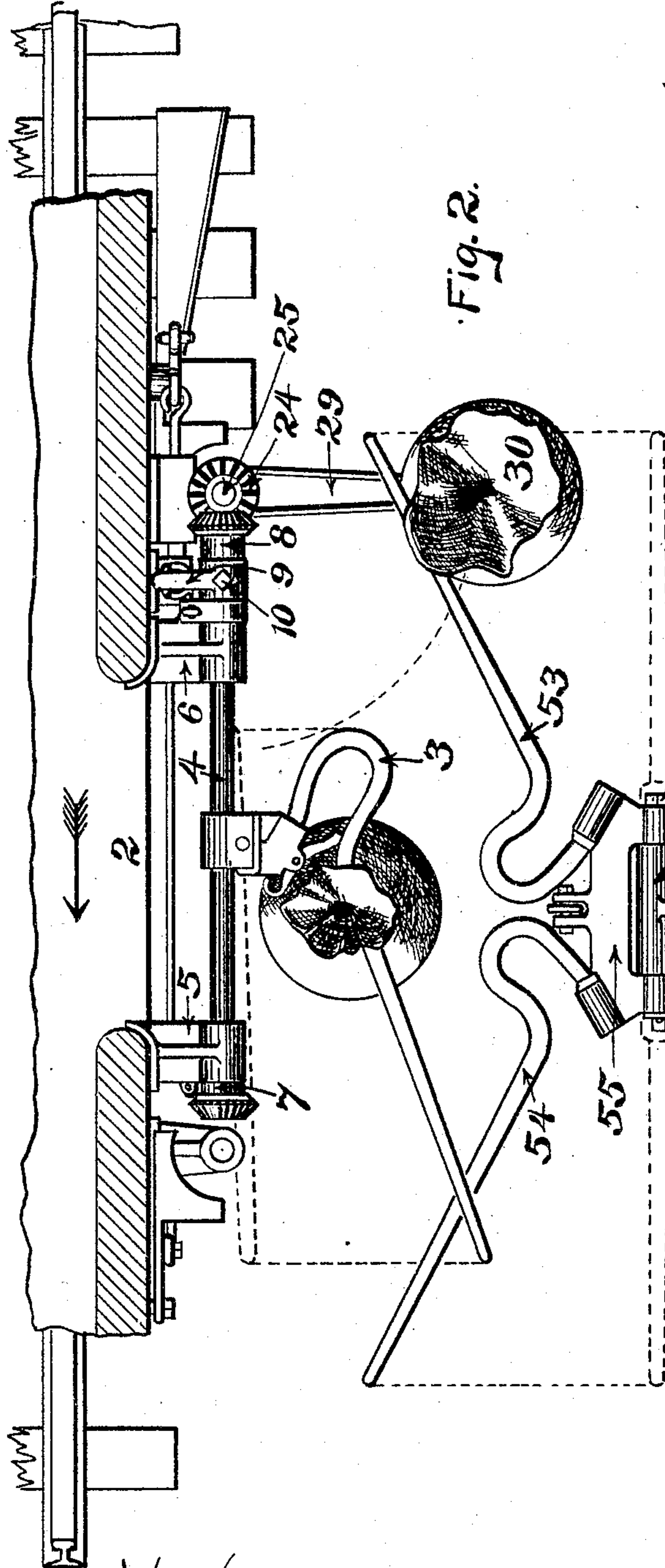
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