

J. T. JEFFRIES & R. L. LYNCH.

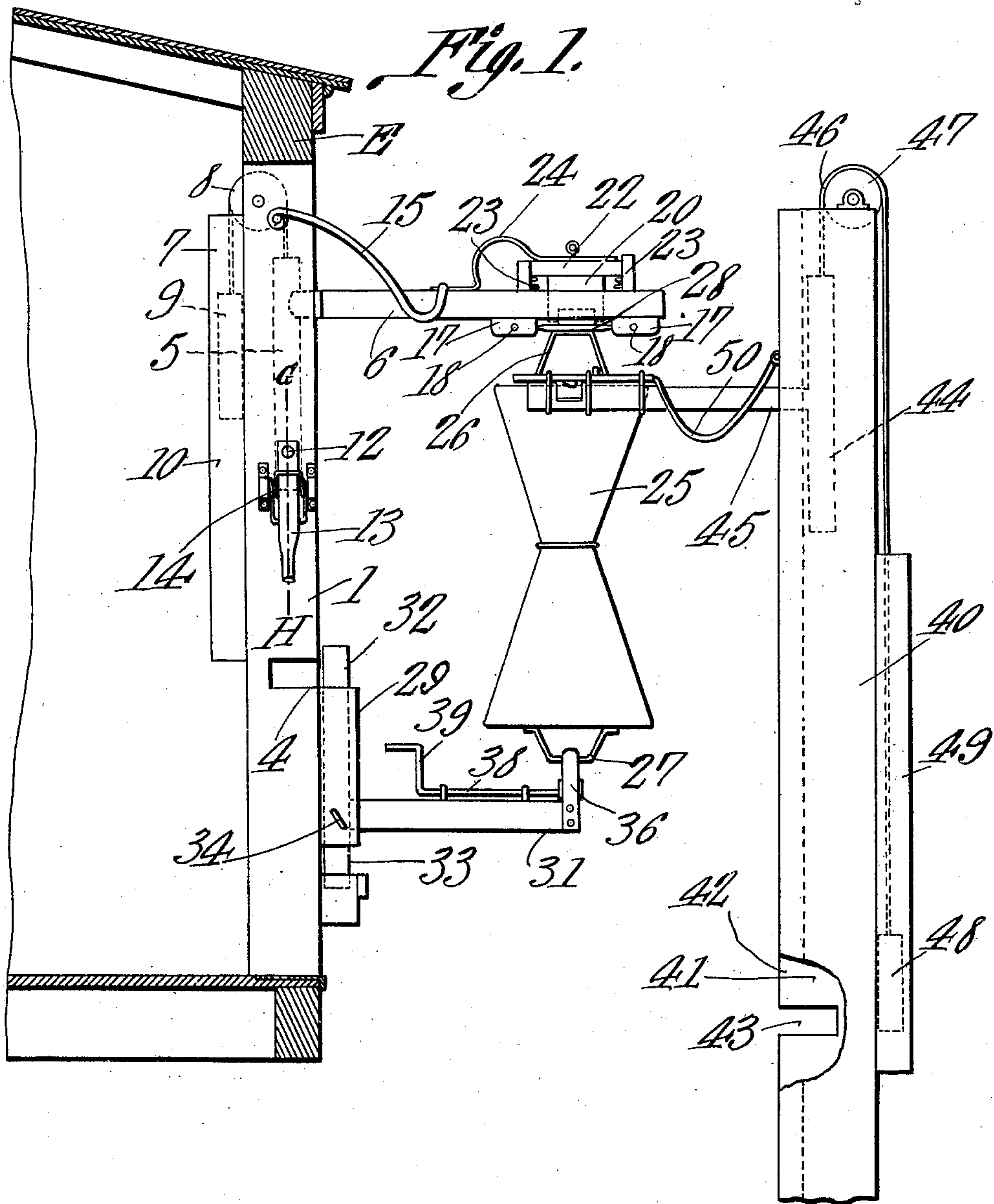
# APPARATUS FOR DELIVERING AND RECEIVING MAIL.

