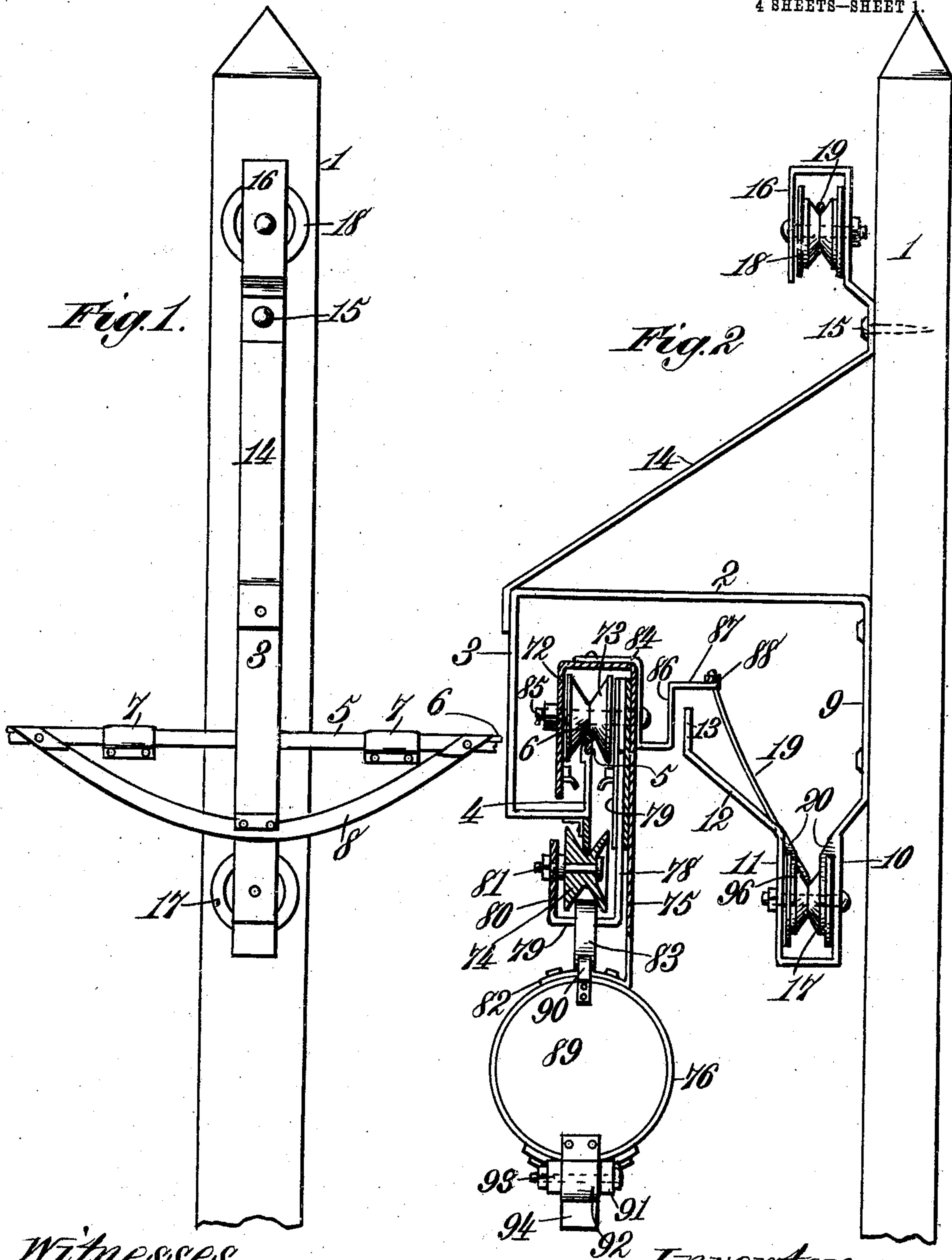


No. 844,125.

PATENTED FEB. 12, 1907.

J. R. HARRIS.
MAIL DELIVERY APPARATUS.
APPLICATION FILED AUG. 21, 1906.

4 SHEETS—SHEET 1.



Witnesses.
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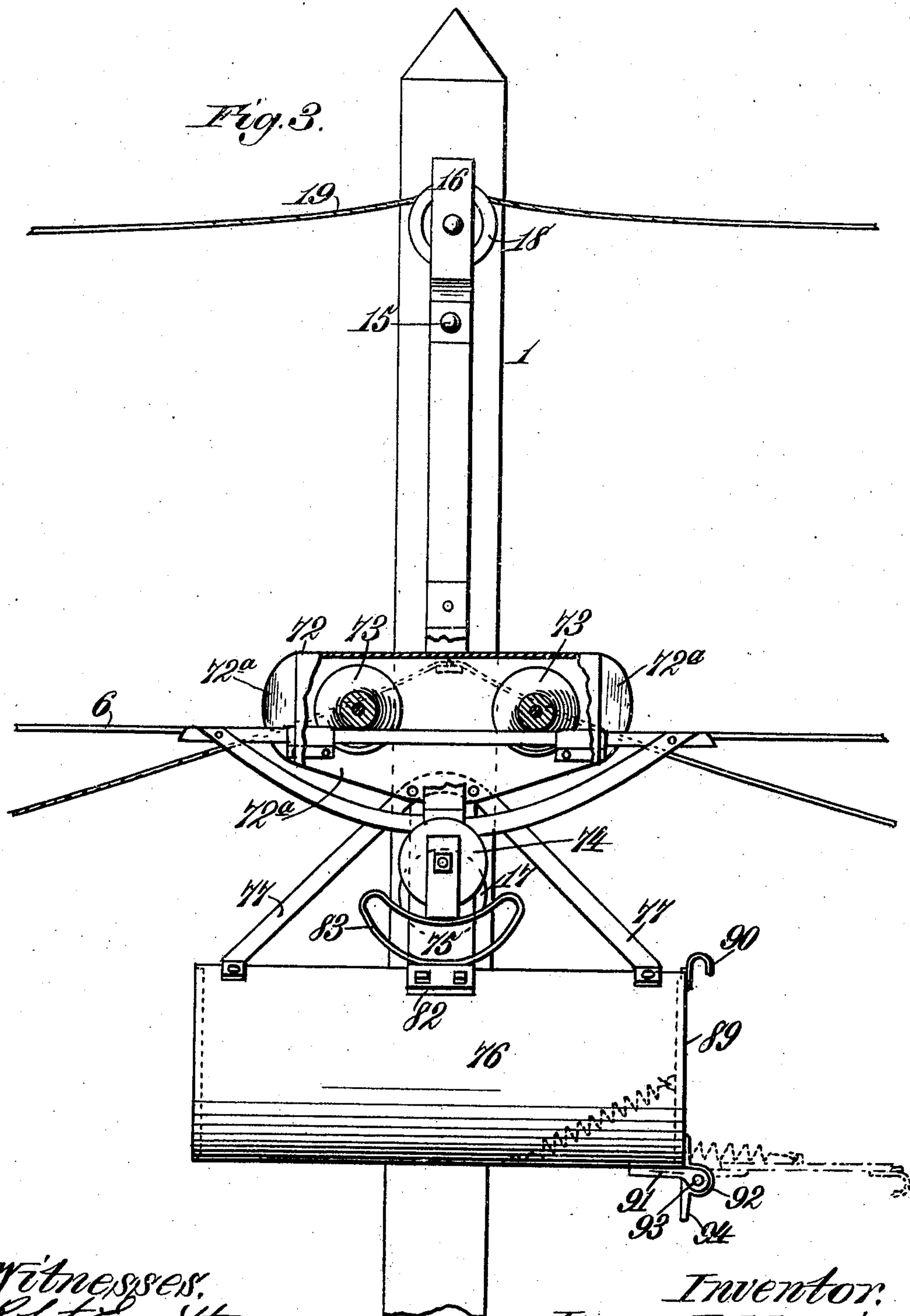
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MAIL DELIVERY APPARATUS.