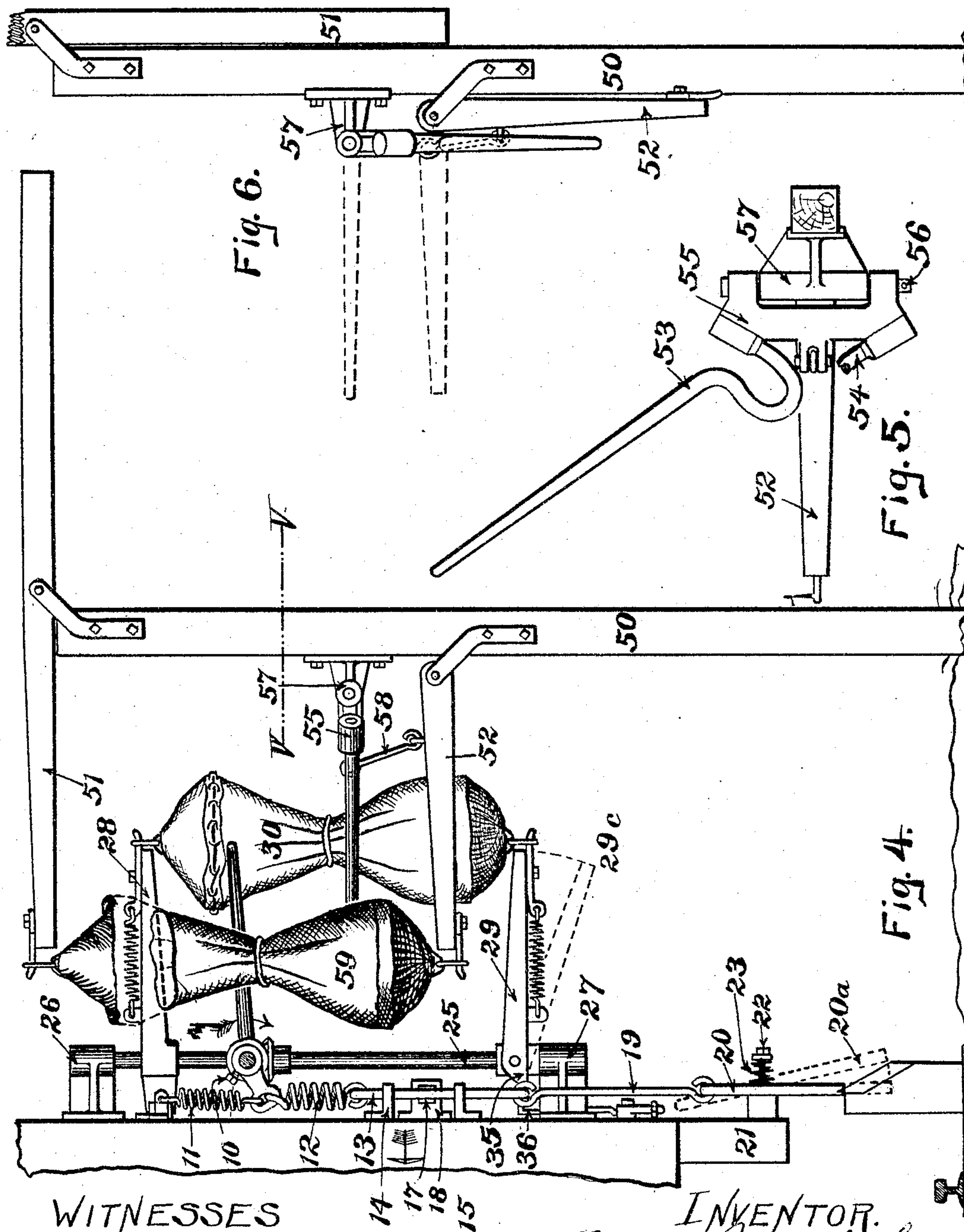
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