APPLICATION FILED JULY 25, 1910.

**978,894.**

Patented Dec. 20, 1910.

2 SHEETS—SHEET 1.



*John T. Jeffries*  
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## Inventors

## Witnesses

by

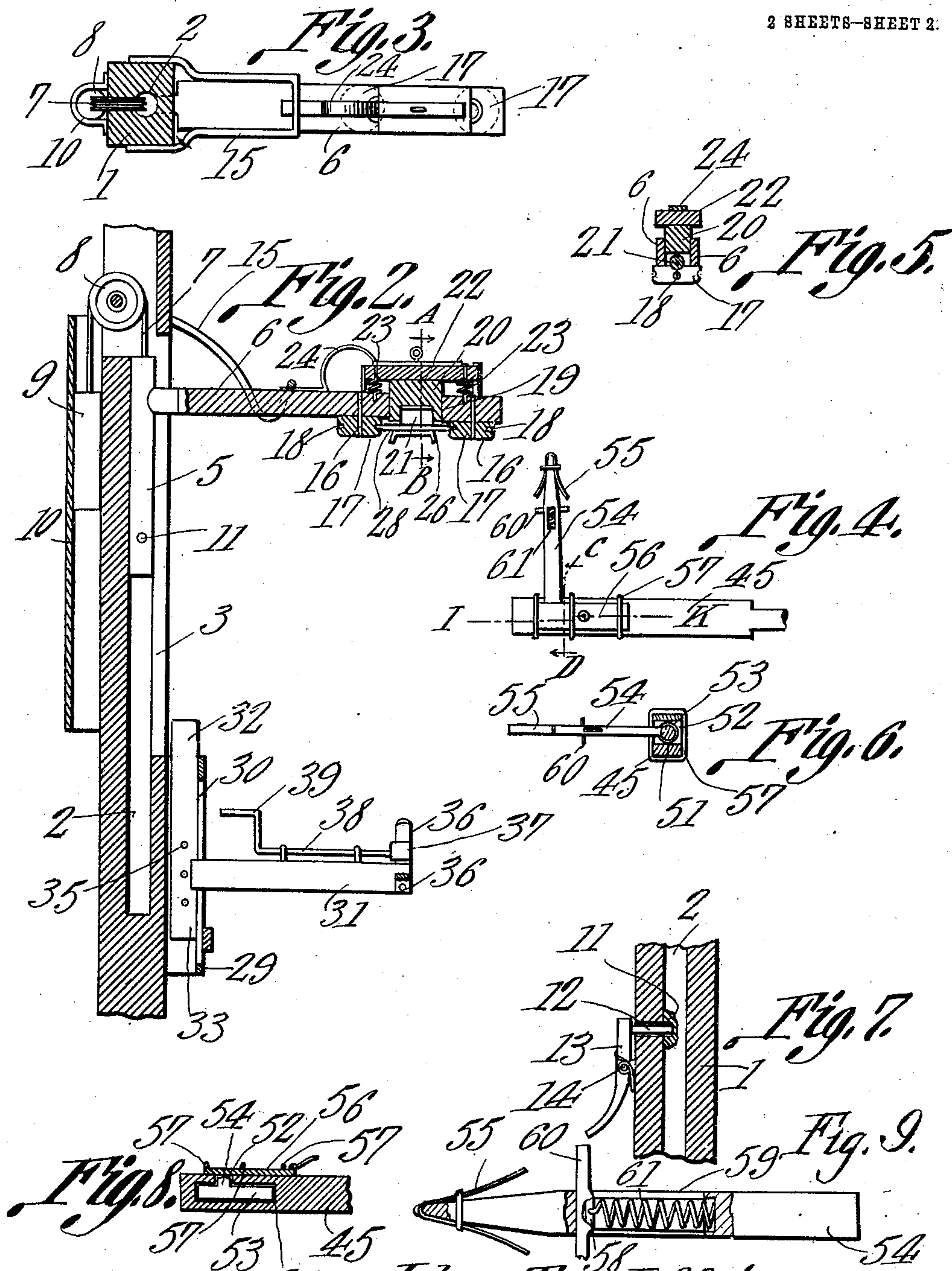
## Attorneys

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# UNITED STATES PATENT OFFICE.

