

No. 638,352.

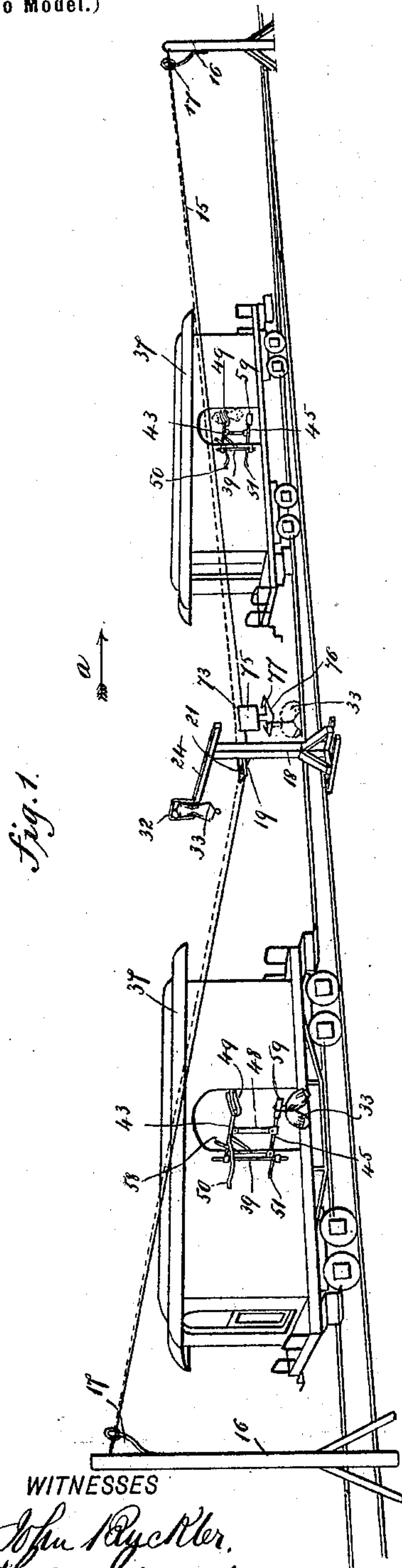
Patented Dec. 5, 1899.

J. T. MUMFORD & J. McD. PINKERTON.
APPARATUS FOR RECEIVING AND DELIVERING MAIL BAGS.

(Application filed July 27, 1899.)

3 Sheets—Sheet 1.

(No Model.)



WITNESSES

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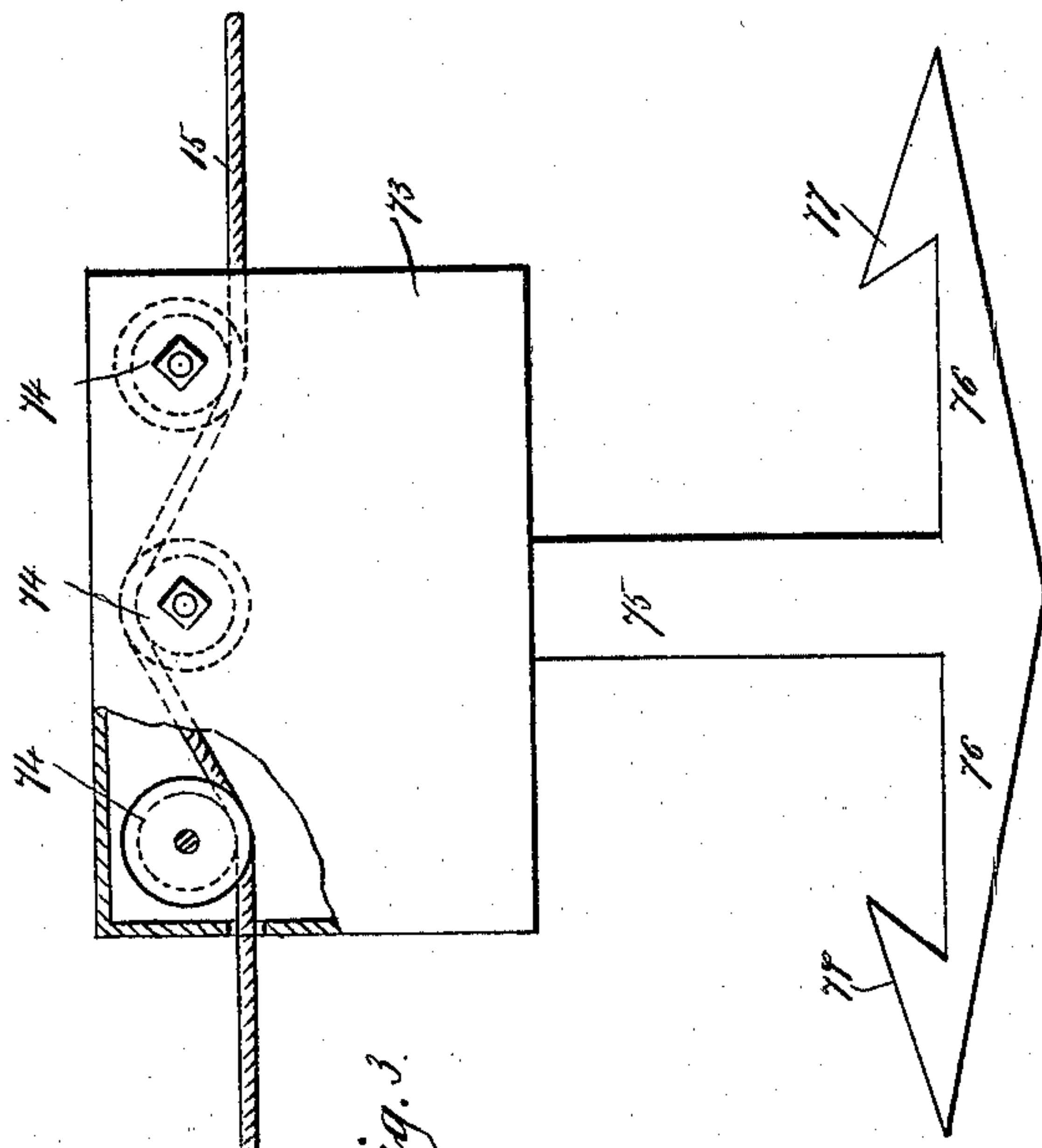


