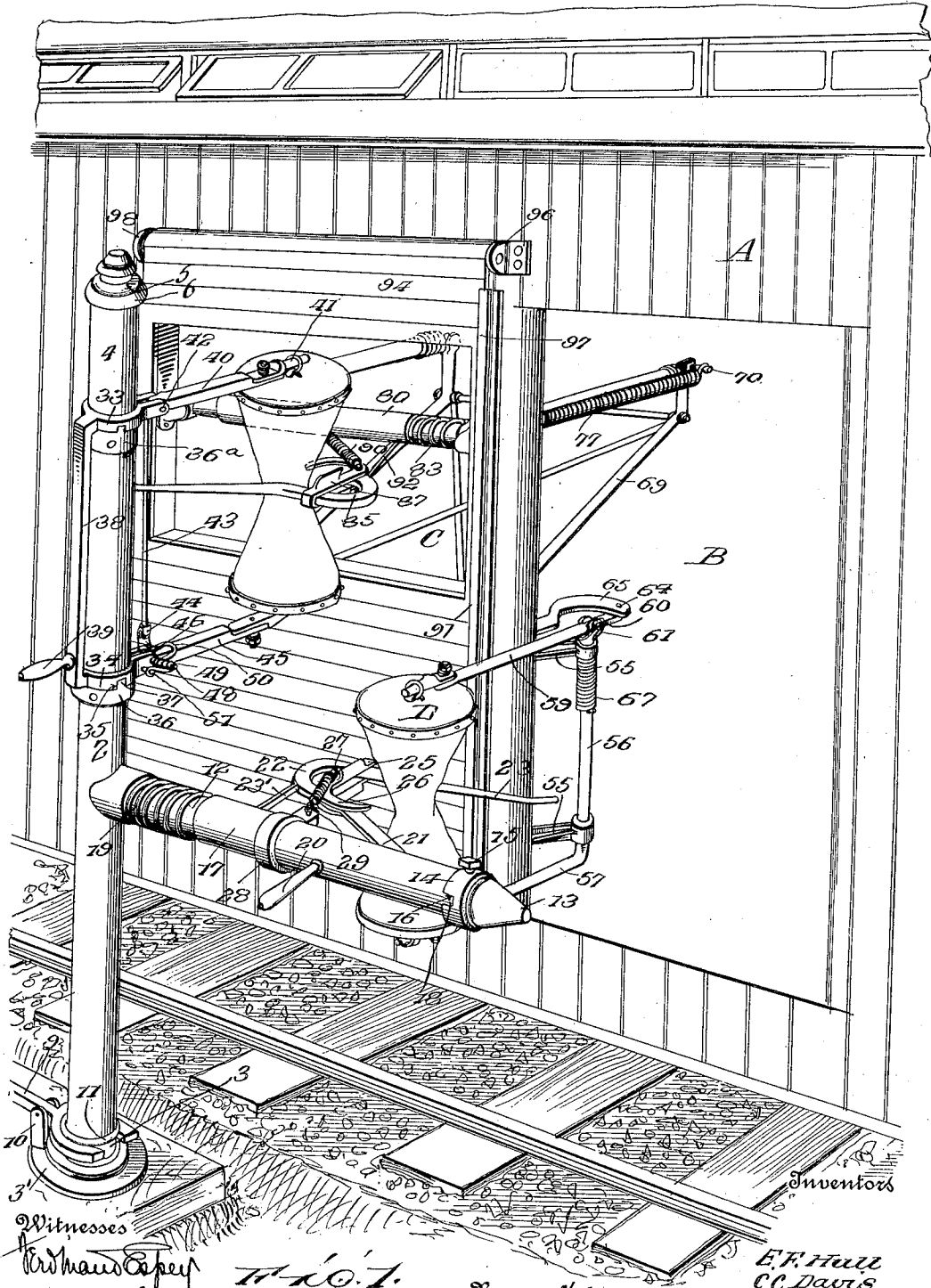


E. F. HULL & C. C. DAVIS.
MAIL POUCH CATCHING AND DELIVERING MECHANISM.
APPLICATION FILED APR. 19, 1912.

1,057,553.

Patented Apr. 1, 1913.
3 SHEETS—SHEET 1.



Witnesses
Richard A. Peep
for Amira

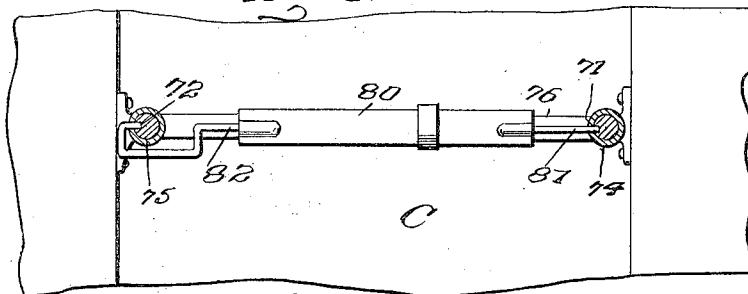
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Wansley,

Attorneys.