APPLICATION FILED AUG. 21, 1906.

4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

Fig. 4.

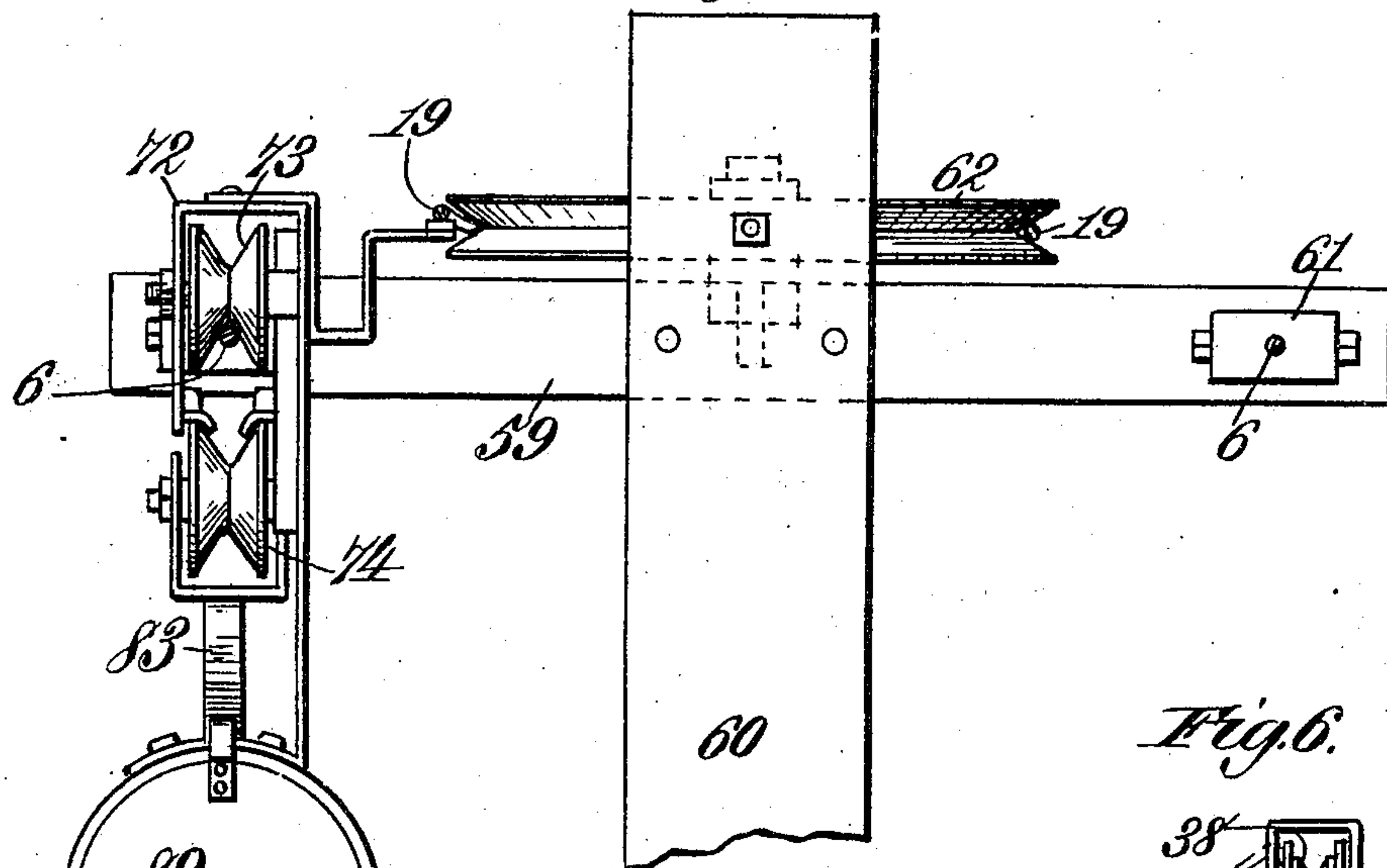


Fig. 6.