fig. 3.

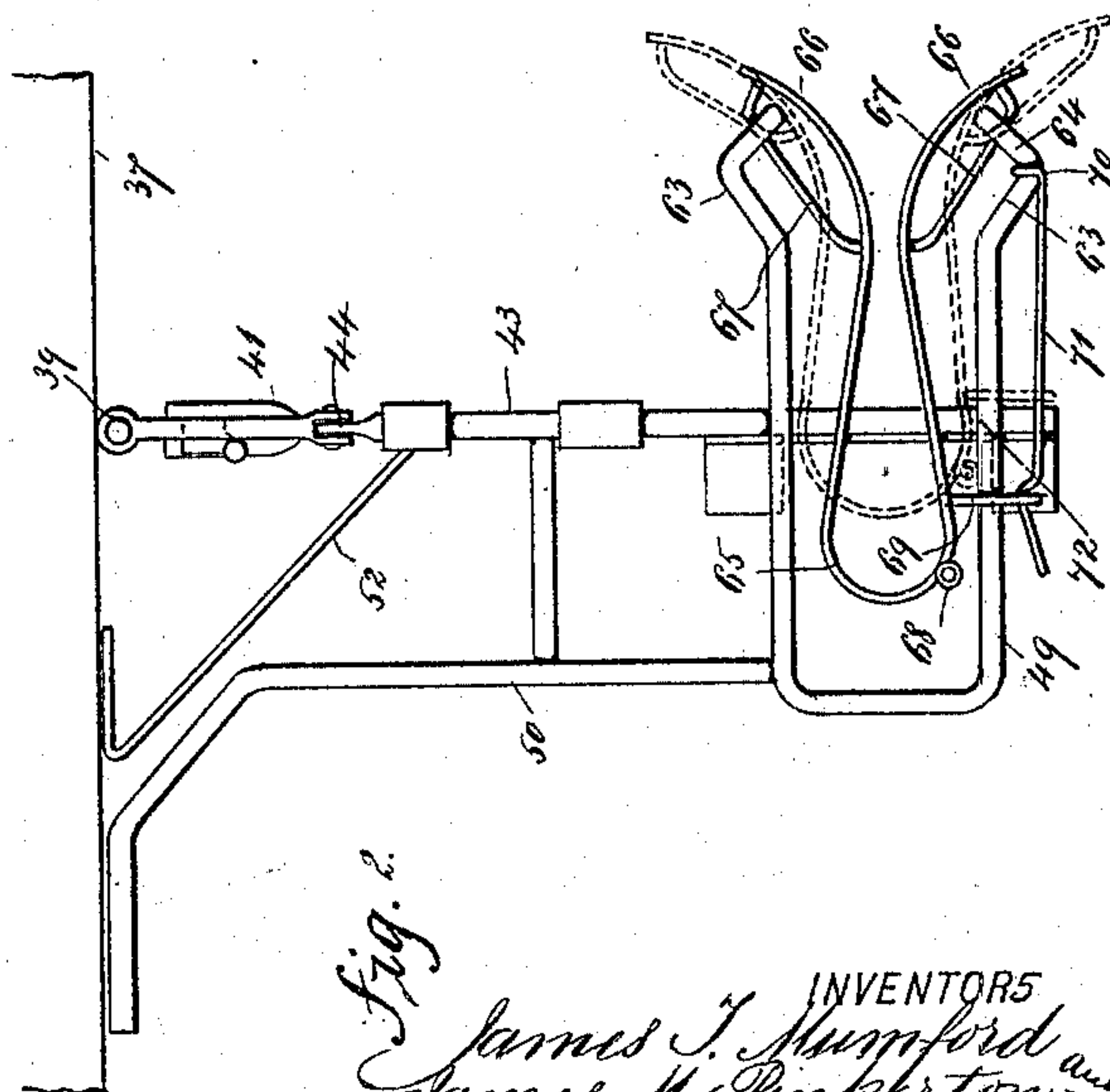


fig. 2.