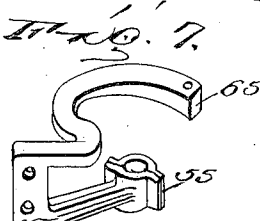
E. F. Hull
C. C. Davis

1,057,553.

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Witnesses
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By

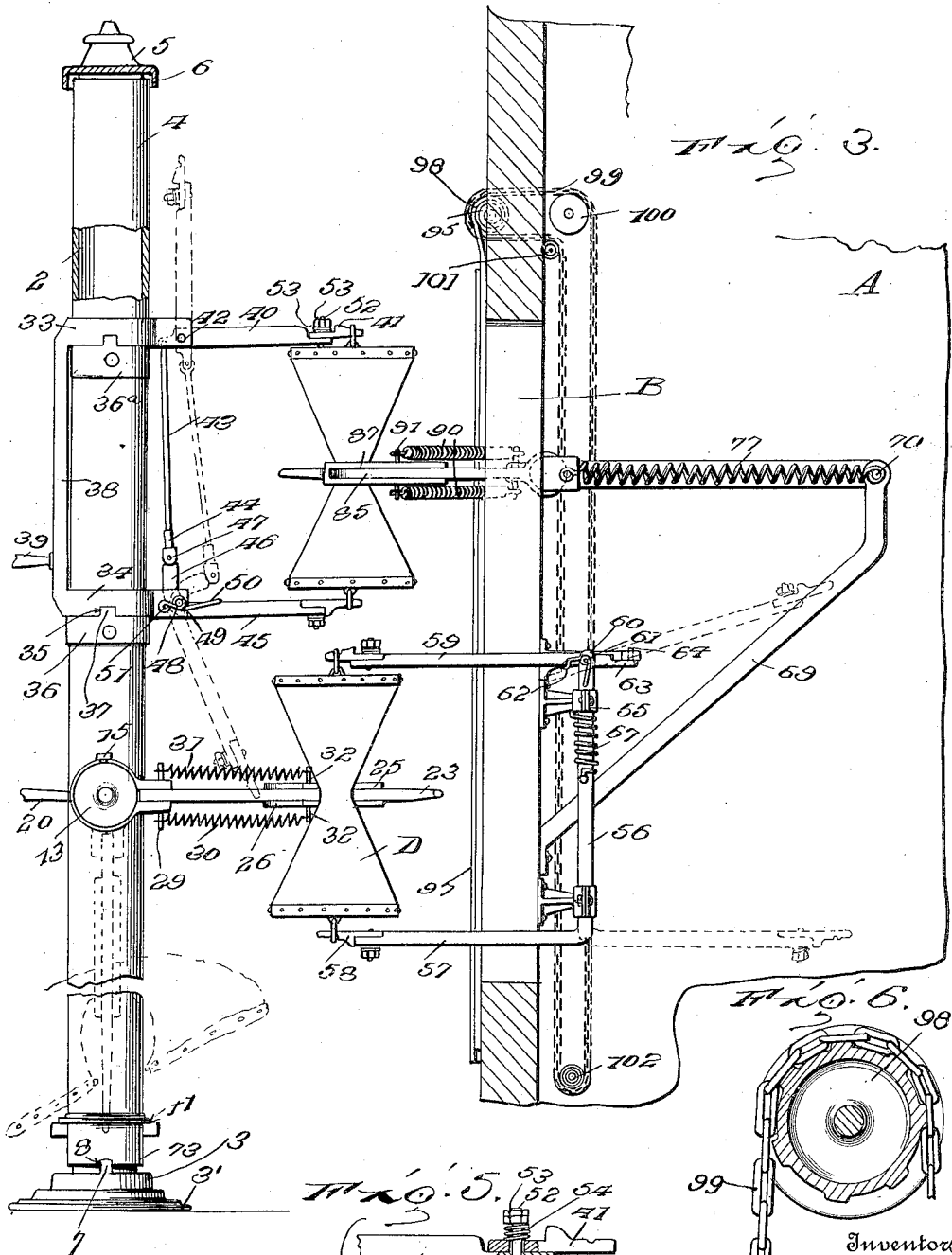
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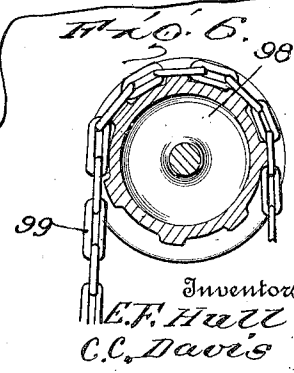
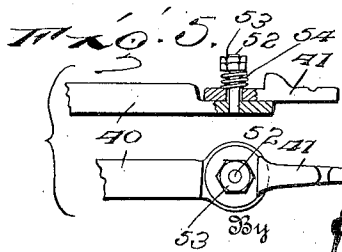
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3 SHEETS—SHEET 3.