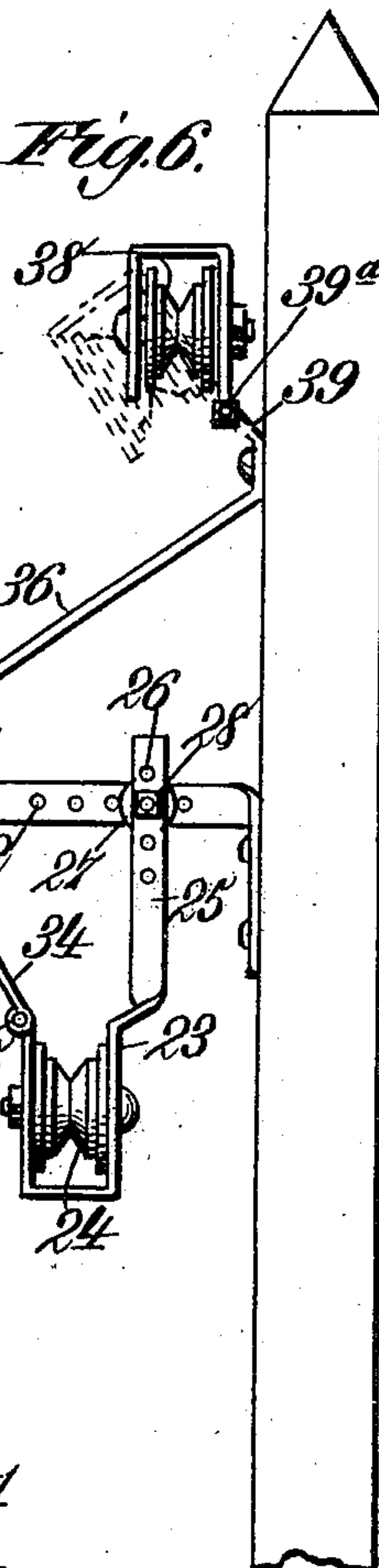


Fig. 5.

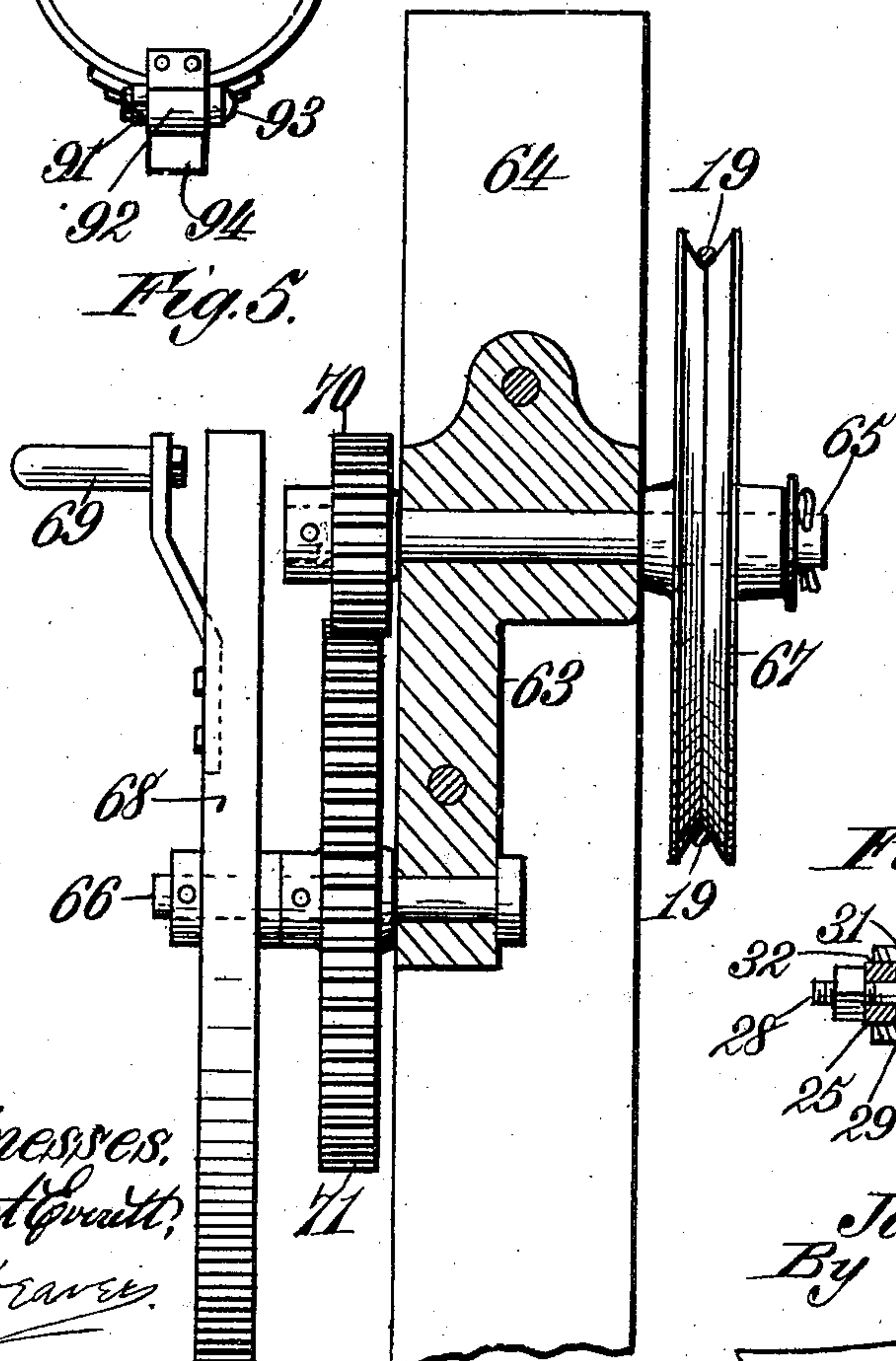
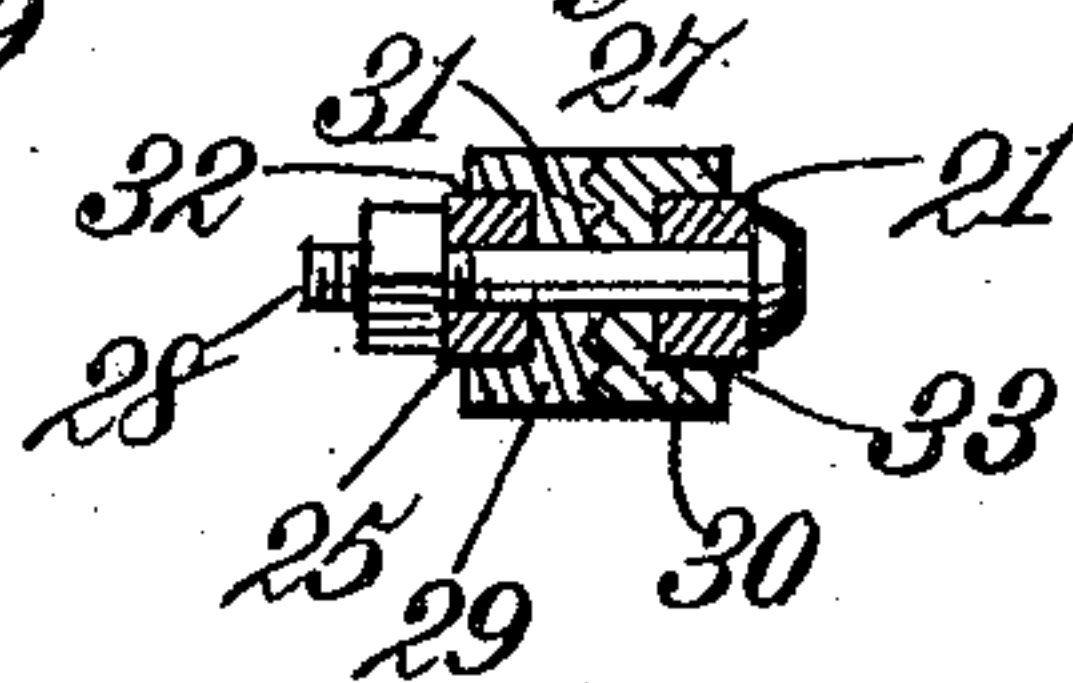