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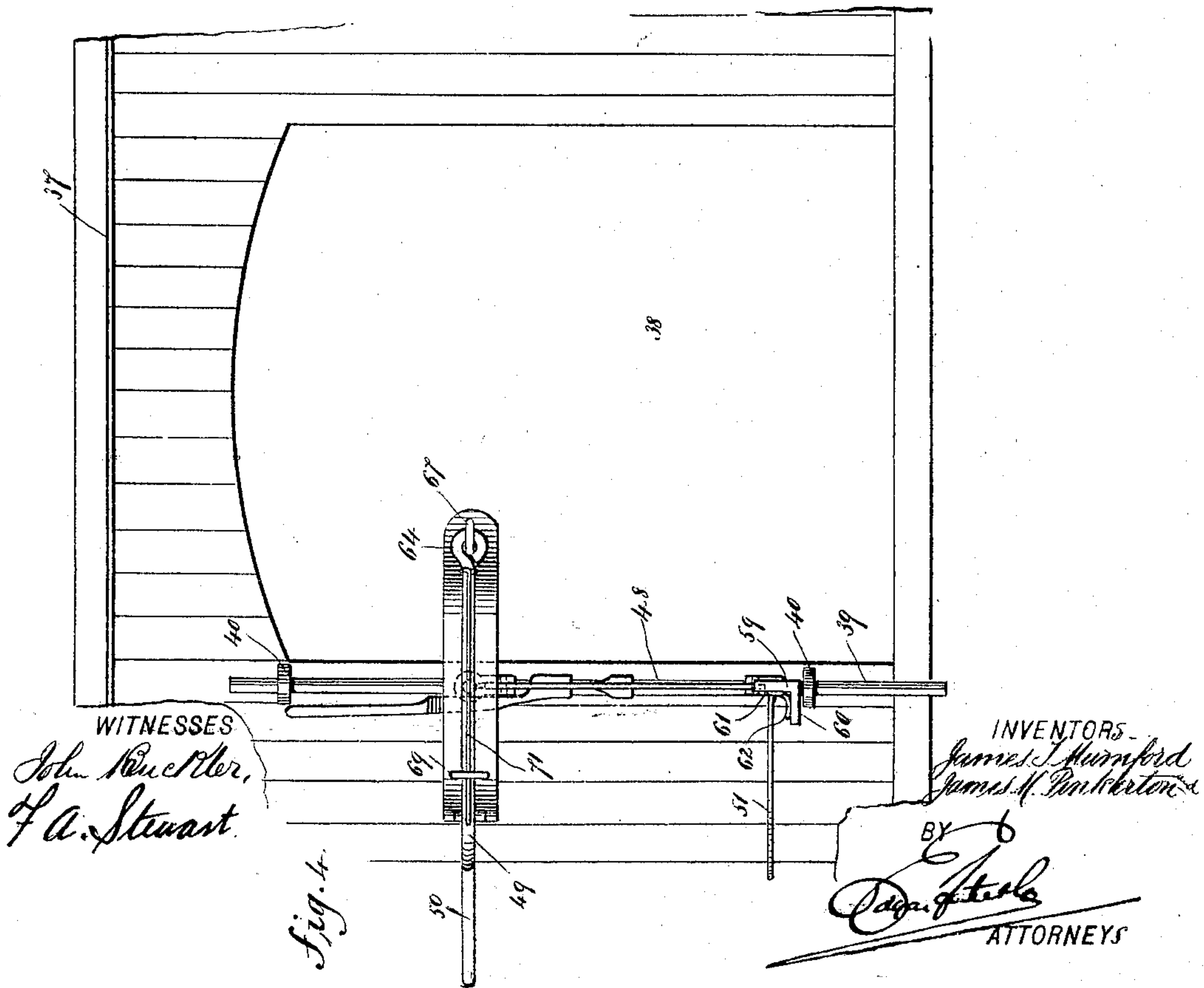
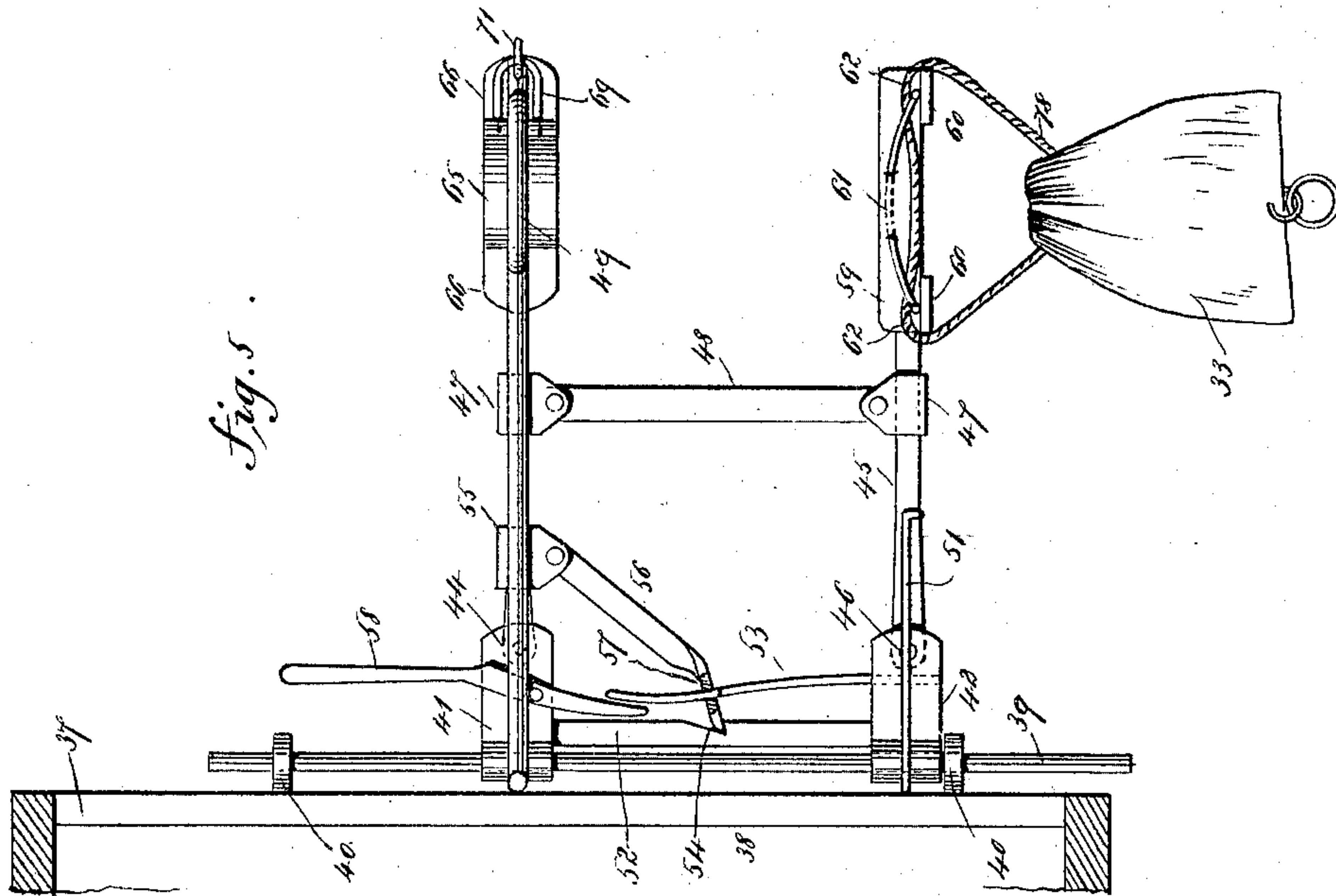
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3 Sheets—Sheet 2.