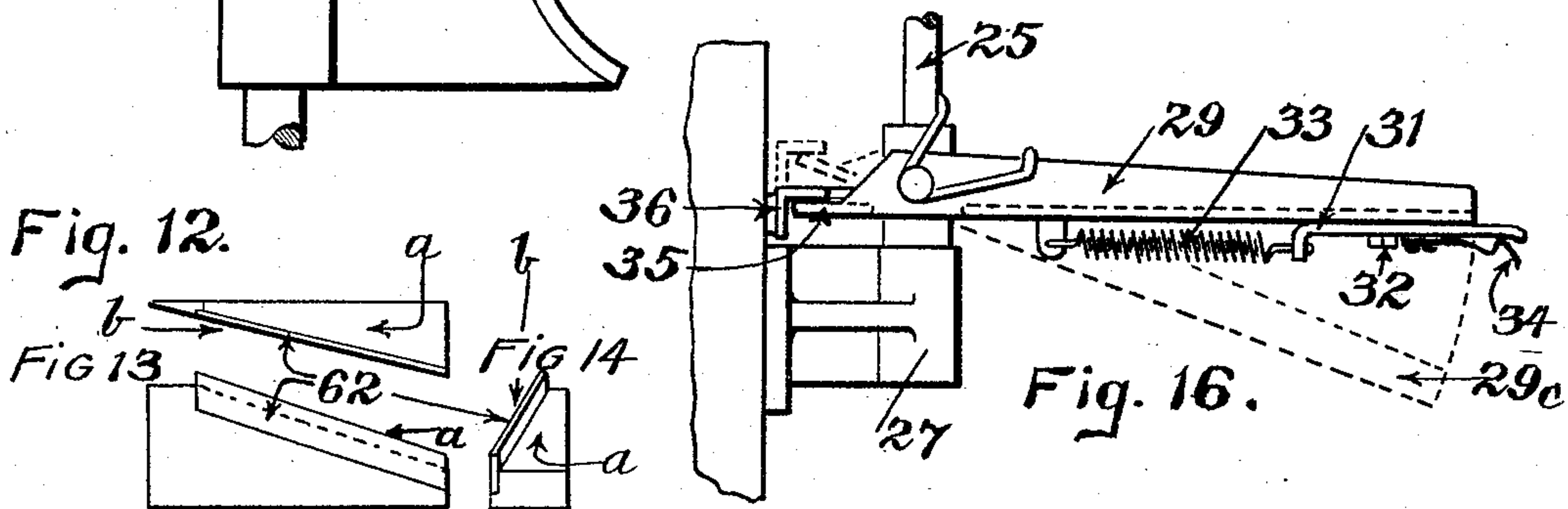
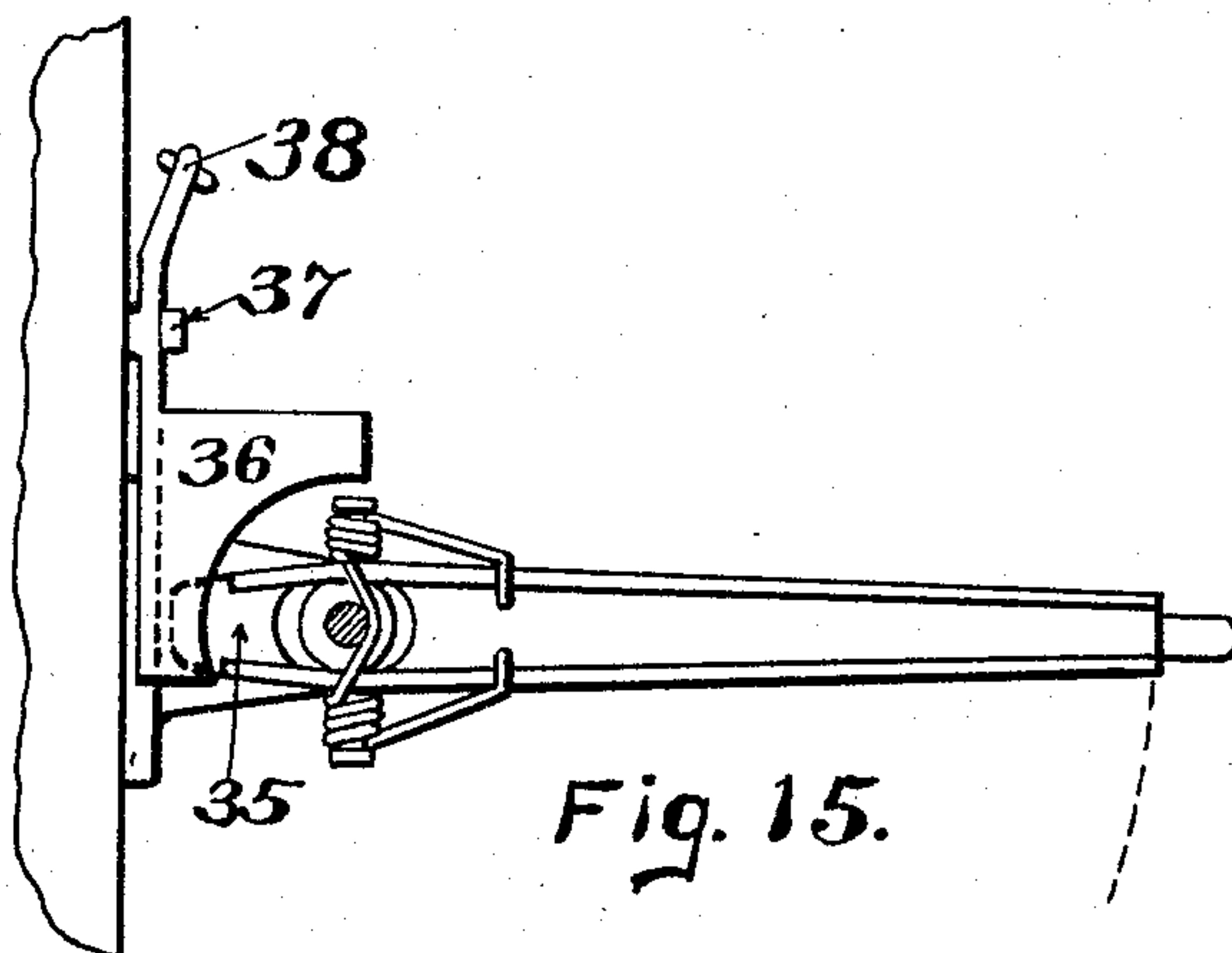