Fig. 8.



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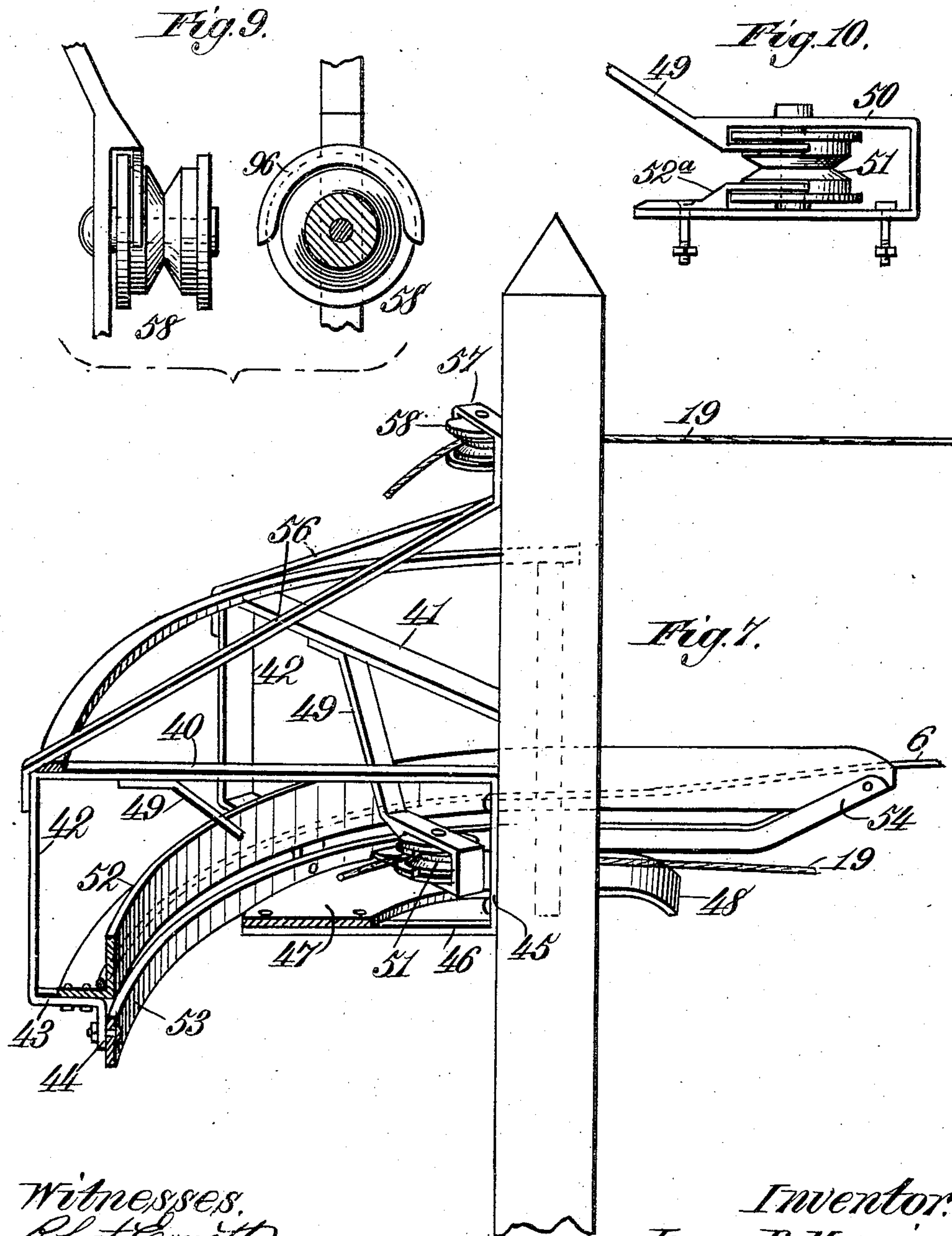
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APPLICATION FILED AUG. 21, 1906.

4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JAMES R. HARRIS, OF OXFORD, OHIO.

MAIL-DELIVERY APPARATUS.

No. 844,125.

Specification of Letters Patent.

Patented Feb. 12, 1907.

Application filed August 21, 1906. Serial No. 331,523.

To all whom it may concern:

Be it known that I, JAMES R. HARRIS, a citizen of the United States, residing at Oxford, in the county of Butler and State of Ohio, have invented new and useful Improvements in Mail-Delivery Apparatus, of which the following is a specification.

This invention relates to a mail-delivery apparatus especially adapted for rural free-delivery uses.