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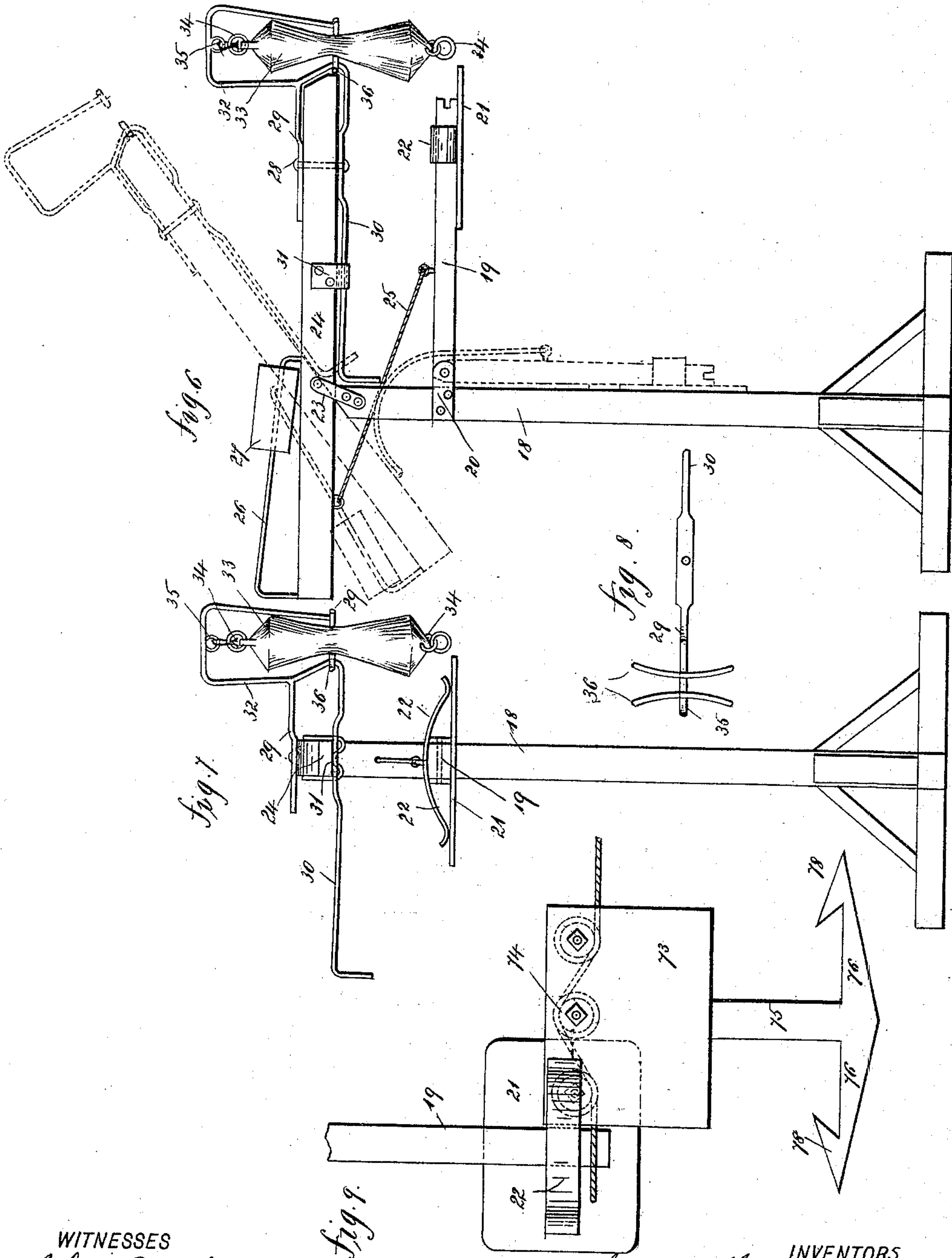
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3 Sheets—Sheet 3.