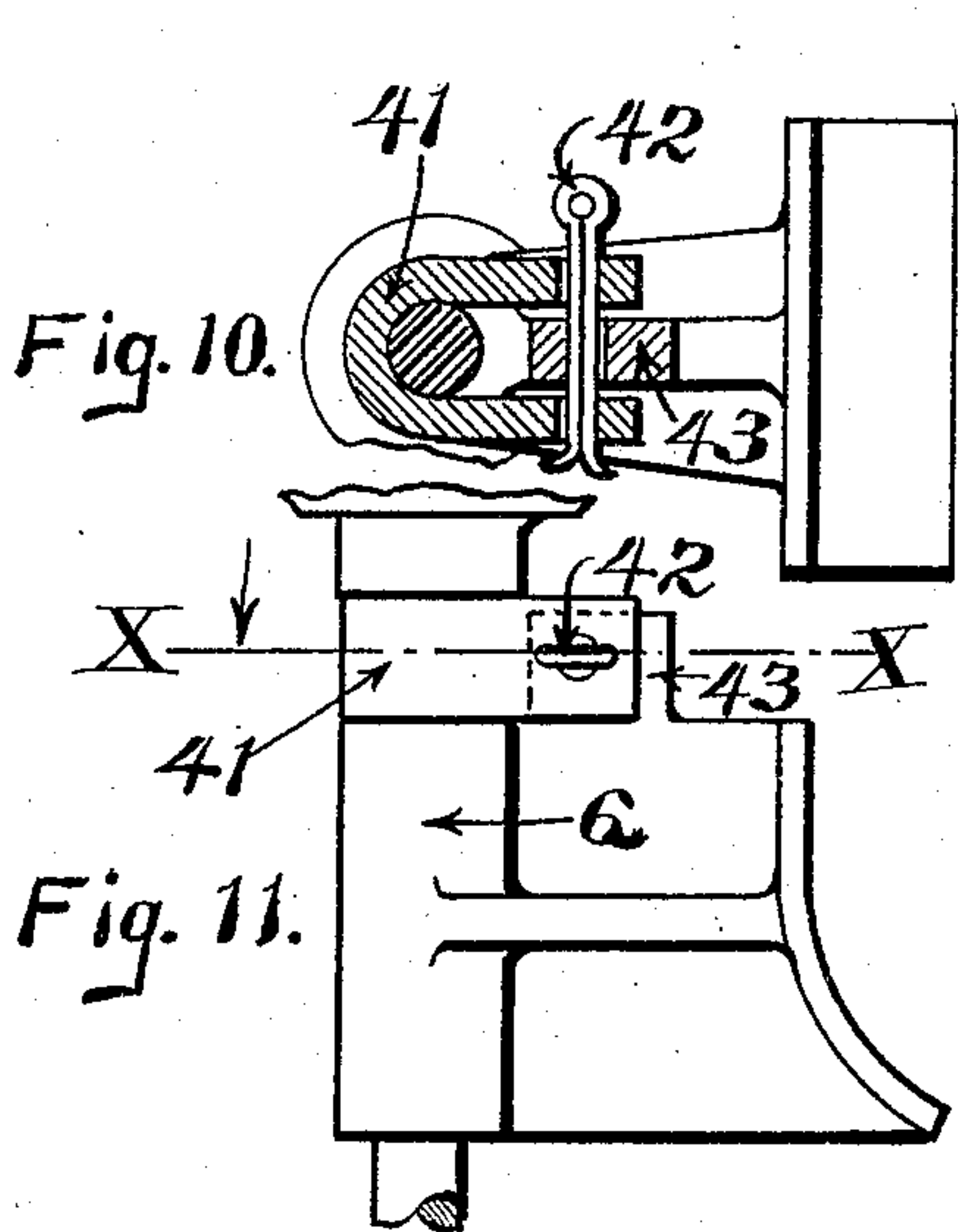
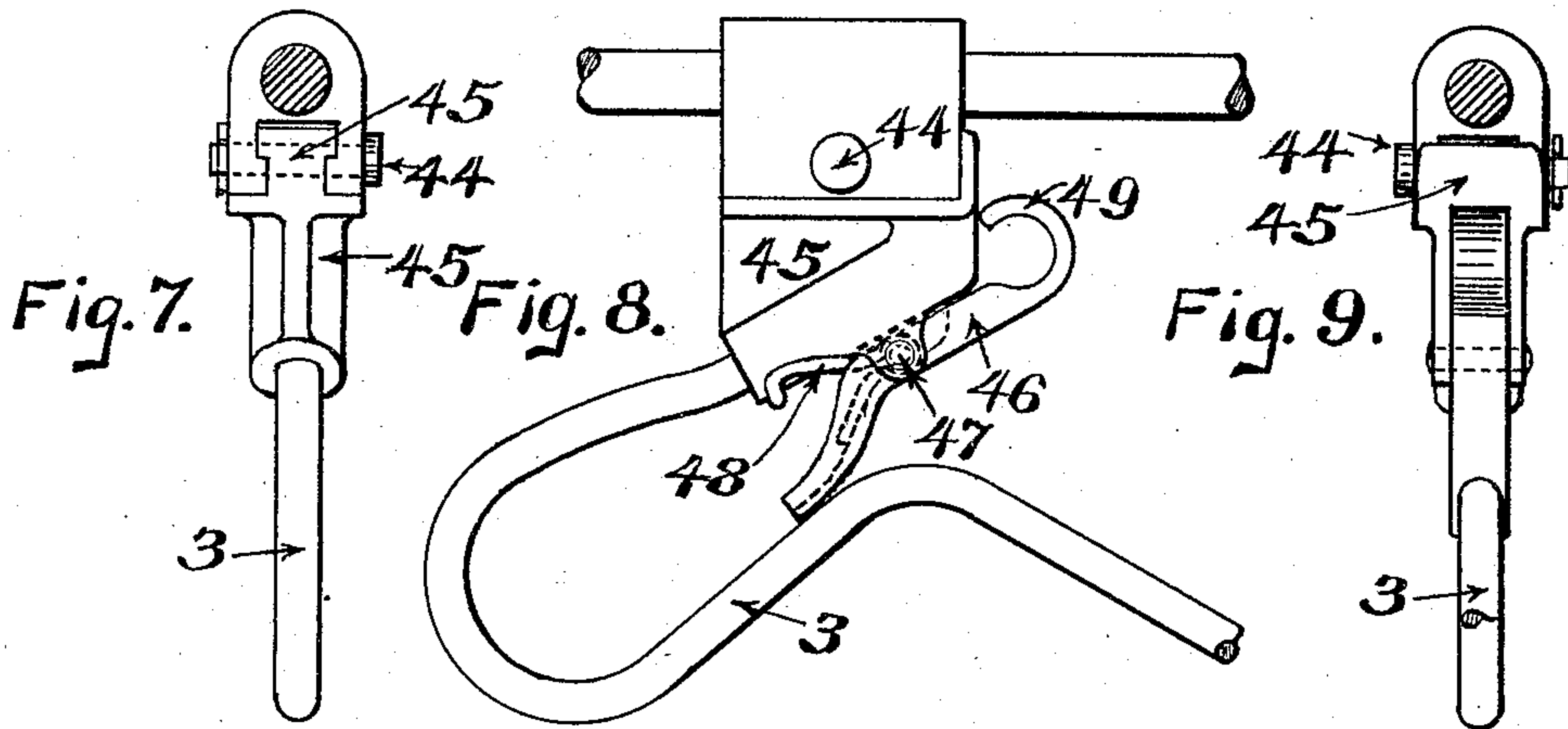
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4 SHEETS—SHEET 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