JOHN THOMAS JEFFRIES AND ROBERT LEE LYNCH, OF CAMPBELLSBURG, KENTUCKY.

APPARATUS FOR DELIVERING AND RECEIVING MAIL.

978,894.

Specification of Letters Patent.

Patented Dec. 20, 1910.

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*To all whom it may concern:*

Be it known that we, JOHN THOMAS JEFFRIES and ROBERT LEE LYNCH, citizens of the United States, residing at Campbellsburg, in the county of Henry, State of Kentucky, have invented a new and useful Apparatus for Delivering and Receiving Mail, of which the following is a specification.

This invention relates to apparatus for effecting the interchange of mail between stations and moving cars, one of the objects of the invention being to provide novel means for holding a mail pouch in position to be properly delivered, the connection between the pouch and its support being such as to readily disengage the pouch while the exchange is being effected.

A further object is to provide mechanism of this character which can be readily manipulated and will not easily get out of order.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is an elevation of the apparatus, a portion of the receiving device being broken away. Fig. 2 is a vertical longitudinal section through the delivering device, the lower arm thereof being shown in elevation. Fig. 3 is a plan view of the parts shown in Fig. 1. Fig. 4 is a plan view of the arm of the receiving crane. Fig. 5 is a section on line A—B Fig. 2. Fig. 6 is a section on line C—D Fig. 4. Fig. 7 is a section on line G—H Fig. 1. Fig. 8 is a section on line I—K Fig. 4. Fig. 9 is a view partly in plan and partly in section of the pouch-engaging arm.

Referring to the figures by characters of reference 1 designates a post constituting the upright portion of the delivering crane, this post, if desired, constituting one of the jambs of the door of the car E. This upright has a longitudinal passage or bore 2 therein and a longitudinally extending slot 3 opens into this passage and is formed in the outer face of the upright. The slot 2 is provided, at its lower end, with an extension 4 projecting into one side of the upright portion 1.

A slide 5 is mounted within the passage 2

and is preferably cylindrical so as to be capable of rotation therein, this slide being provided with a radial arm 6 projecting through the slot 3 and adapted, when the arm is brought to the lower end, to swing into the extension 4 and across the door opening. A cord 7 is secured to the upper end of the slide and is mounted on a sheave 8 journaled within the upper portion of the upright 1, this cord being secured to a counter-balance 9 which is slidably mounted within a housing 10 secured to the inner face of the upright. A recess 11 is formed within the slide, and is adapted, when said slide reaches its uppermost position, to receive a locking stud 12 formed at one end of a lever 13 which is fulcrumed upon one side of the upright 1 and is held normally in a predetermined position by means of a spring 14.

A curved loop 15 straddles and is pivotally connected to the upright portion 1 and is located in the path of the arm 6, this loop being adapted to embrace the arm when it is raised to its highest point and thus reinforce it so that it will be better able to stand transverse strains.

Studs 16 extend downwardly from the outer end portion of the arm 6 and have wheels 17 mounted upon the lower end portions thereof, each of these wheels being formed with a series of recesses 18 in the periphery thereof. An opening 19 extends through the arm at a point between the wheels 17 and has a block 20 slidably mounted within it, there being a roller 21 within the lower portion of the block while a backing strip 22 contacts with the upper end of said block and is held to the arm 6 by means of springs 23. If desired an additional spring 24 may be secured to the arm 6 and arranged to bear downwardly upon the strip 22.

The pouch 25 adapted to be used in connection with the apparatus has a loop 26 at its upper end and another loop 27 at its lower end, the loop 26 being provided with a cross bar 28, the ends of which are rounded and adapted to project into recesses 18 in the two wheels 17, as shown in Fig. 2.