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APPARATUS FOR RECEIVING AND DELIVERING MAIL-BAGS.

SPECIFICATION forming part of Letters Patent No. 638,352, dated December 5, 1899.

Application filed July 27, 1899. Serial No. 725,235. (No model.)

To all whom it may concern:

Be it known that we, JAMES THOMAS MUMFORD and JAMES McDILL PINKERTON, citizens of the United States, residing at Cromwell, in the county of Union and State of Iowa, have invented certain new and useful Improvements in Apparatus for Receiving and Delivering Mail-Bags, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for delivering mail-bags from a station to a passing train and also for delivering mail-bags from a passing train to the station; and the object thereof is to provide an improved apparatus of this class which is simple in construction and operation and by means of which mail-bags may be more safely and conveniently transferred, as described, than has heretofore been possible.

The invention described and claimed in this application is an improvement on that described and claimed in application, Serial No. 698,529, filed by us in the United States Patent Office December 7, 1898, and is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a diagrammatic view showing our improved apparatus and illustrating the operation thereof; Fig. 2, a plan view of that part of the apparatus which is connected with a mail-car; Fig. 3, a plan view of a part of the apparatus for delivering mail-bags from a car to a station; Fig. 4, a side elevation of a part of a railway-car and showing that part of the apparatus connected therewith; Fig. 5, a view at right angles to Fig. 4; Fig. 6, a side elevation of a standard or support which in practice is placed adjacent to a railway-station and which is provided with devices for supporting a mail-bag to a mail-car and also for receiving a bag from said car; Fig. 7, a view at right angles to Fig. 6 and showing a part of the apparatus in a different position; Fig. 8, a bottom plan view of a part of the apparatus shown in Fig. 6, and Fig. 9 a plan view of a part of the apparatus shown in Figs. 6 and 7 and also of the device shown in Fig. 3 and showing the method of connecting and operating said parts.

In the drawings forming part of this specification the separate parts of our improvement are designated by the same numerals of reference in each of the views, and in the practice of our invention, reference being made to Fig. 1, we provide a cable 15, which is supported parallel with and adjacent to a railway-track and also adjacent to a station by standards 16, and both of said standards 16 are preferably provided with a spring-arm 17, having at its upper end a ring or eye through which the cable 15 passes, all these parts and the operation thereof being the same as shown and described in the application heretofore referred to. We have also shown at 18 in Fig. 1 and in Figs. 6 and 7 a standard or support which in practice is placed midway of the cable 15 and which is intended to support or hold a mail-bag to be delivered to the train and which is also provided with means for receiving a bag from the train, and this standard or support is provided with an arm 19, which is pivotally connected therewith or with suitable brackets 20 at a predetermined distance below the top thereof, and said arm is provided at its outer or free end with a cross-plate 21, which projects laterally at each side thereof, as shown in Figs. 7 and 9, and secured to said arm at or near the end thereof, above said cross-plate, and projecting in each direction laterally of the arm is a spring clamp or clamps 22, which operate in connection with the plate 21 and bear on each end thereof, as hereinafter described. The standard or support 18 is also provided at the top thereof with upwardly and outwardly directed arms or brackets 23, between which is pivoted an arm 24, the front end of which projects over the arm 19 and the rear end of which projects backwardly beyond the standard or support 18 and is connected with the arm 19 by a rod or other flexible device 25, and the said rear end of the arm 24 is also provided above the top thereof with an inclined rod or bar 26, on which is placed a slidable weight 27.

Pivoted to the front end of the arm 24 at 28 is a yoke-shaped holder 29, the lower side of which is formed into a backwardly directed arm 30 and is composed of spring-metal and adapted to be held parallel with

and beneath the arm 24 by a spring-clamp 31, which is secured to said arm and the lower side of which is provided with an upwardly-directed loop, as shown in Fig. 7.

5 The outer end of the yoke-shaped support 29 is provided with an upwardly-directed U-shaped bag-holder 32, which opens downwardly and from which a mail-bag 33 may be suspended, and in practice the mail-bag 33
10 is provided at either end with a ring or eye 34, which may be detachably connected therewith or secured thereto in any desired manner, and the bag-holder is provided with a corresponding hook or other fastening device
15 35, with which said ring or eye is adapted to be connected.