The primary object of the invention is to provide simple and effective apparatus for conveying mail-matter from a roadway or route to a dwelling at a distance therefrom or from such dwelling to the roadway and dispose the mail-matter in convenient location for access either by a postman or an addressee, and thus enable persons remote from a roadway to dispose mail-matter within easy reaching distance of a carrier or messenger, the apparatus being entirely under the control of the owner, who may at any time draw the receptacle to its starting-point.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is an elevation of a portion of the apparatus, showing the bracket used on posts disposed in alinement. Fig. 2 is a sectional elevation showing the bracket in a plane at right angles to that illustrated by Fig. 1 and also a portion of the post and the mail-receptacle. Fig. 3 is a front elevation, partially broken away, of the apparatus, including the mail-receptacle, as illustrated by Fig. 2. Fig. 4 is an elevation of the post and remaining part of the apparatus at the delivery-terminal. Fig. 5 is a sectional elevation of the operating mechanism for the apparatus, located at the receiving-terminal and under the control of the user. Fig. 6 is an elevation of one of the posts and brackets, showing a variation in the structure to accommodate slight curves in a straight-line series of posts and wires. Fig. 7 is a perspective view illustrating one of the posts and a decided curve structure. Figs. 8, 9, and 10 are detail views of different parts of the apparatus.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The apparatus comprises straight-line means wherein at intervals may be disposed curve structures to accommodate the trav-

erse of the conveyer in both direct and curved lines from a point adjacent to a road or a dwelling to places of mailing and delivery, respectively, and the apparatus may extend over any distance, the movement of the conveyer being at all times under the control of the occupants of the dwelling.

The numeral 1 designates a post simulating an ordinary telephone or telegraph pole of any suitable height, and a number of these posts will be arranged at intervals between a roadway and a dwelling, either in straight lines or irregularly disposed, as may be found necessary. Each post in the straight-line series of the posts has a bracket secured thereto and projecting outwardly therefrom, this bracket comprising a horizontal member 2 with an outer terminal drop 3, provided with an inner upturned extremity 4, which serves as a post and has a rail 5 attached thereto, to which a track wire or cable 6 is secured by clamps 7, the opposite extremities of the rail 5 being braced with respect to the bracket through the medium of a U-shaped brace or reinforcing device 8. The inner portion of the horizontal member 2 continues into an attaching member 9, which is firmly secured to the post 1, as shown by Fig. 2, and has an outwardly and downwardly inclined hanger member 10 continuous with a pulley-support 11, which in turn is provided with an outer upwardly-directed guide 12, having a vertical terminal 13. To the upper portion of the horizontal member 2 and terminal drop 3 thereof an upwardly-inclined brace 14 extends and is secured to the post of pole 1, as at 15, and continued beyond and above its point of securement and shaped to provide a pulley-support 16. Within the pulley-supports 11 and 16 grooved guide-pulleys 17 and 18 are respectively mounted to engage upper and lower portions of the operating-wire 19, the pulley 17 having guards 20 depending over opposite parts of the upper portion thereof to always insure the disposition of the lower portion of the operating-wire 19 thereinto and avoid the passage of such wire down between the sides of the pulley and its support. The pulleys 17 and 18 are immovably supported by the portions of the bracket in which they are located, it being unnecessary in straight-line series of the posts to have these pulleys adjustable. As will be hereinafter explained, however, these pulleys may

be adjustable to accommodate curves in the line.

The bracket just described is adapted for straight lines or straight runs of the wire or cable 6; but where slight curves are encountered and it is necessary to change the direction of the wire or cable 6 a modification in the guide-pulleys 17 and 18 is necessary, and, as shown by Fig. 6, the horizontal member 21 of the bracket is given a quarter-twist to present a vertical flat side and is provided with a plurality of openings 22. The support 23 for the lower sheave or pulley 24 in this instance has an arm 25 continuing from the inner member thereof and provided also with a plurality of openings 26 to coincide with the openings 22 of the horizontal member 21 of the bracket. The arm 25 may be adjusted at any angle desired and is held in its adjusted position by a clamp 27, as shown in detail by Fig. 8, and comprising three parts—namely, a bolt 28 and two members 29 and 30, having radial ribs 31 on their inner opposing faces, which are adapted to interlock when the two parts are brought in close engagement to prevent accidental movement of one part on the other after adjustment has been made. The extremities of the members 29 and 30 opposite the extremities having the ribs 31 are respectively formed with grooves 32 and 33 to receive the arm 25 of the support 23 and the horizontal member 21 of the bracket, the bolt 28 acting as the clamping means when tightened to hold the members 29 and 30 of the clamp in close engagement and also firmly secured to the arm 25 and bracket member 21. The clamp as an entirety is movable longitudinally on the bracket member 21, so as to vary the distance of the pulley 24 inwardly and outwardly with respect to the post on which this modified form of the bracket is held. The support 23 in this instance also has a hinged guard 34, which may be adjusted at any angle in view of the fact that it is proposed to connect the same to the outer member of the support 23 by a suitable knuckle-joint, which may be tightened or loosened, as desired and as indicated at 35. The upper inwardly-inclined brace 36 of this bracket is similar to that shown by Figs. 1 and 2; but the upper terminal of said brace, as at 39, is turned outwardly from the post or pole and has the upper pulley-support 38 connected thereto by a knuckle-joint 39^a, similar to the joint 34 heretofore described, the joint 39^a being readily operative to loosen or tighten the same and hold the support and the pulley therein at any angle desired. The bracket, as shown by Fig. 6, is similar in all respects, except the particular changes of structure herein set forth, to the bracket illustrated by Figs. 1 and 2, and these brackets will be used with those shown by Figs. 1 and 2 at points where a slight deflection or curve of the wire

6 and a corresponding change in the direction of the portions of the operating-wire 19, engaging the pulleys at the upper and lower portions of the bracket, may be required.