Witnesses
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UNITED STATES PATENT OFFICE.

ENNIS F. HULL, OF SURVEYOR, AND CHARLES C. DAVIS, OF PRINCETON, WEST VIRGINIA, ASSIGNORS TO HULL-DAVIS CORPORATION, OF CHARLESTON, WEST VIRGINIA, A CORPORATION.

MAIL-POUCH CATCHING AND DELIVERING MECHANISM.

1,057,553.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed April 19, 1912. Serial No. 691,893.

To all whom it may concern:

Be it known that we, ENNIS F. HULL and CHARLES C. DAVIS, citizens of the United States, residing at Surveyor and Princeton, respectively, in the counties of Raleigh and Mercer, respectively, and State of West Virginia, have invented certain new and useful Improvements in Mail-Pouch Catching and Delivering Mechanisms, of which the following is a specification.

Our invention relates to apparatus for catching and delivering mail pouches from and to moving trains, and particularly to certain improvements in that apparatus shown and described in a prior patent, granted to E. F. Hull, No. 884,662 of April 14, 1908.

The primary object of our present invention is to improve the mechanism mounted upon the car whereby the mail pouches are caught and delivered, and to so construct this mechanism that it is mounted within the car and operated from the interior of the car, thus avoiding the necessity of the mail clerk leaning out of the door opening to arrange the pouch, and providing for the proper arrangement of the pouch at any time prior to the arrival of the train at the station at which the pouch is to be delivered.

A further object in this connection is to provide means whereby the station mail pouch catching and delivering apparatus may be located some distance from the track so as to increase the distance between the car and the pouch supporting mechanism of the station apparatus and thus eliminate all danger of accident such as is caused by an employee of the road leaning out of the car and being struck by the pouch supporting mechanism. These accidents are very common and hence it is of vital importance that the pouch supporting and delivering mechanism at the station should be located as far as possible away from the track.

Another object is to provide means whereby the pouch after it is caught from the station apparatus may be positively retracted into the car, and while being retracted, supported in such position that it can not be detached from the catching devices.

A further object is to provide means whereby the bag, both on the station and

the car delivering and catching apparatus may be locked in place and prevented from any danger of accidental displacement until caught or delivered.

A further object is to provide means whereby the pouch may be strained into place and thus held firmly and securely until detached.

A still further object is to provide pedally operated means whereby the standard supporting the station catching and delivering mechanism may be readily removed from a locked engagement to permit the delivering and catching mechanism to be rotated into such position as will permit it to be used for a train coming in the opposite direction on a single line track, or permit it to be used for a train on a parallel track to the track with which it was first used.

Again a further object is to provide a catching and delivering apparatus so arranged upon a car that it may be projected through a window or door opening, and to provide a sliding shutter easily operated and so arranged that the window opening through which the bag is projected may be closed when the bag delivering apparatus is not in use.

Other objects will appear in the course of the following description.

Our invention is illustrated in the accompanying drawings wherein:

Figure 1 is a perspective view of a portion of a mail car with the catching and delivering apparatus thereon, this view also showing in perspective the standard at the station whereby the pouches are caught and delivered from and to the car. Fig. 2 is a plan view, partly sectional, of the apparatus shown in Fig. 1. Fig. 3 is a side elevation, partly sectional, of the apparatus shown in Figs. 1 and 2 and showing in dotted lines the position taken by the bag supporting arms of the station apparatus after the bag has been caught from the train. Fig. 4 is a detail view partly in section of the means for locking the bag delivering apparatus on the train, this section being taken on the line 4-4 of Fig. 2. Fig. 5 is a detail view partly broken away of one of the bag-supporting arms and the bag-engaging fingers pivoted thereto. Fig. 6 is a detail view of

the sprocket wheel carrying the shutter actuating chain. Fig. 7 is a detail perspective view of the member 65.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to these drawings, it will be seen that 2 designates a tubular standard mounted upon any suitable base 3. Surrounding this tubular member is a tubular member 4 which forms part of the standard and extends up above the tubular member 2. This member 4 is closed at its upper end by means of a cap 5 having a downwardly depending water-shed 6, and the tubular member 4 is rotatable upon the tubular member 2. The base 3 is formed with upwardly projecting teeth 7 and the lower end of the tubular member 4 has oppositely disposed notches 8 adapted to engage with these teeth 7 so as to hold the tubular member 4 in any desired rotated position.