The opposite sides of the U-shaped bag-holder 32, at the lower end thereof, are provided with curved side plates or bars 36, as
20 shown in Fig. 8, and between which the bag 33 hangs when suspended from said holder, and the front end of the arm 24 is adapted to rise into the position shown in dotted lines in Fig. 6, and the front end of the arm 19 to
25 fall into the position shown in dotted lines in said figure, this position of said arms being assumed when the bag 33 is detached from the bag-holder 32 in the operation of the apparatus, as hereinafter described, and said
30 change of position of said arms being effected by the weight 27.

In Fig. 1 we have also shown at 37 a railway-car and in Figs. 4 and 5 we have shown
35 that part of our apparatus which is connected with said car, and the car 37 is shown as provided with a door 38 and adjacent to one side of said door with a vertical shaft 39 mounted in keepers 40, which are secured to
40 said car. The shaft 39 is adapted to turn in the keepers 40, and secured to said shaft at predetermined points thereon are an upper bracket 41 and a lower bracket 42.

An arm 43 is pivoted to the upper bracket 41 at 44, as shown in Figs. 2 and 5, and is
45 adapted to swing in a vertical plane, and a corresponding arm 45 is pivoted to the lower bracket 42 at 46 and is also adapted to swing in a vertical plane, and each of these arms is provided with a sleeve 47, which is secured
50 thereto, and a vertical bar 48 is pivotally connected with said sleeves, and the arms 43 and 45 and the bar 48 constitute when held in a horizontal position, as shown in Fig. 5, a frame, which is adapted to swing down-
55 wardly and be held closely adjacent to the side of the car. The upper arm 43 is provided at its outer end with a yoke-shaped holder 49, which opens forwardly, and secured to said yoke-shaped holder and to the
60 upper arm is a brace 50, one end of which is adapted to bear on the car 37 rearwardly of the shaft 39, and a supplemental brace 51 is secured to the lower arm 45 and is also adapted to bear on the car when the parts
65 are in the position shown in Figs. 2, 4, and 5. Between the upper bracket 41 and lower bracket 42 is secured a vertical bar 52, and

secured to the lower bracket 42 in front of the bar 52 is an upwardly-directed spring-arm 53. The bar 52 is provided approxi- 70
mately centrally thereof with a notch or recess 54, and the upper arm 43 is provided with a bracket or sleeve 55, to which is pivoted a backwardly-directed catch 56, which is provided in its rear end with a slot 57, 75
through which the spring-arm 53 passes, and pivoted to the upper bracket 41 is a hand-lever 58, the lower end of which projects downwardly and backwardly and rests between the bar 52 and the upper end of the 80
spring-arm 53.

The catch 56 is adapted to hold the arms 43 and 45 in a horizontal position, as shown in Fig. 5, and by pressing the upper end of the hand-lever 58 in the direction of the car 85
said catch will be detached from the notch or recess 54 in the bar 52 and the arms 43 and 45 will drop adjacent to the side of the car. The lower arm 45 is provided with a plate 59, which is secured thereto and provided at 90
each end with backwardly-directed angular projections or extensions 60, and secured to the side of said plate 59 is a spring 61, the ends of which bear on the backwardly-directed projections or extensions 60 of the 95
plate 59 and are also provided with angular projections 62, this construction being clearly shown in Figs. 4 and 5.

The front ends of the sides of the yoke-shaped holder 49, which is connected with 100
the arm 43, are outwardly curved, as shown at 63 in Fig. 2, and provided with inwardly-directed extensions 64, and mounted in said yoke-shaped holder is a loop-shaped receiver 65, composed of broad thin metal and the sides 105
of which are curved outwardly at the ends, as shown at 66, and project forwardly of the ends of the yoke-shaped holder 49, and secured to the outer sides of the arms of the loop-shaped receiver 65 are side wires or rods 110
67, which pass through the inwardly-directed extensions 64 at the ends of the sides of the yoke-shaped holder 49.

The loop-shaped receiver 65 is composed of two parts hinged together at 68, and the outer 115
side is provided with an outwardly-directed loop 69, through which the outer side of the yoke-shaped holder 49 passes, and secured to the outer side of the yoke-shaped holder 49, adjacent to the end thereof, as shown at 70, 120
is a backwardly-directed spring-arm 71, which passes through the loop 69 and is provided with an inwardly-directed loop 72, these features of construction being clearly shown in Figs. 2 and 4. 125

In transferring a mail-bag from the station to a car we employ a frictional device or casing 73, as shown in Figs. 3 and 9, and this device, as shown in the drawings, consists of a casing through which the cable 15 passes 130
and provided with three friction-rollers 74, two of which are shown in dotted lines and one in full lines in Fig. 3, and these rollers are arranged in substantially the same line,

and the cable 15 is passed around said rollers, so as to prevent the frictional device or casing 73 from sliding too freely on said cable.

5 As shown in the drawings constituting part of this specification, the frictional device or casing 73 is provided at one side with an arm 75, the outer end of which is provided with branch arms 76, which project in opposite di-
10 rections and are provided with hook-shaped heads 77, and this device is in practice inserted between the plate 21 and one of the spring-clamps 22, which are connected with the arm 19 of the standard or support 18 in
15 the manner shown in Fig. 9.