Fig. 7 illustrates a bracket structure to accommodate a decided curve or where it is necessary to change the direction of the wire or cable 6 at a positive angle with relation to the remaining portion thereof. The bracket 40 in this direct-curve structure is essentially the same as the bracket shown by Figs. 1 and 2, with the changes which will now be set forth; but in this instance a duplicate of the bracket or two of the brackets are secured to a single post in planes at right angles to each other, and a third bracket 41, somewhat shorter in length, is disposed in the same horizontal plane and attached to the post midway between the other two brackets or at an angle of forty-five degrees to the others. Each of these brackets has a member extending outwardly, as in the before-described bracket, and at the terminal of said member is a vertical drop 42, continuing into a horizontal member 43 at its lower extremity, and the member 43 terminates in an inner vertical attaching end 44. At its inner portion the member 40 of each bracket extends vertically downward, as at 45, and provides a securing means for the complete bracket, suitable fastenings being passed through the vertical portion 45 into the post or pole. From the vertical portion 45 an arm 46 extends outwardly and serves as a rest for a bar 47, which is curved similarly to the track, which will be more fully hereinafter explained. The one end of the bar 47 is downwardly deflected, as at 48, to facilitate movement thereonto of a portion of the conveyer. Depending from the horizontal outwardly-projecting top member of the intermediate bracket 41 is a hanger-arm 49, having its lower terminal directed inwardly and then rebent in an outward direction to provide a pulley or sheave support 50, which is secured on the bar 47 and has therein a horizontally-disposed pulley or sheave 51, as clearly shown by Fig. 9, the pulley or sheave 51 having outer guards, as at 52^a, to prevent the wire from passing in between the ends of the said sheave or pulley and the support therefor. As many of these pulleys or sheaves 51 may be arranged on the bar 47 as desired, and in some instances it will be preferable to locate one under each of the upper horizontal members of the brackets, so as to provide an effective antifrictional guide for the lower portion of the operating-wire engaging the same. The advantage of having these pulleys or sheaves 51 attached to the bar 47 in the manner specified is that the small operating-wire 19 is held taut in going around the curve and does not pull the conveyer sideways. Secured to each of the inwardly-extending horizontal supports 43 of the drop

members of the brackets is the lower flange of an outwardly-curved or arcuate rail 52, which is of reverse L shape in cross-section, and the inner upstanding or vertical flange of this rail has the ends of the track-wire 6 connected thereto. This rail 52 may have an extent as great as is demanded by the nature of the direct curve required at the point where such rail is used or as may be necessary to change the direction of the track-wire either to a full right angle with respect to some remaining portion of said wire or to a less degree. By disposing and attaching the rail 52 as set forth and shown by Fig. 7 the use of bolts or rivets in the path of movement or in close proximity to the plane of movement of the conveyer is obviated, and hence there is no obstruction to the movement of the said conveyer in rounding the curve. To the inner depending vertical end 44 of each bracket a flat guard-rail 53 is secured and has the same arcuate contour as the rail 52 above, the ends of this guard-rail being directed or turned upwardly, as at 54, to meet or be in close relation to the ends of the rail 52 for a purpose which will be hereinafter explained. The upper inwardly-inclined braces 56 of the several brackets terminate at their upper ends in supports 57 for horizontal pulleys or sheaves 58, which are engaged by the upper portion of the operating-wire, as many of the pulleys or sheaves 58 being used as found necessary to guide the wire with the least possible friction around the post or pole.

At the delivery end of the route and included in the apparatus means are provided for extending the track-wire, and consists of a bar 59, of steel or other suitable metal, extending across and bolted to a post 60. At each end when a carrier is used on each side of the line the track-wire 6 is attached to a common fence or other suitable ratchet 61, which is adapted to tighten the said wire. Held on the post 60 in operative relation to the bar 59 is a horizontally-disposed grooved guide pulley or sheave 62 for carrying the operating-wire 19 around the post 60. By the use of the parts just explained at the terminal of the apparatus the conveyer will be movable into convenient reaching distance by the mail-carrier or postman, and also at this end of the line the track wire or cable may be tightened, as may be found necessary.

Fig. 5 illustrates mechanism for actuating the small operating-wire 19 at the residence or dwelling end of the line, and it consists of a suitable casting 63, secured to a post 64 and supporting shafts 65 and 66, respectively, having fixed on opposite terminals thereof a grooved pulley or sheave 67, which is vertically disposed, and an operating-wheel 68, provided with a crank-handle 69 or analogous device 69. On the extremity

of the shaft 65 opposite that carrying the grooved pulley or sheave 67 a pinion 70 is fixed and meshes with a spur or analogous gear 71, fast on the shaft 66, and by operating the drive or crank wheel 68 and the shaft 66 the shaft 65 is set in motion and the pulley or sheave 67 caused to revolve and correspondingly move the operating-wire 19, which engages the said pulley, and by this means the conveyer may be caused to traverse the track-wire 6 and the rail devices carried by the several posts in opposite directions in accordance with the direction of rotation given to the pulley or sheave 67. The crank-wheel 68 operates as a fly-wheel and need not be used in all constructions of the apparatus, but is particularly advantageous with a long stretch of the line in that it will require less labor or power to move the operating-wire.

The conveyer embodies a carriage 72, having therein deeply-grooved track-wheels 73, which engage the track-wire 6 and the track-rails of the brackets. These track-wheels 73 are inclosed by the carriage 72 and held in perfect alinement. The carriage 72 is preferably formed from a single piece of sheet-steel bent to form an inclosure and having the lower portion thereof turned downwardly and inwardly, as at 72^a, and also flared outwardly to guide the carriage onto the rail 5, in view of the fact that it may be swayed by the wind or motion in traveling back and forth, and when the carriage comes up to or is about to reach the bracket these flaring edges, as at 72^a, guide said carriage to a vertical position and also bring it into place to dispose a pulley 74, embodied in the carriage organization, for accurate engagement with the guide 7. Depending from the center of the inner side of the carriage is an arm 75, having its lower end secured to the upper central portion of a mail receptacle or tube 76, and as a further means of attachment of this receptacle or tube to the carriage divergent connecting-bars 77 are employed, which are attached at their lower ends to the upper part of the receptacle or tube near the opposite extremities of the latter and at their upper ends to the carriage. A slide 78 is movably held between guides 79, secured to the carriage at the inner portion of the latter, said slide serving as a plunger and depending vertically to near the top portion of the receptacle or tube 76 and then deflected horizontally outward, as at 79, and terminating in a vertical member 80, having a stud 81 inserted therethrough and projecting inwardly therefrom and on which the pulley 74 is mounted. Secured on the angular terminal 82 of the depending arm 75, which is attached to the top portion of the mail receptacle or tube 76, is a flat spring 83 of looped construction and having a substantially