For the purpose of lifting the tubular member 4 out of engagement with these notches holding it supported so that it may be easily rotated, we provide the foot lever or treadle 9 which is pivotally mounted in brackets 10 projecting upward from the base and which is forked at its free end so as to engage around the base of the tubular member 4 and beneath a flange 11 formed on the base. It will be obvious that by depressing the pedal end of the lever 9, the tubular member 4 will be raised, and that when so raised, it will be rotated, the forked end of the lever acting as a bearing. The purpose of rotating the member 4 will be later described.

Projecting from the standard, and specifically from the tubular member 4 which forms part of the standard, is a tubular arm 12 closed at its free end by means of a cap or plug 13 and carrying a collar 14 which is rotatably shiftable, this collar being held in place by a set screw 15 or in any other suitable manner. This collar is provided at opposite points in its diameter with the notches 16. Surrounding the arm 12 and rotatable thereon is a sleeve 17 which is longitudinally movable with relation to the arm and which is also rotatable with relation thereto. This sleeve is provided at its forward end with oppositely disposed teeth 18 coacting with the notches 16 in the collar 14. Disposed between the inner end of the sleeve 17 and the relatively enlarged base of the arm 12 is a coil spring 19 which expands against the inner end of the sleeve 17 and forces the sleeve outward so that its teeth engage with the notches in the collar 14, thus holding the sleeve from any rotation. The sleeve may be provided with a handle 20 whereby it may be readily rotated by hand and longitudinally shifted.

Mounted upon the sleeve 17 is a rearwardly extending bracket 21 as illustrated most clearly in Fig. 2, this bracket at its rear end being outwardly curved or bowed as at 22 and then forwardly extended as at 23 to form a catching arm, this catching arm having a divergent relation with regard to the sleeve 17. The bowed portion 22 is connected to the arm 17 by means of a brace 23 which supports the arm pouch catching device against shock which would tend to bend the arm 21 inward.

Pivotally mounted upon the arm 21 at the beginning of the bowed portion 22 is a pouch latch designated 25. This latch comprises curved fingers 26 spaced from each other so as to embrace the arm 21, these fingers being pivoted to the arm 21 at 27. The fingers 26 are integral with each other.

Adjustably mounted upon the arm 17 is a collar 28, this collar being split and having a bolt 29 passing through the opposed projecting lugs of the collar. This bolt constitutes the means whereby the collar may be clamped upon the arm in any adjusted position thereon and also provides for attaching the oppositely disposed parallel springs 30 and 31 which are connected at their inner ends to the bolt 29 and at their outer end to pins 32 which project from the opposite arms of the latch 25. It will be seen that the point of pivotal attachment of the springs 30 and 31 is to one side of the pivotal point of the latch 25, and that hence when the latch is in either the position shown in dotted lines in Fig. 2, or in full lines in Fig. 2, the springs 30 and 31 act to hold the latch from movement, and further that when the latch is moved from its full line position so as to carry the springs beyond the pivotal center 27, the springs will act to retract the latch and shift it to the position shown in dotted lines in Fig. 2, which is the bag-engaging position.

For the purpose of supporting a bag upon the post or standard, we provide the upper and lower collars 33 and 34, the lower collar being formed with the oppositely disposed notches 35. This lower collar rests upon a flange or enlargement 36 having the upwardly projecting teeth 37 engaging with these notches while the upper collar 33 rests upon a flange or enlargement 36^a, these collars being held in place by set screws. The upper and lower collars are held to each other for vertical movement or rotative movement by means of a connecting bar 38 having the projecting handle 39. Both of the collars 33 and 34 are split and held in proper engagement with the sleeve 4 by means of clamp bolts.

Pivotally mounted between the ears of the upper collar 33 is a supporting arm 40

which at its outer end is provided with a finger 41 pivoted for movement in a horizontal plane when the arm is in the position shown in Fig. 1, this pivotal connection being later described. The inner end of the arm 40 projects beyond the pivot 42 of the arm and is pivotally connected to a connecting rod 43, the lower end of which has screw threaded engagement with a knuckle 44. Pivoted between the projecting ears of the lower collar 34 is an arm 45 corresponding in shape to the arm 40 but having an angular inner end 46. The extremity of this inner end is reduced and received between the ears of the knuckle 44 and held thereto by means of a pivot pin 47. The pivot 48 of the arm 45 projects out laterally beyond the ears extending from the collar and surrounding these extending portions of the pivot pin are the spring coils 49, the inner ends of the coils being connected by means of the integral extension or finger 50 which extends over the upper edge of the arm 45, the rear ends of the wire forming the coils being carried back and being coiled over pins 51 projecting from the collar ears. It will be seen that the coils 49 and the finger 50 constitute a spring whereby the arm 45 is constantly urged downward and that a downward movement of the arm 45 to the position shown in dotted lines in Fig. 3 will cause a raising of the arm 40, and that a movement of either of the arms 40 or 45 to a horizontal position will cause a like movement of the arm connected therewith.