A tubular guide-way 29 is arranged longitudinally upon the lower portion of the upright 1 and below the slot 3. This guide has a longitudinal slot 30 through which extends an arm 31 provided, at one end, with



a slide 32 adapted to slide and rotate within the guide 29. Slot 30 has an extension 33 at its lower end into which the arm 31 is adapted to move after it reaches the lower end of the slot 30, thus permitting the said arm to swing across the door opening. A locking pin 34 may be employed for the purpose of securing the slide 32 at a desired elevation, there being a suitable number of recesses 35 within the slide, any one of which being adapted to receive the pin 34.

Secured to the outer end of the arm 31 are spring clip members 36 adapted to grip the loop 27 heretofore referred to.

A spreading device 37 is interposed between the clip members 36 and secured at one end of a rod 38 mounted for rotation on the arm 31, there being a crank 39 at the inner end of said rod and by means of which the spreading device 37 can be rotated so as to shift the clip members 36 away from each other.

The receiving crane adapted to be used in connection with the delivering crane, consists of a post or upright 40 having a longitudinal passage or recess 41 in one face thereof and into which opens a slot 42 extending longitudinally of the post and provided, at its lower end, with an extension 43 projecting into one side of the post. A slide 44, similar to the slide 5, is mounted to slide and rotate within the slot 42 and has an arm 45 extending from it and through the slot. A cord 46 is secured to the slide and extends over a sheave 47 mounted on the post 40, this cord being attached to a counter-balance 48 mounted to slide within a guide-way 49 secured to the post.

Arm 45 is adapted, when in its uppermost position, to be engaged by a curved bracing loop 50 which is pivotally connected to the post or upright 40 and is adapted to embrace and hold the arm 45 so that it may better resist any transverse strain to which it may be subjected.

A recess 51 is formed longitudinally within the top of the arm 45 and is intersected by a cross groove 52. A rod 53 is mounted for rotation within the groove 51 and has an engaging arm 54 integral therewith and extending radially therefrom, said arm being provided at its free end with spring retaining devices 55 diverging in the direction of the arm 45. A slide 56 is mounted on the arm 45 and within guide straps 57, this slide being adapted to extend across the groove 52 and thus hold the arm 54 extended from either side of the arm 45.

It is to be understood that a delivering crane such as has been described is to be located at the station and adjacent the receiving crane, and, if desired, a receiving crane such as has been described, may be located upon the car, one of the cranes being preferably arranged upon or constitut-

ing an integral part of one door jamb, while the other crane can bear the same relation to the opposite side of the door.

When it is desired to deliver a mail pouch from a car to a station, the two arms 6 and 31, which are normally located within the slot extensions 4 and 33 respectively, are swung away from the door opening so as to extend laterally from the side of the car. The upper loop 26 of the mail pouch 25 is then placed with the ends of its handle or bar 28 seated within recesses in the two wheels 17, the roller 21 being so disposed as to bear downwardly on this bar 28 and hold it against accidental displacement. The upper face of the bar is to be flat, or, if desired, can be slightly concave so as to form an efficient seat for the roller. After the pouch has been attached to the upper arm 6 in the manner described, said arm can be pushed upwardly until the recess 11 assumes a position opposite the stud 12 whereupon said stud will spring into the recess and lock the slide 5 and arm 6 in raised position, the arm being engaged by the loop 15. Arm 31 is then elevated and by spreading apart the clip members 36, the loop 27 can be caused to assume a position between them after which the clip members may be released so as to spring into engagement with the loop. While these clip members are being placed in engagement with the loop 27, the arm 31 is preferably locked by means of the pin 34. After the parts have been placed in engagement, however, said pin can be removed and the pouch 25 will therefore be held taut between the two arms 6 and 31. The crane at the station where the pouch is to be delivered, has its arm 45 extended toward the track and with the arm 54 pointed in the direction of the approaching car. The elevation of this arm is such that, when the car passes the crane, said arm will enter the upper loop 26 and pull it so as to disengage the bar or handle 28 from the wheel 17, these wheels rotating as the bar 28 leaves them. At the same time the lower loop 27 is pulled from between the clip members and the pouch is thus left suspended upon the arm 54, the springs 55 serving to prevent it from becoming displaced. After the bag or pouch has been delivered the arm 6 can be drawn downwardly until it reaches the lower end of the slot in the upright portion 1 and can be thus swung into the slot extension 4. During the completion of the downward movement of arm 6 it will move against the upper projecting end of the slide 32 and force it downwardly thus bringing the arm 31 at the lower end of its slot and in position to swing into the slot extension 33 and across the door opening. The arm 45 on the stationary crane can be lowered in a similar manner and swung away from the track