MYRON REED STATHEM, OF MEMPHIS, TENNESSEE.

## AUTOMATIC MAIL-BAG CATCHER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 772,185, dated October 11, 1904.

Application filed February 16, 1904. Serial No. 193,890. (No model.)

*To all whom it may concern:*

Be it known that I, MYRON REED STATHEM, a citizen of the United States, residing at Memphis, Shelby county, State of Tennessee, have  
 5 invented certain new and useful Improvements in Automatic Mail-Bag Catchers and Deliverers, of which the following is a specification.

My invention relates to certain new and useful improvements in automatic mail-bag catchers and deliverers, and has for its object to  
 10 provide means for automatically catching a mail-bag from the mail-crane and for delivering a bag from the car at the same time. I accomplish this object as will be more fully  
 15 hereinafter set forth in the drawings, specification, and claims.

In the drawings, Figure 1 is a side elevation of the car and mail-crane at the moment that the car-door is passing the latter, showing the receiving and delivering cranes in position to catch their respective mail-bags, showing the bag on the track-crane, but with the bag removed from the car-crane, (but indicated by dotted lines,) thus allowing the car-crane details to be more clearly shown. Fig.  
 20 2 is a sectional plan on the line II II of Fig. 1 looking down, showing bags in place on both the track and car cranes. Fig. 3 is a plan view of a section of track, showing relative location of rail, track-crane, and operating-trips. Fig. 4 is an end elevation of the device, showing mail-bag on car-crane and track-cranes in place and with car moving toward the point of view. Fig. 5 is a plan view  
 25 of the hook on the track-crane. Fig. 6 is a side elevation of the track-crane when not in use. Figs. 7, 8, and 9 are detail end, side, and end elevations, respectively, of the hook on the car. Fig. 10 is a sectional side elevation on the line X X of Fig. 11, showing one of the brackets on the car; and Fig. 11 is a plan view of the bracket. Figs. 12, 13, and 14 are a plan view, side view, and end elevation, respectively, of the track-trip. Figs. 15 and 16  
 30 are detail plan and side elevations, respectively, of the lower arm of the car-crane.

Referring now to the drawings, in which like parts are indicated by the same or like numerals in all the views, 1 is a portion of the  
 35 side of a mail-car, showing the door-opening 2.

3 is the car mail-hook, which is carried by a bar 4, extending across the door of the car. This bar is journaled in bearings 5 and 6 on the opposite sides of the door and carries bevel-gears 7 and 8, one on each end.

9 is an arm on the rod 4, held from turning on same by a set-screw 10 or other suitable device. This arm is normally held up by a tension-spring 11, but is adapted to be pulled down by the heavier spring 12 as follows:  
 13 is a rod extending downward from the spring 12 and carried by brackets 14 and 15. This arm has a lug 16 extending outward from it and adapted to be engaged by a catch 17, held against it by a spring (not shown) which  
 60 is carried in a bracket 18. From the rod 13 a connecting-rod 19 extends downward to an operating-arm 20, which arm is pivoted on a post 21, extending downward from the bottom of the car. Lateral movement of this  
 65 arm 20, as shown by the dotted position 20<sup>a</sup>, is provided for by making the pivot-pin 22 longer than otherwise necessary and putting thereon a spring 23. Normally the hook 3 occupies the dotted position 3<sup>a</sup>, being raised  
 70 to the position shown by the trip 20, before mentioned.

The gear 8 meshes with a gear 24 on a post 25, which is part of the car-crane. This post is journaled in bearings 26 27 on the car.  
 75 Crane-arms 28 and 29 project out from the post 25, the arm 28 being attached rigidly, while the arm 29 is pivoted to a boss on the post to permit a limited swing in the vertical plane only. These arms are adapted when  
 80 not in use or when a bag is being placed for delivery to rest against the car, as shown by the dotted position 28<sup>a</sup> 29<sup>b</sup>, the arm 29 being normally in the position 29<sup>b</sup> except when a bag has been placed on it ready for delivery,  
 85 at which time it is held in the position 29<sup>a</sup>. 29<sup>c</sup>, Figs. 4 and 16, is the position taken by the arm 29 at the moment that the mail-bag 30 is removed from it. The bag 30 is held on the arms 28 29, as illustrated in Fig. 16, by  
 90 a bar 31, pivoted to the arm on a pivot 32 and held in place by a spring 33 and on this bar 31 by a leaf-spring 34, which is so shaped that the eye of the bag may be slipped in from the outside or pulled off without other raising of  
 95 100



the spring than that caused by the actual passage of the eye of the bag. The arm 29 is continued behind the post 25 in a short arm or piece 35, which engages with the under surface of an angle piece or release 36 with one edge, in plan, shaped concentric with the post 25. This release 36 is pivoted to the car-body at 37. The opposite end 38 is connected by a link 39 and a bell-crank lever 40 with the trip 17. When, therefore, the arm 29 drops to the position 29<sup>c</sup>, it raises the piece 36 and withdraws the trip 17, thus releasing the lug 16 and arm 13 and allowing the mail-hook 3 to drop to the position 3<sup>a</sup> and the arms 28 29 to swing against the car out of the way.