Each of the arms 40 and 45 is provided with a projecting finger 41, the fingers being precisely the same for both arms. Each of these fingers is pivotally mounted at its rear end upon a reduced extremity of the corresponding arm, and passing through this rear end is a pivot bolt 52. A thumb nut 53 engages this bolt, and disposed between the thumb nut and the face of the finger 41 is a spring 54. This spring causes a frictional engagement between the finger 41 and the flattened reduced portion of the arm 40 which tends to maintain the finger 41 in proper position relative to the arm, and this frictional engagement may be increased or diminished by rotating the nut 53 in one direction or the other.

The apparatus disposed upon the car comprises a pouch-catching mechanism and a pouch-delivering mechanism, the pouch-delivering mechanism being mounted within a doorway or like opening B of the car A, while the pouch-catching mechanism is mounted in an opening C disposed alongside of the door opening B and preferably extending longitudinally of the car. Means are provided whereby the opening C may be closed whenever desired. These means will be later described. The pouch-delivering mechanism is the same in certain re-

spects as the pouch-delivering mechanism mounted upon the standard 4 and comprises upper and lower pivoted arms having fingers at their ends which engage the pouch, these arms being urged away from each other so as to strain the pouch and hold it in proper position to be caught.

In detail, this construction is as follows: Mounted upon the interior of the wall of the car adjacent to the open door opening, are the brackets 55, these brackets having bearing collars at their ends through which passes the vertically disposed shaft 56. The lower end of this shaft is bent as at 57 to a position at right angles to the body of the shaft, and the extremity of this angularly bent arm 57 is provided with a pivoted finger 58 which is precisely the same as the pivoted finger 41 previously described with relation to the arms 40 and 45. This finger is frictionally engaged with the arm 57 by means of a set nut and spring as before stated. The upper end of the shaft 56 is bifurcated or forked, and pivoted within this bifurcated extremity is the upper arm 59. This upper arm 59 projects rearward beyond the pivot bolt 60 which pivots the arm 59 to the shaft 56, and disposed upon this pivot bolt 60 are the opposite coils 61 of a spring, this spring being continued beneath the arm 59 as at 62 and acting to urge the arm 59 upward or in a position slightly above the horizontal. The rear projecting end of the arm 59 is flattened as at 63, and this flattened portion carries upon it the upwardly projecting pin 64. Mounted upon the inside face of the car wall just above the upper end of the shaft 56 is a keeper 65, this keeper being semicircular in form and arcuate, the arc having a radius equal to the distance between the extremity of the arm 63 and the pivotal axis of shaft 56 so that the pin 64 will travel beneath the face of the keeper 65. This keeper 65 is either bent downward or has its lower face so formed that as the rear end 63 of the arm 59 travels from the base of the keeper to the extremity thereof, the keeper will act to depress the inner end of the arm 59, thus forcing up the outer end of the arm until such time as the pin 64 reaches a socket 66 formed in the extremity of the keeper. As soon as the pin reaches this socket, the tension of the pouch which in this position is strained between the arms will cause the pin to enter the socket and will lock the arms 59 and 57 in their projected positions. It will be seen that the pouch designated D in all cases will act to hold these arms 57 and 59 in a horizontal position but that the minute that the pouch D is withdrawn from engagement with the arms 57 and 59, the spring 61 will throw the arm 59 upward, thus moving the rear end of the arm 59 downward and releasing the pin 64 from engagement

with the socket 66 in the keeper and permitting the arms to be immediately returned into the car. For the purpose of returning these arms into the car, we surround the shaft 56 with a coiled spring 67 which at its lower end is attached to the shaft 56 and at its upper end is attached to the upper bracket 55. It will thus be seen that we have provided locking mechanism whereby the pouch-carrying arms are locked in a projected position, and we have provided means whereby as soon as the pouch is withdrawn from engagement with these arms 57 and 59, the arms will be automatically returned into the car.

The pouch-delivering mechanism comprises inwardly projecting, parallel guide rods designated 68. The outer ends of these rods are bent and attached to the jambs of the opening C, as shown in Fig. 2. The outer ends of these rods are reduced and engaged by the bifurcated ends of upwardly projecting brackets 69. By bifurcating the ends of the brackets and connecting the rods 68 to the brackets by means of removable pins 70, it is possible to easily disassemble or assemble the several parts. The sides of the rods 68 are provided with notches 71 and 72, as shown more particularly in Fig. 4, and sliding upon the rod 68 are the oppositely disposed sleeves 74 and 75, these sleeves being connected by a transversely extending rod 76 as shown in Figs. 2 and 4. Connected to these sleeves in any suitable manner are the coil springs 77 which are attached to pins 78 projecting laterally from the upper ends of the brackets 69, these pins being preferably the pins 70 which connect the brackets 69 to the rod 68. It will be seen that these springs 77 act to retract the sleeves 74 and 75 and the bar 76 to the position shown in dotted lines in Fig. 2.