bowed form, the horizontal member 79 of
 the plunger extending downwardly into the
 upper central cavity of this spring, as clearly
 shown by Fig. 3, and in continual contact
 5 with the upper part of said spring. The
 spring 83 always tends to force the plunger
 78 and the pulley 74 carried thereby in an
 upward direction, the pulley 74 also provid-
 ing a third track-wheel, which is disposed
 10 below the track-wheels 73 and in vertical
 alinement with the center of the carriage.
 Instead of this spring 83 any other suitable
 form of spring may be used in connection
 with the plunger to normally retract or hold
 15 the latter elevated. By the use of the
 spring 83 the lower track-wheel 74 is caused
 to closely engage the lower guide-rail 8 and
 also causes the track-wheels 73 to be held in
 close contact with the rail 5. The spring 83
 20 and the track-wheels 74 also come promi-
 nently into play in coöperating with the
 curved structures hereinbefore specified, the
 object being in all instances to insure a posi-
 tive contact and engagement of the track-
 25 wheels 73 with the several rails both in the
 straight form of the brackets and in the
 brackets having the curved rails. Secured
 to the top portion of the carriage 72 is a pro-
 pelling-arm 84. (Shown by Fig. 2 in edge
 30 elevation.) This arm is given rigidity by
 projecting it inwardly over the upper portion
 of the carriage. Said propelling-arms after
 attachment to the axles or spindles depend a
 short distance below the latter and then ex-
 35 tend upwardly, as at 86, and terminate in in-
 wardly-projecting horizontal members 87,
 carrying heads 88, to which the lower por-
 tion of the operating-wire 19 is attached, the
 members 87 standing over and projecting
 40 inwardly beyond the upper free vertical ends
 13 of the guards 12, coöperating with the
 guide-pulley 17. The position of the pro-
 pelling-arms 84 as set forth is especially
 effective in rounding curves and operating
 45 in conjunction with the structure illustrated
 by Fig. 7, and particularly the guide-pulleys
 51, held on the bar 47.

The mail receptacle or tube 76 preferably
 has the contour of a cylinder, one end being
 50 fully closed and the other provided with a
 drop-door 89, having a grip or hook 90 for
 operating the same. To the lower portion of
 the center of the end of the receptacle or tube
 at which the door 89 is located a casting 91
 55 is secured and is shaped to receive a corre-
 sponding casting 92, secured to an adjacent
 portion of the door, the two castings being
 pivotally connected, as at 93, to form a hinge.
 The casting 92 has an extension 94, which is
 60 adapted to bear against a part of the casting
 91 to prevent the door or cover 89 from fall-
 ing below a horizontal plane, as indicated by
 dotted lines in Fig. 3. To the center of the
 inner side of the door or cover 89 one end of
 65 a coil-spring 95 is secured, the opposite end

of said spring being attached to the recep-
 tacle or tube and located within the latter.
 The spring 95 operates to close and maintain
 the door or cover in closed position, and when
 the door or cover is open such movement 70
 thereof is against the resistance of the spring.
 The door or cover 89 fits snugly in the end of
 the receptacle or tube 76, and as the spring
 is located interiorly with respect to said re-
 ceptacle it will not as rapidly deteriorate as 75
 it would if fully exposed to the atmosphere.
 Furthermore, the spring 95 by its position
 does not in the least detract from the effi-
 ciency of the receptacle or tube 76 as a hold-
 ing means and is strong enough to maintain 80
 the door or cover 89 in closed position under
 all conditions during its movement or when
 it is desired to have the receptacle or tube
 tightly closed.

In Fig. 10 the guide-pulley 17 is shown in 85
 edge and side elevation on an enlarged scale
 to clearly illustrate the advantages of the
 guards 20, said guards having depending
 semicircular members 96, fitting closely over
 the opposite flanges of the pulley 17 and ter- 90
 minating slightly below or in alinement with
 about the horizontal diameter of the said
 pulley to avoid or obstruct the least tendency
 of the lower portion of the operating-wire
 passing between the opposite portions of the 95
 pulley and the side members of the support
 therefor.

From the foregoing the operation of the
 apparatus will be readily understood. If it
 is desired to convey mail-matter to a road- 100
 way or route traveled by a rural carrier,
 such matter is placed in the receptacle or
 tube 76 and the wire 19 is operated to cause
 the conveyer to move over the track-wire 6
 in the direction desired, and after the recep- 105
 tacle has reached its destination or the point
 of delivery of the mail-matter the actuation
 of the wire 19 is ceased. The rural-delivery
 mail-carrier removes the mail from the re-
 ceptacle or tube 76 and deposits such other 110
 mail-matter which he may have therein for
 the person or persons controlling the appa-
 ratus. At any time desired after the mail is
 placed by the carrier in the receptacle or
 tube the apparatus may be operated in a re- 115
 verse direction to cause the conveyer to
 travel backwardly to a residence of the con-
 trolling person or persons. It is obvious that
 it would require but simple exercise of good
 mechanical judgment to arrange the oper- 120
 ating and track wires on both sides of the
 series of posts and provide for the use of two
 conveyers, the same brackets and curved de-
 vices being used, and under such conditions
 while one conveyer is located at the point of 125
 receipt of mail-matter the other might be
 positioned at the point of delivery of such
 matter.

It will also be understood that changes
 may be adopted in the dimensions and pro- 130

portions of the several parts as may be found necessary to adapt the apparatus for different uses.

Having thus described the invention, what is claimed is—

1. A mail-delivery device, consisting of a track-wire, a support for the same embodying a track having upper and lower guide-pulleys, an endless operating-wire having portions engaging the said guide-pulley, and a conveyer engaging the track-wire and connected to said endless operating-wire.

2. A mail-delivery device, consisting of a track-wire, supports for the latter, an endless operating-wire having parts thereof above and below the track-wire, means on the supports for engaging and directing the endless operating-wire, and a conveyer movably arranged on the track-wire and having a depending mail-receptacle.

3. In a mail-delivery apparatus, the combination of posts having brackets thereon, each bracket having upper and lower direction-pulleys and intermediate post means, a track-wire secured on the intermediate post means of the bracket, an endless operating-wire engaging the upper and lower pulleys, and a conveyer movable on the track-wire and having a depending mail-receptacle.

4. In a mail-delivery apparatus, the combination of supporting devices, brackets on the supporting devices, each bracket having upper and lower adjustable pulley-supports, pulleys mounted in said supports, a post forming a part of the bracket and located outwardly from the vertical plane of the pulleys, a track-wire engaging the posts on the brackets, an endless operating-wire engaging the said pulleys, and a conveyer movably mounted on the track-wire and having a depending mail-receptacle.

5. In a mail-delivery apparatus, the combination of a plurality of posts, brackets mounted on the posts, each bracket having upper and lower direction-pulleys standing outwardly at a distance from the posts and also provided with an upstanding wire-support, a track-wire secured to the upstanding supports of the brackets, an endless operating-wire engaging the pulleys, and a conveyer movably mounted on the track-wire and having a mail-receptacle suspended therefrom.