The gear 8 is held in mesh with the gear 24 by a loop or strap 41, which slips between the hub of the arm 9 and the bearing 6. 42 is a cotter-pin adapted to be passed through this loop and a projection 43 from the web of the bracket 6. When this loop is removed, the gear 8 may be slipped out of mesh with the gear 24 and the car-crane be moved to the opposite side of the car-door, as follows: The gear 8 having been slipped back, the post 25 is raised and the lower end slipped out of the bracket 27. The post is then lowered until the upper end slips out of the bearing 26, when the post and the attached arms may be moved to the opposite side and placed in the bearings 26<sup>a</sup> 27<sup>a</sup>, the post occupying the position 25<sup>a</sup>. When in this position, the gear 24 is in position 24<sup>a</sup> and the gear 7 is brought into mesh with it by removing the loop 41 and shifting the rod 4. When this has been done, the loop 41 is placed between the gear 7 and the bracket 5 and holds the gears in mesh. At the same time the hook 3 may be reversed by removing the pin 44, slipping the piece 45 out to the right, putting it in again from the opposite side, and reinserting the pin. When the bag is caught, it is held by a spring-clip 46, which is pivoted to the piece 45 at 47 and is held against the hook 3 by a spring 48. The loop 49 is provided, so that the clip 46 may be opened to release the bag from the hook 3.

The track-crane is made in the usual manner with a post 50, top and bottom arms 51 and 52, and in addition has a double hook 53 and 54 for catching mail from the car-crane. These hooks 53 54 are fastened in a single casting 55, which works on a pin 56, carried by the bracket 57. The hooks and the piece 55 are connected by a link 58 with the lower arm 52, so that the hooks are raised and lowered as the arm is raised. When, therefore, a mail-bag 59 has been placed on the track-crane, by the raising of the lower arm 52 to catch it in the eye of the bag 59 the hooks 53 and 54 are raised into position to catch the bag held out by the car-crane. When the bag is caught by the train-hook and removed from the track-crane, these hooks drop into a position against the post.

60 61 are blocks situated one on each side

of the track-crane, preferably at a distance of about fifty feet each way from same, being shown on the drawings as much closer for purposes of convenience only. Each of these blocks, as will be seen by reference to Figs. 12, 13, and 14, consists of a double wedge-shaped piece having a flange 62 on one edge. The arm 20 (on the car) approaching this block in the direction of the arrow *a* will be guided by the flange 62 and pass over the block, and thereby be operated. When, however, it gets to the next block which faces in the opposite direction, or, for purposes of illustration, when it is approaching the block in the direction of the arrow *b*, it will be pushed to one side, as shown by the dotted lines 20<sup>a</sup>, Fig. 4, and will not therefore be operated.

63 63<sup>a</sup> are stops on the car to limit the motion of the arm 28.

36<sup>a</sup> is a trip similar to 36 and is pivoted at 37<sup>a</sup> to the car. It is connected by links 64, 65, and 66 and bell-crank levers 67 and 68 with the link 39 from the trip 36 and is operative when the car-crane is placed on the opposite side of the car or in the position 25<sup>a</sup>.

The operation of my device is as follows: As soon as the train is made up and the direction it will go is ascertained the mail-hook is placed facing the way the car is to go and the car-crane is placed on the rear side of the car-door, so that the ends of the arms 28 29 point in the direction the car is moving. Immediately after leaving the first station (or while at the station) the mail-bag for the first point is placed on the car-crane, which at this time rests against the car-door. In the meantime the agent at the first point has placed the bag 59 on the track-crane at that point. No further notice is then necessary on the part of either station or car clerk until the car has passed the point. As the car approaches the block 61 (say) trips the lever 20, depressing the link 13 (and catching the lug 16 under the trip 17) and the lever 9, and thereby rotating the mail-hook 3 on the car to a horizontal position. The gear 8 meantime rotates the car-crane arms into a position at right angles to the car, and in this position the car mail hook and crane approach the track-crane and mail-hook. The two hooks catch their respective bags practically simultaneously and remove them from the respective cranes. The track-crane drops in the usual manner, depositing the mail-bag probably immediately against the post. The car-hook in the meantime by virtue of the clip 46 holds its bag firmly. The bag 30 having been removed from the car-crane, the arm 29 drops to the position 29<sup>c</sup> and in so doing raises the release 36 and through the link 39 and bell-crank 40 withdraws the trip 17 and allows the spring 11 to rotate the hook 3 down against the car and the arms 28 29 around into their original position. When this occurs, the mail clerk removes the bag



caught from the hook 3 and places another on the crane ready for delivery.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a mechanism for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a mail-hook carried thereon and normally resting against the car, a mail-crane carried by said car and normally resting against said car, an operating-arm projecting beneath said car, links operatively connecting said arm and said hook, a tripping-block on the track to operate said arm, and through it to throw said hook and crane outward from said car, a catch to hold said hook and crane extended, and means operated by the delivery of the bag from the car-crane of releasing said catch.