Mounted upon the transversely extending bar 76 is a sleeve 80, this sleeve being either splined or otherwise mounted upon the rod 76 so that it will shift longitudinally therealong but will not rotate. This sleeve carries upon it at opposite ends the detents 81 and 82. The detent 81 engages with the notch 71 in one of the rods 68, while the detent 82 is bent so as to extend beneath or above the other rod 68 and the sleeve 75 and to engage, through the sleeve, with the notch 72 formed in the outer face of the rod 68. It will thus be seen that a movement of the sleeve 80 in one direction will disengage the detents 81 and 82 from the notches 71 and 72 respectively, and that a movement in the other direction will engage these detents with the notches. A coiled expansive spring 83 is disposed between the sleeve 75 and the adjacent end of the sleeve 80 and acts to urge the sleeve 80 in a direction to hold the detents 81 and 82 in engagement with their respective notches but will

permit the sleeve to shift in the opposite direction to disengage said detents.

Projecting in an angular direction from the sleeve 80 is an arm 84, this arm corresponding to the arm 81 which projects from the member 17 at the station platform. This arm 84 at its end is curved as at 85 so as to embrace a mail pouch and is then extended as at 86 to form a finger diverging from the plane of the side of the car but extending more or less parallel thereto. Pivotaly mounted upon the curved portion 85 of the arm 84 is the latch 87 which is constructed in precisely the same manner as the latch 25 previously described, this latch being formed with parallel connected portions embracing the curved part of the arm 84 and being pivoted thereto as at 88.

An adjustable collar 89 is mounted upon the sleeve 80 and connecting this collar with the latch 87 are the springs 90, these springs being connected to the latch 89 by means of the pin 91. It will be seen that these springs operate in precisely the same manner as the springs 30 and 31 previously described and act to hold the latch either in position out of action or in position to clamp the mail pouch securely in place. Further it will be seen that both the latches 25 and 87 will snap into their locking positions by reason of the fact that the point of attachment 91 of the springs to the latches is to one side of the pivotal point of the latches. A brace 92 projects at right angles from the sleeve 80 and is attached to the arm 84 at the curved portion 85, this brace being of such width as not to impede the proper movement of the latch 87. The springs 77 as before stated, will act to retract the bar 76 into the position shown in dotted lines in Fig. 2, and in order to lessen any shock, we provide the cushioning springs 93 disposed around the rear ends of the guide rods 68 and with which the sleeves 74 and 75 will contact as the arm is drawn backward.

It will be seen that in the position shown in dotted lines in Fig. 3, the finger 86 will be entirely retracted within the car and will not project beyond the face of the side of the car, thus permitting a shutter to be used for closing the opening C. While we do not wish to be limited to any particular form of shutter or shutter-actuating mechanism, we have illustrated for this purpose a shutter made up of linked sections and designated 94. These sections wind upon a roller 95 journaled upon the outside of the car in brackets 96. The slats forming the sections of the shutter are guided by means of laterally disposed guides 97 extending vertically down on each side of the opening C.

For the purpose of actuating the shutter 94, we provide the shaft upon which the roller 95 is mounted with a wheel 98 over which passes a chain 99. This chain extends

inward into the car through a suitable slot and passes over the rollers 100 and 101. The chain is then extended downward parallel to the inside face of the car wall and passes over a wheel 102 disposed, if desirable, adjacent to the floor of the car.

While we do not wish to limit ourselves to the use of any particular form of chain 99, nor any particular form of wheel over which the chain may run, we have found in practice that a wheel constructed as in Fig. 6 having spaced recesses for the reception of alternate links is a form of wheel which with a chain of the form illustrated in Fig. 6 will act to hold the chain set in any adjusted position so that the weight of the shutter 94 will not act to cause the closing of the shutter. By manipulating the chain 99 in one direction or the other, the shutter may be raised or lowered as desired. It will thus be seen that the opening C need be left open for a comparatively short time and that it may be securely closed against the inlet of rain or wind.

The general operation of this invention is as follows: The bag to be delivered from the station platform is engaged by the fingers 41 of the arms 40 and 45, the collars 33 and 34 being so turned of course that the arms project toward the track. The fingers 41 are inserted within the rings usually found upon the ends of the pouches, and the spring 49 acts to hold the arms extended and the pouch supported between the arms, the pouch being of course in line with the pouch catching mechanism mounted upon the car. The arm 12 is turned to a position parallel to the track and in the direction of the advancing train. The latch 87 is placed in the position shown in Fig. 2. The mechanism on the car is arranged as follows: The pouch D is placed between the arms 57 and 59 and the shaft 56 is rotated until the pin 64 is caught in the socket in the end of the keeper 65. This locks the arms in the projected position shown in Fig. 1 with the pouch drawn taut between the arms. This pouch is of course directly in line with the pouch-catching mechanism of the station. Meanwhile the bar 76 is shifted outward upon the guide rods 68 to the position shown in Fig. 2 and until the detents 81 and 82 engage with the respective notches in the ends of the guide bars 68, thus locking the bar 76 in its projected position so that the arm 84 is projected beyond the side face of the car and into a position in line with the pouch supported upon the arms 40 and 45, as shown in Fig. 2. The latch 87 is of course turned to the position shown in Fig. 2. As the mail car reaches the station, the pouch carried upon the arms 57 and 59 will contact with the finger 23 and be guided into proper position to engage the latch 25 and throw the latch from the position shown