The frictional device or casing 73 operates similar to that shown and described in the application hereinbefore referred to, but is different in construction, and that shown and
20 described in the application hereinbefore referred to may be employed, if desired.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying draw-
25 ings and the following statement thereof.

A mail-bag to be delivered from the station to a train or to the mail-car of a train is suspended from the arm 24 or the bag-holder 32, connected with said arm, as shown in Fig. 1,
30 and the mail-bag to be delivered from the car to the station is suspended from the lower arm 45 of that part of the apparatus connected with the car, as shown at the left of Fig. 1. At the same time the friction device or casing
35 73 is connected with the arm 19 of the standard or support 18, as shown in Fig. 9. The loop-shaped spring-receiver 65, which is connected with the holder 49, which is secured to the upper arm 43 of that part of the appa-
40 ratus connected with the car, is moved forward, as shown in dotted lines in Fig. 2, and supposing the car to be moving in the direction of the arrow *a* in Fig. 1 as the car passes the standard or support 18 the bag 33 or the
45 lower end thereof will pass into the loop-shaped spring-holder 65 and will be detached from the holder 32, and the said loop-shaped spring-holder 65 will move backwardly into the position shown in full lines in Fig. 2, the
50 bag remaining therein, this position of the bag being shown in dotted lines at the right of Fig. 1.

If a bag is to be delivered from the car to the station, it is suspended from the lower
55 arm 45, as shown at the left of Fig. 1 and as shown in Fig. 5, and as the car passes the standard 18 one of the arms 76 of the frictional device or casing 73 passes through the loop 78, by which the bag is suspended from the arm 45, and said bag is detached from
60 the backwardly-directed projections or extensions 60 of the plate 59 and is supported by the arm 76 of the friction device or casing 73, and said friction device or casing 73 is de-
65 tached from the arm 19 and is free to move on the cable 15, by which the bag is prevented

from falling to or striking the ground or any other object, said friction device or casing being shown detached from the arm 19 and sus-
70 pended by the cable in Fig. 1.

The support 78, by which the mail-bag is suspended from the plate 59, as shown in Fig. 5, may consist of a rope or any flexible device through which the bag is passed, and the back-
75 wardly-directed projections 62 of the spring 61 bear on this rope or other device and hold the bag on the backwardly-directed projec-
80 tions or extensions 60; but as the train passes the standard or support 18 the bag is caught by the frictional device or casing 73 or the arm 76 thereof and is easily detached from the plate 59.

The loop-shaped spring-receiver 65 or the separate sides thereof are made of consider-
85 able width in order to prevent tearing or otherwise injuring the bag as it is taken from the holder 32, which is connected with the arm 24, and in Fig. 7 I have shown how the bag-holder 32 is drawn toward the operator or turned on
90 its support, so as to enable the operator to place the mail-bag in position for catching. After the bag is placed in the holder 32 it is then turned into the position shown in Fig. 6, in which position the bag is caught by the train
95 or car, and the arms 24 and 19 when the bag has been detached from the holder 32 assume the position shown in dotted lines in Fig. 6 and will not interfere with a passing train.

The frame, consisting of the top arm 43, the bottom arm 45, and parts connected there-
100 with, is adapted to swing forwardly into the open door of the car, so that the bag may be removed from the receiver 65 and another bag connected with the plate 59 whenever desired; but said frame cannot swing backwardly be-
105 yond the position shown in Fig. 4 by reason of the braces 50 and 51, which strike against the side of the car.

The spring-arms 17, through which the end of the cable 15 passes, are intended, as in the
110 application hereinbefore referred to, to prevent the frictional device or casing 73 from striking either of the posts or standards 16, and it will be observed that by reason of the form of the plate 21 and the spring clamp or
115 clamps 22, which project from opposite sides of the arm 19, the said frictional device or casing 73 may be connected with either side of said arm and may be detached therefrom in either direction, this construction being de-
120 signed in order to make the apparatus operative in connection with a car moving in either direction, and it will also be observed that the other parts of the apparatus are simi-
125 larly formed, and a bag may be delivered from the train to the station and from the station to the train regardless of the direction in which the train is moving.

The entire apparatus is simple in construc-
130 tion and operation and well adapted to accomplish the result for which it is intended, and many changes in and modifications of the

construction described may be made without departing from the spirit of our invention or sacrificing its advantages.

Having fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In an apparatus of the class described, a cable supported longitudinally of and adjacent to a railway-track, a standard adjacent to said cable, vertically-swinging arms connected with said standard and arranged one above the other, devices for detachably suspending a bag from one of said arms, a friction device mounted on said cable and longitudinally movable thereon and adapted to be detachably connected with the other arm, and horizontally-swinging and vertically-movable arms connected with a car, means for detachably suspending a bag from one of said arms and for delivering it to said friction device on said cable, and devices connected with the other arm for receiving the bag from the arm connected with said standard, substantially as shown and described.