6. In a mail-delivery apparatus, the combination with a track-wire, an endless operating-wire, and a conveyer on the track-wire having a mail-receptacle suspended therefrom, of a supporting pole or post, and a bracket on the pole or post having a horizontal member with a depending extension terminating in an upwardly-projecting post to which the track-wire is secured, and upper and lower adjustable direction-pulleys for engagement by the endless operating-wire,

the said pulleys being held outwardly at a distance from the pole or post.

7. In a mail-delivery apparatus, the combination of a support, a track-wire held by the support, an endless operating-wire, and a conveyer disposed on the track-wire and having arms connected to the operating-wire and also provided with a suspended mail-receptacle.

8. In a mail-delivery apparatus, the combination of a support, a track-wire held by the support, and a conveyer movably engaging the track-wire and consisting of a carriage provided with upper and lower grooved rollers and a mail-receptacle suspended therefrom, and an operating-wire connected to the upper portion of the carriage.

9. In a mail-delivery apparatus, the combination of a support having brackets thereon at angles to each other, a track-wire, an arcuate track-rail secured to portions of the brackets and also having the track-wire attached thereto, a lower guide-rail, a conveyer disposed on the track-wire and provided with rollers engaging the said wire and also with a lower guide-roller to cooperate with the guide-rail under the arcuate track-rail, the conveyer having a mail-receptacle suspended therefrom, and means connected to the conveyer for propelling the same.

10. In a mail-delivery apparatus, the combination of a support, an arcuate track-rail held by the support, upper and lower direction-pulleys, the lower direction-pulley having guards projecting outwardly therefrom, a track-wire connected to the said rail, a conveyer movably arranged on the track-wire and adapted to pass over the rail, the conveyer having a mail-receptacle suspended therefrom, and an endless operating-wire attached to the conveyer, the upper and lower portions of the said operating-wire cooperating with the said direction-pulleys.

11. In an apparatus of the class set forth, the combination of a supporting-post, a bracket thereon, a track-rail secured to a depending portion of the bracket, a guide-rail held by a part of the bracket below the track-rail, a carriage having upper and lower wheels to engage the said rails and also provided with a mail-receptacle, a track-wire secured to the guide-rail, and an operating-wire connected to the carriage.

12. In an apparatus of the class set forth, the combination with a support, a bracket secured to the support, a track-rail held by the bracket, a guide-rail below the track-rail, a track-wire secured to the track-rail, a carriage having upper grooved wheels to engage the track-wire and track-rail, and a lower vertically-movable wheel to engage the guide-rail, a mail-receptacle connected to the carriage, and operating means for the carriage.

13. In an apparatus of the class set forth, the combination of a support, a bracket on the support carrying a track-rail and a guide-rail below the said track-rail, and upper and lower guide-pulleys, a track-wire secured to the track-rail, an operating-wire having upper and lower portions engaging the said pulleys, and a carriage having a mail-receptacle attached thereto and provided with upper wheels to engage the track-rail and a lower wheel to engage the guide-rail, the lower wheel being vertically movable and spring-controlled, the carriage being connected to the operating-wire.
14. In an apparatus of the class set forth, the combination of a support, a bracket secured thereto and having upper and lower guide-pulleys, the lower guide-pulley being provided with guards thereover and a guide projecting therefrom, an operating-wire engaging the said pulleys, upper and lower rails carried by the bracket, a track wire or cable secured to the upper rail, a carriage having upper and lower wheels engaging the rails and provided with a mail-receptacle, and arms projecting inwardly from the carriage and connected to the lower portion of the operating-wire.
15. In an apparatus of the class set forth, the combination of a support, a bracket held by said support and provided with upper and lower adjustable guide-pulleys, upper and lower rails held by portions of the bracket, a track-wire secured to the upper rail, an operating-wire having upper and lower portions thereof engaging the pulleys, and a carriage provided with upper and lower wheels engaging the rails and also connected to the operating-wire.
16. In an apparatus of the class set forth, the combination of a support, a bracket having an upper adjustable pulley, a lower pulley provided with an arm movable to vary the angle of said lower pulley and also shiftable outwardly and inwardly on a part of the bracket, upper and lower rails held by portions of the bracket, and a carriage provided with upper and lower wheels to engage the rails and also having a mail-receptacle connected thereto, the carriage being attached to the operating-wire.
17. In an apparatus of the class set forth, the combination of a support, a series of brackets secured to the said support at angles to each other, an arcuate track-rail held by the brackets, an arcuate guide-rail also

held by the brackets and located below the track-rail and having its ends deflected upwardly toward the ends of the track-rail, a track-wire attached to the terminals of the track-rail, guide-pulleys held by portions of the brackets, an operating-wire engaging the guide-pulleys, and a carriage having upper and lower wheels to engage the said rail and also provided with a mail-receptacle.

18. In an apparatus of the class set forth, the combination of a support, a series of brackets secured to the support and disposed at angles to each other, an arcuate track-rail engaging portions of the brackets, an arcuate guide-rail secured to portions of the brackets and located below the track-rail, the said guide-rail having the opposite extremities thereof deflected upwardly toward the ends of the track-rail, a track-wire secured to the ends of the track-rail, an arcuate bar horizontally disposed on portions of the brackets at a distance inwardly from the said rails and having the ends thereof downwardly deflected, upper and lower horizontally-disposed guide-pulleys, the lower guide-pulleys being held on the said bar, an operating-wire having the upper and lower portions thereof engaging the guide-pulleys, and a carriage having a mail-receptacle depending therefrom and also provided with upper and lower wheels to engage the rails, the carriage being connected to the operating-wire.

19. In an apparatus of the class set forth, the combination with a plurality of uprights having brackets carrying track-rails, a track-wire secured to the brackets, guide-pulleys held by the brackets, an operating-wire engaging the guide-pulleys, mechanism at one end of the apparatus for actuating the said operating-wire, a support at the opposite end of the apparatus having a cross-bar and a horizontal pulley thereon, the track-wire being secured at its ends to the opposite extremities of the cross-bar, and a carriage having wheels to engage the track-rails and track-wire and also provided with means for connection to the operating-wire, the said carriage also having a mail-receptacle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES R. HARRIS.

Witnesses:

CHAS. L. HARRIS,
WM. WELSH.