in full lines to the position shown in dotted lines clamping the pouch securely upon the catching arm, the springs 30 and 31 being carried beyond the pivotal center 27. As the car moves along, the fingers 41 will rotate upon their pivots so as to permit the easy release of the pouch from engagement with these fingers. At the same time the pouch carried by the arms 40 and 45 will engage with the finger 86 of the car-catching apparatus and will be guided into proper engagement with the latch 87, shifting this latch rearward until the springs have passed the pivotal center 88, whereupon the latch will be thrown and will embrace the pouch. Immediately that the pouch on the arms 57 and 59 has been caught by the station-catching apparatus, the spring 61 will cause the free end of the arm 59 to rise and the rear end to be depressed, thus releasing the pin 64 from the socket in the keeper 65, whereupon the spring 67 will rotate the shaft 56 and cause the arms to be retracted into the car. As soon as the latch 87 on the catching apparatus in the car has been actuated, the force of the moving train will cause the arm 84 to move rearward, carrying with it the sleeve 80 against the force of the spring 83 which will cause the detents 81 and 82 to pass out of the notches 71 and 72 and unlock the bar 76. As soon as it is thus unlocked, the springs 77 will act to retract the bar 76, drawing the arm 84 with the caught pouch into the car, the springs 93 acting to cushion the inwardly moving bar.

As illustrated, the station catching and delivering apparatus is arranged for a train moving upon the right hand track. If there is only one track and trains move in opposite directions, it is obvious that the arm 17 must be arranged reversely to the position shown in Fig. 1, and it is to this end that we have arranged the treadle 9 whereby the outer tubular member may be lifted out of engagement with the teeth in the base to permit the sleeve 4 to be shifted to carry the arm 12 to a position parallel to the track but projecting in an opposite direction. This movement is also necessary where the station catcher is to be used for both tracks, the standard being mounted between the tracks in this case.

Where the delivery apparatus is to be used for two tracks, it is of course obvious that the pouch supporting mechanism must be completely reversed and turned to a position directly opposite to that illustrated in Fig. 1, and it is to this end that we have made the collars 33 and 34 rotatable upon the tubular member 4, and provided the co-acting notches and teeth 35 and 36 so that the pouch carrying arms may be locked in either position.

It will be seen that the sleeve 17 is longi-

itudinally shiftable upon the arm 12, and that hence when the catching devices mounted upon the sleeve engage the bag, the forward movement of the train will move the sleeve 17 rearward against the force of the spring 19, and that this will release the sleeve from its engagement with the collar 14, and that when so disengaged, the weight of the bag will cause the sleeve to rotate until the catching devices are in a depending position, that is, the position shown in dotted lines in Fig. 3.

The principal advantage of our invention lies in the fact that it is extremely positive in its operation, and further in the fact that it permits the bags to be supported farther from the side of the car than it is possible with any other construction known to us, thus eliminating all danger of accident as before stated. Further than this, the pouch supporting means on the car are so mounted that the pouch may be arranged upon the pouch supporting arms within the car and the mail clerk does not have to approach the car opening in order to attach the pouch. Again, the pouch-supporting arms are locked in their projected position and this lock can not be released until the pouch has been withdrawn from its engagement with the arms. The catching apparatus mounted on the car, it will be seen, is so arranged that the pouch is immediately withdrawn into the car as soon as released from the station apparatus. It does not dangle on the outside of the car, there is no chance for it to drop from the catcher, and it does not have to be pulled in by the clerk. There are no parts of our catching and delivering apparatus which normally project beyond the side of the car and which are therefore liable to come in contact with objects along side of the track. The parts are normally housed and therefore not subjected to damage by rain or snow. They are entirely housed and protected except when actually in use. Again, the parts are so arranged that the tension of the springs may be readily adjusted and the parts assembled or disassembled, or applied to or removed from the car without trouble.

In some cases it may be desirable to turn the pouch catching mechanism on the car around so as to catch the bag when the car is going in a reverse direction to the arrow, Fig. 2. This is easily accomplished by our mechanism. To this end, the brackets 69 are disconnected from the rod 68 and the bar 76 with its sleeves 74 and 75 are shifted outward and off of the arms 68 and then the parts reversed in position and once more put in place on the rod 68. This does not alter the operation of the device in any manner.