2. In an apparatus of the class described, a cable supported adjacent to a railway-track, a standard supported adjacent to said cable, arms pivotally connected with said standard and adapted to swing in a vertical plane, said arms being in operative connection, and being also arranged vertically, devices for detachably suspending a bag from the end of the upper arm, a frictional device mounted on said cable and adapted to be detachably connected with the lower arm, and provided with arms which project in opposite directions; a frame connected with a car and provided with arms arranged vertically and adapted to swing in a horizontal and in a vertical plane, devices connected with the upper arm of said frame and adapted to receive the bag from the arm connected with said standard, and devices for detachably suspending a bag from the lower arm of said frame and to deliver the same to said friction device, substantially as shown and described.

3. In an apparatus of the class described, the combination with a railway-car, of a frame connected therewith and adapted to swing in a horizontal and in a vertical plane, said frame being provided with an upper and a lower arm, the upper arm being provided with a horizontal yoke-shaped support which opens forwardly, and a loop-shaped receiver mounted in said support which also opens forwardly, and which is adapted to slide longitudinally of said support, substantially as shown and described.

4. In an apparatus of the class described, the combination with a railway-car, of a frame connected therewith and adapted to swing in a horizontal and in a vertical plane, said frame being provided with an upper and a lower arm, the upper arm being provided with a horizontal yoke-shaped support which opens forwardly, and a loop-shaped receiver mounted in said support which also opens forwardly,

and which is adapted to slide longitudinally of said support, and devices for locking said receiver in its innermost position, substantially as shown and described.

5. In an apparatus of the class described, the combination with a car, of a vertical shaft adapted to turn in its supports, a frame composed of upper and lower arms connected with said shaft and adapted to swing therewith, said arms being also adapted to swing in a vertical plane, braces connected with said frame so as to limit the backward movement thereof, a yoke-shaped holder connected with the end of the upper arm which opens forwardly, a loop-shaped receiver mounted in said holder and adapted to move longitudinally thereof, and devices connected with said holder and said receiver for holding said receiver in its innermost position, substantially as shown and described.

6. In an apparatus of the class described, the combination with a car, of a vertical shaft adapted to turn in its supports, a frame composed of upper and lower arms connected with said shaft and adapted to swing therewith, said arms being also adapted to swing in a vertical plane, braces connected with said frame so as to limit the backward movement thereof, a yoke-shaped holder connected with the end of the upper arm which opens forwardly, a loop-shaped receiver mounted in said holder and adapted to move longitudinally thereof, and devices connected with said holder and said receiver for holding said receiver in its innermost position, and means for detachably suspending a bag from the lower arm of said frame, substantially as shown and described.

7. In an apparatus of the class described, the combination with a car, of a vertical shaft adapted to turn in its supports, a frame composed of upper and lower arms connected with said shaft and adapted to swing therewith, said arms being also adapted to swing in a vertical plane, braces connected with said frame so as to limit the backward movement thereof, a yoke-shaped holder connected with the end of the upper arm which opens forwardly, a loop-shaped receiver mounted in said holder and adapted to move longitudinally thereof, and devices connected with said holder and said receiver for holding said receiver in its innermost position, and means for detachably suspending a bag from the lower arm of said frame, consisting of a member secured thereto and provided at its ends with angular extensions, and a spring secured to said member, the ends of which are provided with projections which bear on said extensions, substantially as shown and described.

8. In an apparatus of the class described, a cable supported longitudinally of and adjacent to a railway-track, a standard supported adjacent to said cable, an arm pivotally connected with the top of said standard and adapted to swing in a vertical plane, and provided at its ends with a pivoted holder

which is adapted to swing in a horizontal plane, and which is provided with a vertically-arranged yoke or support which opens downwardly, devices for detachably suspending a bag from the top of said yoke or support, and devices connected with a car for detaching and receiving said bag, substantially as shown and described.

9. In an apparatus of the class described, a standard supported adjacent to a railway-track and provided with a pivoted arm which is adapted to swing vertically, a holder pivotally connected with said arm and adapted to swing laterally, means for locking said holder in its normal position, and a vertically-arranged yoke-shaped support connected with said holder and opening downwardly, devices for detachably suspending a bag from said holder or support, and devices connected with a car for receiving and detaching said bag substantially as shown and described.

10. In an apparatus of the class described, a car provided with a shaft 39, a frame connected with said shaft and provided with arms 43 and 45, which are pivotally supported and adapted to swing in a vertical plane, said frame being also provided with a vertically-arranged bar 52 having a notch or recess 54, the upper arm 43 being also provided with a pivoted catch 56 which operates in said notch or recess, and the lower part of the frame with a vertically-arranged spring-arm 53

which passes through a slot in the end of said catch, and a hand-lever 58 pivoted to the upper portion of said frame and adapted to operate said spring-arm, substantially as shown and described.

11. In an apparatus of the class described, a cable supported longitudinally of a railway-track and adjacent thereto, a standard mounted adjacent to said cable and provided with two pivoted arms, one arranged above the other and adapted to swing in a vertical plane, the upper arm being provided with a yoke-shaped support which opens downwardly, and devices for suspending a bag therefrom, a frictional device mounted on said cable and adapted to slide thereon, and adapted to be detachably connected with the lower arm, and devices connected with a car for receiving the bag suspended from the upper arm, and for delivering a bag to said frictional device, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 24th day of July, 1899.

JAMES THOMAS MUMFORD.
JAMES McDILL PINKERTON.

Witnesses:

JACOB M. HINES,
WILLIAM KINKADE.