after said arm reaches a position at one side of the slot extension 43.

In order that the mail pouch may be properly cushioned when engaged by the arm 54, a block 58 is slidably mounted within a slot 59 formed longitudinally within the arm 54, this slot having oppositely extending stop pins 60 projecting beyond the sides of the arm. A spring 61 is arranged within the slot 59 and it serves to retard the backward movement of the block 58 and its arms 60 when said arms are struck by the pouch engaged by the arm 54.

It is to be understood of course that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. Apparatus of the class described including a vertically slidable counter-balanced arm, means thereon for engaging and holding a mail pouch, and a hinged reinforcing member in the path of and adapted to engage and straddle the arm when said arm is elevated.

2. Apparatus of the class described including a longitudinally slotted upstanding member, an arm mounted for sliding and swinging movement relative to said member, a counter-balance connected to the arm, means upon the arm for engaging and supporting a pouch, and a reinforcing member hingedly connected to said upstanding portion and adapted to straddle and engage the arm when said arm is elevated.

3. Apparatus of the class described including a supporting structure, an arm out-standing therefrom, revoluble pouch supporting elements upon the arm and spring pressed means upon the arm for frictionally engaging that portion of the pouch interposed between said elements.

4. Apparatus of the class described including an arm, revoluble pouch supporting elements mounted thereon, a pouch, a bar thereon having its terminals removably engaging said elements, and spring pressed means upon the arm for frictionally engaging said bar to hold it against accidental displacement relative to said supporting element.

5. Apparatus of the class described including an arm, wheels mounted for rotation

thereon, said wheels having peripheral recesses, a pouch, a bar secured thereto, and having its ends detachably seated in recesses within the wheels, a spring pressed block movably mounted on the arm, and an anti-friction device carried by the block and adapted to engage the bar while supported by the wheels.

6. Apparatus of the class described including a longitudinally slotted supporting structure, upper and lower arms slidably and revolubly mounted therein, means upon the upper arm for detachably engaging and supporting a pouch, a counter-balance for said arm, spring means upon the lower arm for detachably engaging a pouch, and means upon said lower arm for disengaging said spring means from the pouch.

7. Apparatus of the class described including a receiving crane, said crane consisting of an upstanding slotted portion, an arm slidably mounted therein, a pouch engaging arm mounted for swinging movement relative to said arm, and means upon the counter-balanced arm for holding the pouch engaging arm against swinging movement.

8. In apparatus of the class described a receiving crane including an upstanding portion, a counter-balanced arm movably mounted thereon, said arm having a recess, a pouch engaging element mounted for swinging movement within the recess and extending beyond either side of the arm, and means upon said arm for holding said device against swinging movement.

9. Apparatus of the class described including an upstanding longitudinally slotted structure, an arm mounted for sliding and swinging movement relative to said structure, a counter-balance for said arm, said arm having a groove therein, a pouch engaging element mounted for swinging movement within the grooved arm, means upon the arm for securing said element against movement, and resilient retaining devices upon the pouch engaging element.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JOHN THOMAS JEFFRIES.

ROBERT LEE LYNCH.

Witnesses:

W. O. OREM,

V. O. OREM.