What we claim is:

1. In an apparatus of the character de-

scribed, a pouch supporting mechanism including a rotatable shaft having an arm at one end, an arm pivoted to the other end of the shaft for movement in the direction of the shaft, a spring urging the free end of said arm outward with relation to the opposed arm, an arcuate member disposed approximately concentric to the rotatable shaft and adapted to engage the pivoted arm, said arcuate member being inclined upward at one end and acting as the pouch supporting mechanism is rotated from an inwardly turned to an outwardly projected position to force the arms apart and thereby stretch the pouch between the arms.

2. In an apparatus of the character described, a rotatable shaft having an arm projecting therefrom, an arm pivoted to the other end of the shaft for movement in line with the shaft, the rear end of the arm projecting beyond the shaft and having a tooth, a spring acting to rotate the shaft to a retracted position, a spring acting to shift the pivoted arm outward from the fixed arm, and a member having a socket adapted to engage the tooth on the rear end of the arm when the pivoted arm is parallel to the fixed arm and hold the shaft with the arms in projected position.

3. The combination with a car having an opening, of a shaft supported in the interior of the car adjacent to the side wall of the opening, the shaft having a fixed arm at its lower end, an arm pivoted to the upper end of the shaft for movement in line therewith, and projecting rearward beyond the shaft, said projecting end having an upwardly directed tooth, pouch-engaging devices on the extremities of the arms, a spring for rotating the shaft to retract the arms within the car, a spring urging the free end of the pivoted arm away from the fixed arm, and an arcuate keeper supported above the free end of the pivoted arm and having a socket at its extremity to receive the said tooth, to thereby hold the shaft with the arms in projected position until the pouch is removed.

4. The combination with a car having an opening, of a guide projecting inward from the opening, a pouch support slidable outwardly on said guide, said pouch support also movable parallel to the length of the car, means resiliently acting to retract the pouch support, and means for locking the pouch support in a retracted position, said locking means being unlocked by a sliding movement of the pouch support along the bar.

5. The combination with a railway car having an opening, of a guide projecting inward from the opening, a bar disposed in parallel relation to the side of the car and shiftable on said guide, a sleeve shiftable longitudinally on the bar, locking devices

carried by said sleeve and engageable with the guide to hold the bar in a projected position, springs acting to retract the bar, and pouch-catching devices mounted upon said bar.

6. The combination with a railway car having an opening, of parallel guides projecting inward from the opening, sleeves mounted upon said guides, a bar connecting the sleeves, springs acting to hold the bar in a retracted position on the guides, locking devices engaging the guides when the bar is in a projected position, pouch-catching devices mounted upon said bar, said locking devices being releasable by a movement of the sleeve and pouch-catching devices along the bar in one direction.

7. The combination with a car having an opening, of parallel guides projecting inward from the opening, sleeves on the guides, a bar connecting the sleeves, a longitudinally shiftable sleeve on the bar, a spring holding the sleeve in one position but permitting it to slide along the bar, pouch-catching devices mounted on the sleeve, a detent carried by the sleeve, said detent engaging one of the guides to hold the bar and the pouch-catching devices in a projected position but being releasable by a shifting of the sleeve against the force of the spring, and means for cushioning the bar upon a retraction thereof.

8. The combination with a car having an opening, of parallel guides extending inward from the opening, brackets detachably engaging the rear ends of the guides, sleeves mounted on the guides, a bar connecting said sleeves, a sleeve on the bar and longitudinally movable, a pouch-engaging hook pro-

jecting from the sleeve, a spring urging the sleeve in one direction, and detents carried by the sleeve and engaging the said guides.

9. The combination with a car having an opening and a pouch-catching device shiftable into and out of said opening, of a shutter movable along the wall of the car, a shaft for actuating the shutter, a chain engaging the shaft and passing into the interior of the car, and wheels on the interior of the car over which said chain passes.

10. The combination with a car having an opening and a pouch-catching device shiftable into and out of said opening, of a shaft mounted on the exterior of the car above the opening, a flexible shutter wound upon the shaft, a wheel having spaced recesses on its periphery and disposed on said shaft, a chain passing over the wheel and into the interior of the car, and chain-engaging wheels disposed within the car and having spaced recesses for engagement with alternate links of the chain.

11. In an apparatus of the character described, a vertical standard, a base for the standard having upwardly extending teeth, a sleeve rotatable on said standard and having notches to engage the teeth, pouch-supporting devices projecting from the sleeve, and a treadle for lifting the sleeve relative to the standard to disengage it from the base and permit the rotation of the sleeve.

In testimony whereof we affix our signatures in presence of two witnesses.

ENNIS F. HULL. [L. s.]

CHARLES C. DAVIS. [L. s.]

Witnesses:

FREDERIC B. WRIGHT,

J. D. YOAKLEY.