2. In a device for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a shaft, bearings on said car carrying said shaft, a mail-hook mounted on said shaft and normally resting against the car, a car-crane comprising a post, bearings carrying said post, and arms projecting from said post, said crane resting normally against the car, bevel-gears on said post, and said shaft intermeshing, an arm projecting from said shaft, a spring holding said arm raised, an operating-arm projecting beneath said car, links connecting said shaft-arm and said operating-arm, a trip on the track to throw said operating-arm, and means of holding said hook and crane extended and of releasing same.

3. In a mechanism for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a mail-hook carried thereon resting against the car, a mail-crane carried by said car, and normally resting against said car, an operating-arm projecting beneath said car, spring-links operatively connecting said operating-arm and said hook, a tripping-block on the track to operate said arm said block being formed as a double wedge, a flange on said block to guide said arm said wedge presenting a vertical edge in one direction and a horizontal edge in the opposite direction, a catch to hold said hook and crane extended and means of releasing said catch.

4. In a device for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a shaft, bearings on said car carrying said shaft, a casting on said shaft, a mail-hook reversibly mounted in said casting and normally resting against the car, a spring-clip at the mouth of said hook, a car-crane comprising a post, bearings carried by said post, and arms projecting from said post, said crane resting normally against the car, bevel-gears on said post and said shaft intermeshing, an arm projecting from said shaft, a spring hold-

ing said arm raised, an operating-arm beneath said car, links connecting said shaft-arm and said operating-arm, a trip on the track to throw said operating-arm, means of holding said hook and crane extended, and of releasing same.

5. In a mechanism for catching and delivering mail, the combination with the track-crane and the mail-car, of a mail-hook carried thereon and normally resting against the car, and means of automatically operating said hook, said hook having a loop portion, a lug mounted near the smallest portion of said loop, a clip-piece pivoted on said lug and a spring to hold one end of said clip against the opposite side of said loop.

6. In a device for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a car mail-catcher comprising bearings, a shaft mounted in said bearings, bevel-gears on the ends of said shaft, a hook reversibly mounted on said shaft and normally resting against the car, a car-crane resting normally against the car, said crane comprising duplicate bearings on opposite sides of the car-door, a removable post mounted in said bearings, a bevel-gear on said post, an upper arm extended outward at right angles to said post, a lower arm extended outward from said post and behind said post and pivoted thereto to allow a limited motion in a vertical plane, a removable loop to hold said catcher and crane gears in mesh, an arm on said catcher-shaft a spring holding said arm raised, a tension-spring depending from said arm, an operating-arm projecting beneath said car, links connecting said spring and the operating-arm, a lug on said links, a catch coacting with said lug, a release coacting with the rear end of the lower crane-arm, and links connecting said release with said catch.

7. In a device for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a car mail-catcher comprising bearings, a shaft mounted in said bearings, bevel-gears on the ends of said shaft, a hook reversibly mounted on said shaft and normally resting against the car, a car-crane resting normally against the car, said crane comprising duplicate bearings on opposite sides of the car-door, a removable post mounted in said bearings, a bevel-gear on said post, an upper arm extended outward at right angles to said post, a lower arm extended outward from said post and a short distance behind said post and pivoted thereto to allow a limited motion in a vertical plane, a removable loop to hold said hook and crane gears in mesh, an arm on said hook-shaft a spring holding said arm raised, an operating-arm projecting beneath said car, links connecting said arm and the arm on said catcher-shaft, a lug on said links, a catch coacting with said lug, a release-lever resting on the



rear end of the lower crane-arm and links connecting said release-lever with said catch.

8. In a device for catching and delivering mail, the combination with the track-crane and a receiving-hook thereon, of the mail-car, a car mail-catcher comprising bearings, a shaft mounted in said bearings, bevel-gears on the ends of said shaft, a hook reversibly mounted on said shaft and normally resting against the car, a car-crane resting normally against the car, said crane comprising duplicate bearings on opposite sides of the car-door, a removable post mounted in said bearings, a bevel-gear on said post, an upper arm extended outward at right angles to said post, a lower arm extended outward from said post and a short distance behind said post and pivoted thereto

to allow a limited motion in a vertical plane, a removable loop to hold said hook and crane gears in mesh, an arm on said hook-shaft, a spring holding said arm raised, an operating-arm projecting beneath said car, links connecting said arm and the arm on said catcher-shaft, a lug on said links, a catch coacting with said lug, a release coacting with the rear end of the lower crane-arm and links connecting said release with said catch.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MYRON REED STATHEM.

Witnesses:

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D. M. LYNCH.